



Official journal of the International Society for the History of Medicine
Revue officielle de la Société Internationale d'Histoire de la Médecine

Vesalius

Acta Internationalia Historiae Medicinae

Vol. X, No 1

June, 2004

EDITORS - REDACTEURS

A. Lellouch, D.Wright.

ASSISTANT EDITOR

REDACTEUR ADJOINT

J. S. G. Blair, OBE, KStJ.

ADDRESS FOR CORRESPONDENCE

ADRESSE

J. S. G. Blair,
The Brae,
143 Glasgow Road,
Perth, PH2 0LX,
Scotland, United Kingdom.

EDITORIAL BOARD

COMITE DE REDACTION

K. Bergdolt, B. Belicza, C. Burns, A. Diamandopoulos,
G. Ferngren J. Ford, A. Musajo Somma,
R. Olry, Y.V. O'Neill, J. Pearn, R. Price, A. Segal, M. Thiery,
J-P. Tricot, S. Weir, G. Zanchin.

JOURNAL SUBSCRIPTION

ABONNEMENT A LA REVUE

2 issues annually - 2 numeros par an.
Annual 50 euros, 50 US \$, £35.
Free to ISHM members.
Gratuit pour les membres SIHM

**GUIDE FOR AUTHORS SUBMITTING
MANUSCRIPTS TO ABOVE ADDRESS.**

IMPORTANT

Articles are accepted in English or French. They are to be typewritten in triplicate, with double spacing and wide margins, on one side of A4 paper only. A summary in both languages and a short biographical note should be given. The maximum length is about 3000 words. Authors using a word processor (PC preferably) should send a diskette.

All articles must be original. Authors must confirm that written material and any illustrations are not subject to copyright elsewhere. If the copyright of illustrations is not owned by the author, they must be accompanied by the owner's permission to reproduce. Authors will be asked to sign a transfer of copyright. References should be numbered sequentially in the text and arranged in numerical order at the end. Each reference should contain names and initials of authors and full title of paper or work. Journal name should be followed by year, volume, number, first and last page of reference. References to books should include date and place of publication and of publishers. The names of books and periodicals should be given in italics or underlined.

All articles must be sent to the assistant/business editor.

**INSTRUCTIONS AUX AUTEURS.
IMPORTANT.**

Les articles sont acceptes en français ou en anglais, ils doivent etre dactylographies avec un double interligne, une marge blanche, des pages numerotees, papier A4 et envoyees en trois exemplaires. Ms doivent etre accompagnes d'un resume dans les deux langues et d'une notice biographique de l'auteur. Ils seront soumis au comite de lecture avant publication. Le longueur du texte ne devrait pas exceder 3000 mots.

Tous les articles doivent etre originaux. Les auteurs doivent confirmer que ceux-ci, ainsi que leurs illustrations, ne sont pas sujets au copyright. Si les illustrations ne sont pas la propriete de l'auteur, elles doivent etre accompagnées d'une permission de reproduction. Les auteurs devront signer un transfert de copyright. Les auteurs utilisant un ordinateur sont pries d'envoyer une disquette (PC). Les references devront etre numerotees dans le texte et rangees par ordre numerique, a la fin de l'article. Chaque reference devra contenir les noms et les initiales des auteurs, le titre de l'article ou du travail en entier, ainsi que le nom du journal qui devra etre suivi de l'annee, du numero de volume, des premiere et derniere pages de la reference. Les references de livres devront indiquer la date et le lieu de publication ainsi que le nom des editeurs. Les titres de livres ou periodiques doivent etre indiques en italique ou soulignes.

Tous les manuscrits doivent etre soumis au redacteur adjoint/affaires.

Editorial

Pour une histoire de la Société Internationale d'Histoire de la Médecine (De Paris à Bari et ... au delà !)

Dans *Histoire et médecine* (Fayard éd., 1982, p.235), J.-Ch. Sournia, ancien président de la SIHM, écrivait : « *La médecine est objet d'histoire dans chacune de ses manifestations intellectuelles et manuelles* ». Parmi ces histoires de la médecine étaient mentionnées : l'histoire des méthodes et techniques (diagnostiques et thérapeutiques), celle de l'instrumentation, des lieux de soins (hôpitaux, cabinets médicaux), des concepts et maladies, le langage médical et les professions de santé. L'histoire de la société et de sa médecine (éthique médicale, santé publique, médecine sociale, systèmes de santé) n'était pas, non plus, oubliée.

Pour finir, Sournia signalait « *La vie de l'histoire de la médecine* », avec ses historiens (médecins et non médecins) et ses institutions (chaires d'enseignement, bibliothèques, musées, sociétés savantes et congrès). Sur ce thème, deux brochures (1970, 1982) signées par Franz-André Sondervorst ont détaillé l'histoire de la SIHM, de ses membres et de ses activités scientifiques, depuis les deux premiers congrès internationaux d'Anvers (1920) et de Paris (1921). Il existe aussi une « *Petite histoire de la SIHM* » de J.-RTricot, consultable sur : www.bium.univ-paris5.fr/ishm. Mais Vesalius, n'avait encore jamais évoqué, par des photographies, le souvenir des lieux et des personnes laissé par ces congrès passés. La nouvelle rubrique créée dans le journal veut combler cette lacune. Le matériel photographique, patiemment amassé, à chaque congrès, par l'un d'entre nous (J. Honti), fait en effet partie intégrante des « *documents contemporains qui intéresseront l'historien de demain* ».

Alain Lelouch.Jozsef Honti

The history of the International Society for the History of Medicine (From Paris to Bari and ... beyond !)

In *Histoire et medecine* (Fayard, 1982, p.235), J.-Ch. Sournia, ISHM past president wrote -. 'Medicine forms the subject matter of History, in each of its forms, whether practical or intellectual'. Among the various histories of medicine were mentioned : the history of methods and techniques (diagnostic and therapeutic), instrumentation, places of care (hospitals, medical offices), of concepts, of diseases, of medical language and of the health professions. In addition, the history of society and of its medicine (medical ethics, public health, social medicine, health systems) should not be forgotten.

Finally, The *life of the History of Medicine*' was detailed by Sournia, including its historians (physicians and non-physicians) and its institutions (medical teaching, libraries, museums, scientific societies and congresses). Two leaflets (1970, 1982) written by Franz-André Sondervorst, (A backward glance at the International Society for the History of Medicine, 1920-1982), have recorded ISHM history, its members and its scientific activities, from the two first international congresses of Anvers (1920) and Paris (1921). There is also 'A historical sketch of the ISHM' by J.-RTricot. Both this and Professor Sondervorst's paper are available on the ISHM website at www.bium.univ-paris5.fr/ishm.

So far, Vesalius has not taken the opportunity to record images of the people and places associated with congresses. We plan a new column to fill this lack. It is important that such photographs, patiently collected by one of us (J. Honti) for each past international congress, are kept, because they are 'contemporary documents of interest for the historian of tomorrow'.

Alain Lelouchjosef Honti

Editorial

Memories alone do not necessarily make history. Since its beginnings, this journal's editorial board has offered every possible opportunity to allow the newborn journal to grow up and popularise our discipline. For 10 years, I have been struck by the character of Vesalius. Despite a few ups and downs, successes as well as printing delays, intellectual approval as well as inevitable financial concerns, certain core values have persisted. A pervasive sense of optimism is a virtue that ensures the future health of Vesalius. These core values and that optimism are reflected by the new editorial board, together with the evident commitment of the new printers. Even when a journal acts as a forum, we may say - using Goethe's words:'Knowing is not enough; we must apply. Willing is not enough; we must do.'

The history of IHSM congresses plays an important part in the history of our society. Italy is proud to be the host country of the 2004 Biennial Congress, the fifth occasion it has been host in almost a hundred years. As President of the 39th ISHM Congress, I am proud to offer the opportunity of another forum, one where physicians and medical historians may join together in Southern Italy, in the area once known as Magna Graecia. The congress will offer an intensive approach with over 10 topics, allowing interdisciplinary, multifaceted perspectives to be given by many keynote speakers and an impressive number of participants. In addition, a memorial tribute to the late MD Grmek is planned, to give members an opportunity for self-assessment and continuing improvement in the discipline of the history of medicine.

The need for a union of scientific and humanistic values continues to challenge us. Vesalius, the ISHM official journal, gives members the opportunity to recall the beginnings and the evolution of medical knowledge as well as being a valuable link for international co-operation in study and research programmes.

Alfredo Musajo-Somma

Les souvenirs, à eux seuls, ne font pas nécessairement de l'histoire de la médecine. Depuis ses débuts, le Comité de rédaction du journal a offert à chacun d'entre nous la possibilité d'une nouvelle revue, permettant de faire grandir le rayonnement et de populariser l'image de notre discipline. Depuis 10 ans, j'ai été frappé par ce caractère de Vesalius. En dépit de quelques hauts et bas, avec des succès et avec des retards d'impression, avec l'assentiment général d'une haute tenue intellectuelle mais aussi, avec d'inévitables préoccupations financières, le corps central des valeurs du journal a perduré. Un optimisme à toute épreuve est la vertu qui garantira la bonne santé future de Vesalius. Ce corps de valeurs communes se reflète dans l'état d'esprit de la nouvelle équipe de rédaction, tout comme l'engagement des nouveaux imprimeurs. Même si le journal intervient comme une tribune ouverte à chacun, qu'il nous soit permis de dire, utilisant les mots de Goethe : « Savoir n'est pas suffisant ; il nous faut mettre en application ; vouloir n'est pas assez ; nous devons aussi faire ».

L'histoire des congrès de la SIHM est une part importante de l'histoire de notre société. L'Italie est fière d'être la terre d'accueil de ce Congrès bi-annuel 2004. Depuis près de 100 ans, c'est la cinquième occasion offerte à ce pays. En tant que président du 39 ème congrès de la SIHM, je suis heureux de pouvoir offrir l'opportunité d'un autre forum, un forum où médecins et historiens de la médecine pourront se retrouver ensemble, dans cette Italie du Sud qui est connue comme étant la « Grande Grèce ». Avec plus de 10 thématiques, abordées de façon inter-disciplinaire et sous plusieurs angles, ce congrès donnera aux orateurs principaux et à ses très nombreux participants l'occasion d'une approche scientifique intensive en histoire de la médecine. De plus, on a voulu rendre ici hommage à la mémoire de Mirko Drazen Grmek par un enseignement spécial qui porte son nom. Ces « cours Grmek » donneront à ceux qui les suivent la possibilité de s'auto-évaluer et d'améliorer leurs connaissances en histoire de la médecine.

Le besoin d'une union étroite entre les valeurs scientifiques et humanistes est, pour nous, historiens de la médecine, un défi permanent. Vesalius, journal officiel de la SIHM, fournit à ses cotisants la possibilité de rappeler les débuts et l'évolution de la connaissance médicale. La revue constitue aussi un lien précieux pour une coopération internationale en termes d'études et de programmes de recherche.

Alfredo Musajo-Somma

Médical Practice in New Zealand 1769-1860

Ross Lawrenson

Summary

New Zealand was discovered by Captain Cook in 1769. Over the next ninety years, increasing numbers of medical practitioners visited and began to settle in what became a British colony. The first medical visitors were usually naval surgeons or served on board whaling ships. The major influx of doctors occurred at the behest of the New Zealand Company between 1840 and 1848, although Christian missionaries, army doctors, and individual medical entrepreneurs also emigrated and provided services. This paper describes the pattern of medical settlement in the colony's earliest years and relates this to the health of the population and the development of medical and hospital services.

Résumé

Le Capitaine Cook découvrit la Nouvelle-Zélande en 1769. Au cours des quatre-vingt-dix années suivantes, un nombre croissant de médecins se rendit et s'installa dans ce qui allait devenir une colonie britannique. Les premiers visiteurs furent, le plus souvent, des chirurgiens de marine, ou des médecins affectés sur des baleiniers. Outre l'immigration de missionnaires chrétiens, de médecins militaires, et de médecins particuliers, aventuriers, venus découvrir une nouvelle vie et délivrer des soins, le plus grand afflux de praticiens se produisit sur l'ordre de la New Zealand Company, entre 1840 et 1848. Cet article décrit les modalités d'implantation de ces différents groupes médicaux, dans les premières années de la colonie. Il met aussi en relation ces éléments avec l'état sanitaire de la population et le développement, dans le pays, de services médicaux et hospitaliers.

Introduction

The first medical practitioners to visit New Zealand were the ship's surgeons who accompanied naval and exploratory expeditions to the south Pacific. The doctors who accompanied Captain Cook on his first voyage to the Pacific (1768-1771) were William Brougham Monkhouse and the surgeon's mate William Perry.¹ Monkhouse's first act on arriving in New Zealand was to shoot dead a Maori warrior who was stealing a sword.² Also on board during Cook's first voyage was Daniel Solander, a Swedish botanist from Uppsala who had been a student of Linnaeus. Solander was medically qualified but was employed as a naturalist.³ Often ship's surgeons doubled up as naturalists - thus on Cook's second voyage the surgeon's mate William Anderson made an important collection of shells and botanical specimens.⁴ Later examples include Robert McCormick who sailed with Sir James Ross to the Antarctic 1839-43⁵ and Thomas Huxley who sailed in the *Rattlesnake* as assistant surgeon between 1846 and 1850.⁶ However, the main rôle of naval surgeons during this period of exploration was the prevention of scurvy and the treatment of venereal disease.⁷ Scurvy in particular was a major problem on long sea voyages. Although James Lind published his treatise recommending the juice of oranges and lemons to treat scurvy in 1753, this was not adopted as a preventative by Cook. Rather, he used fresh vegetables at every opportunity and issued the crew with supposed anti-scorbutics such as wort and sauerkraut.⁸ Cook's success in avoiding scurvy had the effect of delaying the introduction of citrus juice as a routine preventative for another 25 years. After 1770, exploration of the Pacific by the English and French

increased at a great rate. However, European settlement in New Zealand was slow due to the warlike nature of the native Maori. By 1840 there were only around 2000 settlers. These were a mixture of missionaries, traders, escaped convicts, sealers and whalers.⁹ At the same time the population of indigenous Maori was probably over 100,000.⁹

The whaling doctors

Whaling (and sealing) were important commercial activities in New Zealand in the early nineteenth century. Whilst American whaling ships did not usually carry a surgeon, British ships did.¹⁰ As well as hunting whales from ships, a number of shore stations were established and by 1840 there were around 300 whalers resident in New Zealand.¹² Joseph Crocome (1811-1874) was one of the earliest medical settlers in New Zealand, living and working as a doctor to the whalers and their families. Born in Bath in 1811, the son of a West Indian planter, Crocome qualified in London as a Member of the Royal College of Surgeons in 1833. Two years later he embarked as ship's surgeon on the whaling ship *Lucinda*. He settled at the Otakou whaling centre in the South Island of New Zealand in 1836.¹³ In 1838 the whaler Johnny Jones persuaded him to move to another whaling centre, Waikouaiti, where he worked for the rest of his life providing medical care to Europeans and Maori in the district.¹⁴ Much of his practice would have been surgical as the whalers could suffer serious wounds including burns from boiling the whale oil, cuts from the huge razor-sharp flensing knives or injuries received in the chase. For many years Crocome was the only doctor in the district, but in the 1850s other medical men came

over the ranges from Dunedin.¹⁵ In the 1860s he was joined by a Dr. William Chapman LSA, MRCS (1797-1867) who had emigrated from London to Christchurch in 1851 with his wife and seven children. Chapman's two older daughters married sons of Johnny Jones, which no doubt prompted his move from Christchurch. Chapman died in 1867¹⁶ followed by Crocome a few years later. Both were buried at Waikouaiti.

The Missionaries in New Zealand

The early settlement of New Zealand was much influenced by missionaries. The Church Missionary Society and the Wesleyans from England and the Catholics from France (under Bishop Pompallier) all started missions in the North Island. The missionaries did their best to provide health care both to their own families and the local Maori population. One of the most famous was Henry Williams, a former naval officer from the Napoleonic war who settled at Pahia in the Bay of Islands. His wife Marianne was a midwife, whilst Henry's younger brother William who arrived in 1826 had been apprenticed to a surgeon before studying at Oxford. William had also walked the wards in London.¹⁷¹⁸ Between them the Williams ran a dispensary and were the first Europeans to provide health care on a regular basis. In 1839 William Williams set up a mission at Turanga on the East Coast of the North Island where he continued to offer medical advice.¹⁹²⁰ The first qualified doctor resident amongst the missionaries was Adolphus James Ross, an elderly and somewhat hazy figure who was in practice in Waitangi in May 1833. Ross antagonised the local Maori who stripped him of all his possessions. As a result of this he was glad to accept shelter and a small salary from the local missionaries for his professional services. In emergencies he was also expected to attend the Wesleyan mission at Whangaroa.²¹ In the late 1830's there were calls from the New Zealand missionaries for medical men to join them. Whilst the Wesleyans never responded to these calls, the Church Missionary Society sent Dr. Samuel Hayward Ford to the mission settlement at Pahia in 1837.²² The purpose of his mission was to give medical treatment and advice to the Maori. In 1841 after only four years, his health failed and he retired to Wahapu across the bay from Pahia, and in 1845 he moved to Auckland.²³

The next medical missionary to New Zealand was Dr Henry Francis Butts who accompanied Bishop Selwyn on his arrival in 1842.²⁴ Butts lectured missionary students on medicine and surgery at the Bishop's College at Waimate. He was ordained in 1847 and later moved to Nelson where he spent the rest of his life.

Another missionary doctor who worked under Bishop Selwyn was Arthur Guyon Purchas who first visited New Zealand in 1845. Purchas trained at Guy's Hospital and had both college and hall (MRCS, LSA) - the usual qualifications for a general practitioner of the period.²⁵ His first role was to attend St. John's Theological College and take charge of the hospital. In 1847 he was ordained as a minister to the Parish of Onehunga in Auckland where he worked for 28 years as a minister. Throughout this time he provided free medical care to his parishioners. Towards the end of this period in the early 1870's he carried out a remarkable series of major operations including the removal of a number of large ovarian cysts. These were carried out by a surgeon whose training had been undertaken 30 years before, who had no operating theatre and no trained assistance. Yet all 13 of his ovariectomy patients survived the operation and only one subsequently died of malignancy. Purchas died in 1906 at the age of 82 from pneumonia whilst taking a holiday on a coastal steamer.²⁶

Medical entrepreneurs

Many of the medical men to arrive in New Zealand in the 1840s were entrepreneurs looking for a new life. After 1820 medicine in Britain became an overcrowded profession.²⁷ The Scottish medical schools, particularly Edinburgh, continued to produce more practitioners than were needed. Many young doctors emigrated to the colonies. One famous early New Zealand doctor was John Logan Campbell. Born in 1817, he graduated from the University of Edinburgh Medical School in 1839. Rather than join his father in practice he decided to travel and explore the opportunities presented in Australia. He joined a ship, the *Palmyra*, as ship's surgeon where he met his future partner William Brown who convinced him to try his luck in New Zealand. Logan Campbell, whilst always calling himself 'Doctor' in fact became an extremely successful business man and later mayor of Auckland.²⁸

Other doctors to arrive in Auckland in the early 1840s include Drs John Johnson, Thomas McGauran, Samuel Martin, and Daniel Pollen. John Johnson (MD Edinburgh) was appointed the first Colonial Surgeon in 1841, as well as the Coroner and Health Officer. He was let go from these positions two years later due to lack of funds and left the colony for a time before returning and being re-appointed Colonial Surgeon by Governor Grey. Thomas McGauran (MRCSE, LM Dublin) arrived in 1843 as a ship's surgeon and advertised his practice in Lower Queen Street. He prospered and was appointed Assistant Colonial Surgeon in 1851 and Provincial Surgeon in 1856. Samuel Martin (MD Glasgow) arrived

in 1839, but bought land in the Coromandel and became a journalist and editor of the New Zealand Herald. He later was given a seat in the Legislative Council. Daniel Pollen, from Dublin, was a witness to the Treaty of Waitangi, and entered practice in Auckland in 1841. He became the Auckland coroner in 1844 and in 1847 was appointed medical officer to the copper mining company on Kawau Island. He later entered politics and became Prime Minister of New Zealand in 1875.²⁸

The New Zealand Company

In 1840 a naval officer, William Hobson, was sent to New Zealand to be the first Governor General. One of the reasons for the British Government to form a colony in New Zealand was the activity of an English entrepreneur Edward Gibbon Wakefield, who had formed a company - the New Zealand Company - to settle the country. Wakefield's idea was to set up English communities in the South Pacific. He bought large tracts of land from the Maori and chose prospective settlers carefully, making sure there was a balance of wealthy owners, craftsmen, and labourers. He made sure there was an equal number of men and women - something unusual in most pioneer settlements - and he ensured that there were medical men amongst his settlers.²⁹

The first New Zealand Company ship to arrive was the *Tory* in 1839 and the ship's surgeon, Dr. John Dorset stayed on at the settlement of Port Nicholson. New Zealand Company surgeons aboard the emigrant ships received payment of ten shillings for every adult passenger (payable in New Zealand), five shillings for every child aged between 7 and 14 years, and 3s 6d for every infant from birth to 7 years. One pound was deducted for every death and one was added for every birth, with a bonus of £50 usually granted at the end of a successful trip.³⁰ In February 1840 Dorset wrote to his brother:

'I am in full swing as Surgeon of the Colony with lots to do and I've only one fault to find with E.G.W's system (and that's quite a personal one as it gives me an immense deal of work). I can assure you a hundred of the married females have arrived in the family way and I have brought several into the world already so that medical men, though they'll not have much to do in the way of sickness, will still find their hands well employed in bringing young ones into the world. I've had several accidents from men chopping themselves with axes and I've one serious one for which I expect I'll be obliged to amputate the thigh.'³¹

Other doctors who emigrated to Port Nicholson (later Wellington) and who were in the first five ships to arrive, were Drs. Isaac Earl Featherston, William

Fitzherbert, and John Patrick Fitzgerald. By 1845 there were thirteen qualified doctors living in Wellington out of a population of 1620.³²

Featherston was an Edinburgh graduate who purchased land in Wellington. As well as practising medicine, he became involved in many of the new settlement associations and later became superintendent of the Wellington Province and a political opponent of the Wakefields.³³ Dr. Fitzgerald was an Irish Catholic although he too qualified in Scotland (MD Glasgow 1839). He was appointed physician to the infirmary and later, coroner and health officer to Port Nicholson. In 1847, he was appointed the superintendent of New Zealand's first public hospital by Governor Grey. He was an innovative doctor and carried out the first ether anaesthetics in New Zealand on 27th September 1847. However he attracted critics - and was attacked by his medical colleagues who accused him of 'gross quackery' and fraudulent use of medical qualifications. He left the colony in 1854 after the death of his wife and returned to Britain. In 1856 he was appointed by his friend Sir George Grey, then Governor of the Cape Colony, as superintendent of the Grey Hospital in South Africa.^{34,35}

The New Zealand Company set up further settlements at New Plymouth (with settlers mainly from Devon), Nelson, and Christchurch. The doctors who settled in Nelson included Drs. David Monro, Alexander MacShane, George Bush, and John Danforth Greenwood. Monro had studied with his father Alexander Monro, the Professor of Anatomy at Edinburgh. After qualifying, young David set up practice in Edinburgh but in 1841 he decided to emigrate to New Zealand. He did not travel with the other settlers but set off earlier to visit his brother in Australia, travelling as the ship's surgeon on the *Tasmania*. His only record of a patient on the voyage to Australia was a passenger with appendicitis who was successfully treated with vigorous purging and enemas. After visiting Australia, Monro travelled on to Nelson. On his arrival however, like Logan Campbell in Auckland, he devoted himself to business. His diaries record him treating friends and family and acting as a consultant to his colleagues but he did not set up in practice.³⁶

Less is known of Dr MacShane. He arrived on the *Whitby* in October 1841 and settled into practice.³⁷ One of his noted acts was the amputation in 1843 of the leg of a Maori who had been wounded some years before - the patient smoking his pipe throughout the operation.³² In 1847 MacShane was awarded the tender for looking after Maori patients - his bid of £6 5s a month undercutting that of his rival George Bush.³⁸ In September

1848 he was appointed as the colonial surgeon to the newly built colonial hospital at New Plymouth with a salary of £180 per year. However, on his arrival it was obvious to Dr Peter Wilson that MacShane was a sick man.³⁹ He died of consumption on 6th July 1849. Wilson, who had been a wealthy landowner and farmer in both Wanganui and New Plymouth, took over from MacShane and remained the colonial surgeon at the hospital until his death in 1863.

British Army Medical Services in New Zealand

The first British Imperial troops to arrive in New Zealand accompanied the Governor, William Hobson in January 1840. Patrick Gammie was the Assistant Surgeon to the 80th Staffordshire Regiment and was the first army surgeon to serve on active duty in New Zealand.⁴⁰ He also provided services to the civilian population and was called on by the coroner to provide a medical opinion in a number of deaths where a coroner's court had been called.⁴¹ In 1845 clashes between the Maori and the settlers led to the need to send to Australia for reinforcements. The regimental surgeons, Dr. Chilley Pine (58th Regiment) and Dr. George Galbraith (99th Regiment), are recorded as having attended to the wounded in the first clashes between Maori and Europeans.⁴⁰ Dr. Chilley Pine joined the army as assistant surgeon in 1833, served in China and then New Zealand. Later he was a Staff Surgeon in the Crimean war where he died in 1855 of typhus.⁴² Another doctor who arrived with the new troops was Dr. Thomas Moore Philson who joined the 58th Regiment in 1845 and also served in the campaigns in Wellington and Taranaki.²³

In 1847 the country entered a period of relative peace. The army had very little to do and doubtless their surgeons were under employed. Civilian doctors such as Dr Thomas McGauran who had been taken on by the army were let go.⁴³ Four years after the end of the troubles Dr Philson retired from the army and took up private practice in Auckland.²³ He was one of the few regimental surgeons to leave the army and settle in New Zealand.

Another notable army surgeon was Dr. Arthur Saunders Thomson.⁴⁴ He was appointed to the 58th Foot in 1847 and proceeded to New Zealand where he stayed until 1858. He therefore served during a period when there was no fighting. He turned his attention to scientific observations and published a number of papers. In September 1848 Thomson announced smallpox vaccination plans for Maori and in 1854 the Colonial Government established a 'Central Board of Vaccination for the Aborigines of New Zealand'. This board consisted of clergymen, doctors, and gentlemen.

One of the original members was Thomson.⁴⁵ In his book published in 1859 Thomson commented that 'Smallpox has not yet appeared in the colony, but fortunately two-thirds of the natives have been vaccinated.'⁴⁶

Health problems in the population

Most of the health problems dealt with by the early medical practitioners were those of the settler population. We have a picture of the health of the population from the records from the provincial hospitals and from the accounts of the early doctors, particularly AS Thomson. Recently we have also had access to the coroner's reports from Auckland from 1841 - 1857, which give a fascinating insight into the health of the population at the time.²⁸ Problems encountered by the early doctors included trauma, infectious diseases, dysentery and typhoid. The coroner's reports provide accounts of people suffering a range of injuries caused by falling from or being kicked by horses, being hit by falling trees, buried by collapsing banks, or having fallen from a cliff. Also there were intentional injuries either due to an assault or self-inflicted, and records of a number of cases of children dying from burns or drowning in wells. Drowning at sea was common and a number of reports describe the resuscitation attempts by local doctors. Many of these episodes of injury and drowning were associated with drunkenness. The coroner's reports list many cases of death due to intemperance. Alcohol abuse seems to have been a major problem in early New Zealand, both in the civilian population and amongst the troops stationed there.

The other major hazard was infectious diseases. Tuberculosis was common and many early settlers suffered from consumption. The Maori had little resistance and large numbers died from pulmonary tuberculosis. Measles was another complaint that was relatively innocuous for the settler population but epidemics amongst Maori on occasion caused fatality rates of up to fifty percent. Epidemics of influenza are recorded with disproportionate numbers of Maori dying from the disease. Bowel disorders such as dysentery were also common, although typhoid fever was supposedly not a problem until the first outbreak in 1860.⁴⁷ Cholera did not become a problem due to stringent quarantine regulations whilst smallpox was a rarity due to the combination of quarantine and the widespread use of vaccination. In contrast both smallpox and cholera were a major problem in the United Kingdom in the 1840s, 50's and 60's.⁴⁸

Early New Zealand Hospitals

Governor George Grey authorised the building of Colonial Hospitals in Wellington, Auckland, Wanganui, and New Plymouth in 1846. The first opened in Wellington on September 15th 1847. Dr Fitzgerald was appointed colonial surgeon. The hospital had three wards and a surgery and could accommodate up to twenty patients. Most of the patients were Maori and Fitzgerald met much opposition, especially from the Church Missionary Society who accused him of trying to convert his patients to Catholicism.⁴⁹ The Auckland hospital was staffed by Dr. Johnson who had been reinstated as Colonial Surgeon. Maori and Europeans were initially nursed in separate wards but after the first two years this practice ceased and was never re-instituted.⁵⁰ Johnson was the first Auckland doctor to carry out an operation under chloroform when he amputated a finger on 1st July 1848.⁵¹ The colonial hospital at New Plymouth, as noted above, was first staffed by Dr McShane and later by Dr Wilson. Wilson described it as being tastefully built in the Anglo-gothic style. It had three wards, a surgery, a dispensary, kitchen, storeroom, bathroom, and two pantries. Patients were obviously well looked after - in his first annual report he commented that the diet was 50 ounces a day —'I found such well fed patients reluctant to leave.' Wilson was obviously more conservative than his colleagues in Auckland and Wellington, commenting to his friend Donald McLean 'Our Maoris have now got the notion to have Chloroform when they are to be operated on!'⁵² Wilson was an old soldier and seems to have agreed with his contemporary Sir John Hall, British medical officer in charge in the Crimean campaign who had cautioned his medical officers against the use of chloroform, saying that: 'the smart of the knife is a powerful stimulant and it is better to hear a man bawl lustily than to see him sink silently into his grave'.⁵³ The colonial hospitals offered access to medical care to Maori and Europeans alike both for inpatient and outpatient services. They were the beginning of a tradition of public hospitals funded by central Government and providing free access to all, which still prevails in New Zealand today.

Conclusions

In summary, during the first period of settlement we can consider four principal groups of doctor who provided medical services to the settlers and to a lesser extent the indigenous Maori population. These included the surgeons accompanying the armed forces - both the naval surgeons in the first exploration of the Pacific and the army surgeons accompanying the forces sent to

protect the settlers during the New Zealand Wars against the Maori. There were the medical men who were also missionaries and there were the doctors employed by the New Zealand Company. Finally, there were the entrepreneurial doctors who came to the colony for a new life independent of any sponsoring body.

It should be recognised that our perceptions of the medical settlement of New Zealand may be biased by the availability of records. The Missionary societies and armed forces reports have been well preserved, as have the letters and journals of a few eminent men such as David Monro, Isaac Featherston, Peter Wilson, and John Logan Campbell. It may be that there were more doctors such as Joseph Crocome, working as single-handed practitioners, sometimes in rural areas, whose contribution has been insufficiently recognised. However, it appears that medical practice in New Zealand followed that of the settlement of the country as a whole. After a sporadic start the major influx was at the behest of the New Zealand Company in the early 1840's, followed by the arrival of individual doctors in search of a new life in a rapidly growing colony.

References

- 1 Snell WE. Captain Cook's Surgeons. *Medical History* 1963;7:43-55.
- 2 Hough R. *Captain James Cook - a biography*, p. 117. Hodder and Stoughton, London 1994.
- 3 Beaglehole JC. *The Life of Captain James Cook*. p. 144. Stanford University Press, California 1974.
- 4 Snell WE. Captain Cook's Surgeons. *Medical History* 1963; 7: 50.
- 5 Ross MJ. *Ross in the Antarctic*, p. 31 Caedmon of Whitby, Yorkshire, England. 1982.
- 6 Huxley J. *TH Huxley's diary of the voyage of HMS Rattlesnake*, p. 9. Chatto and Windus, London 1935.
- 7 Gluckman LK. Cook's voyages to New Zealand in medical perspective. *New Zealand Medical Journal*. 1969; 70(449): 219-22
- 8 Watt J. *Medical aspects and consequences of Cook's voyages*. In *Captain Cook and his times*, pp. 129-158. Edited by Fisher R and Johnston H. 1979.
- 9 Owens JMR. New Zealand before annexation. In *The Oxford History of New Zealand*, pp. 28-56. Edited by Rice GW. Oxford University Press. 1996
- 10 Pool I. *The Maori Population of New Zealand 1769-1971*. Auckland University Press. 1977.
- 11 Gordon EC. Sailors physicians: Medical guides for merchant ships and whalers 1774-1864. *Journal of History of Medicine and Allied Sciences*. 1993; 48: 139-56.
- 12 Gluckman L.K. *Tangiwhai, Medical history of New Zealand prior to 1860*, p. 15. Auckland 1976.
- 13 Grady D. *Sealers and Whalers in New Zealand Waters*. p. 180. Reed Methuen, Auckland 1986.

- 14 Wright-St Clair RE. Names from the past. *New Zealand Medical Journal*. 1976; 84: 360-2.
- 15 Fulton RV. *Medical Practice in Otago and Southland in the Early Days*. pp. 7-10. Dunedin 1922.
- 16 Cockerill G. Dr William Chapman.
<http://freepages.genealogy.rootsweb.com/~nzbound/nzbound/labuan.htm#Chapman>
- 17 Gluckman L.K. *Tangiwhai, Medical history of New Zealand prior to 1860*. p. 49. Auckland 1976.
- 18 Carleton H. *The Life of Henry Williams*. AH&AW Reed. Wellington (Revised Edition.) Elliott J (ed) 1948.
- 19 Porter, Frances. 'Williams, William 1800 - 1878'. *Dictionary of New Zealand Biography*, updated 16 December 2003 <http://www.dnzb.govt.nz/>
- 20 Williams, W. *The Turanga journals*, 1840-1850. Ed. F. Porter. Wellington, 1974.
- 21 Gluckman L.K. *Tangiwhai, Medical history of New Zealand prior to 1860*, p. 57. Auckland 1976.
- 22 Dow DA. *Maori Health and Government Policy 1840-1940*. p. 19. Victoria University Press. Wellington 1999.
- 23 Roche EH. Some medical pioneers in New Zealand. *New Zealand Medical Journal*. 1970; 71: 90-93.
- 24 Gluckman L.K. *Tangiwhai, Medical history of New Zealand prior to 1860*. p. 94. Auckland 1976.
- 25 Wright-St Clair R E. *A history of General Practice and the Royal New Zealand College of General Practitioners*. p. 2. RNZCGP, Wellington 1989.
- 26 Loudon I. *Medical Care and the General Practitioner*, 1750-1850. p. 208. Oxford: Clarendon 1986.
- 27 Stone RCJ. *Young Logan Campbell*.Z.Auckland University Press. 1982.
- 28 Gluckman L. *Touching on Deaths: a medical history of early Auckland based on the first 384 inquests*. Doppelganger, Auckland 2000.
- 29 Bloomfield P. *Edward Gibbon Wakefield: builder of the British Commonwealth*. Longmans, London 1961.
- 30 Porritt A. The history of medicine in New Zealand. *Medical History* 1967 II (4): 334-44.
- 31 Manson C. Manson C. *Curtain Raiser to a Colony: sidelights on the founding of New Zealand*, p. 104. Whitcombe and Tombs, Christchurch 1962.
- 32 Gluckman L.K. *Tangiwhai, Medical history of New Zealand prior to 1860*. p. 125. Auckland 1976.
- 33 Hamer, David. Featherston, Isaac Earl 1813-1876. *Dictionary of New Zealand Biography*, updated 31 July 2003 URL: <http://www.dnzb.govt.nz/>
- 34 Barber, Laurie. Fitzgerald, John Patrick 1815-1897). *Dictionary of New Zealand Biography*, updated 4 April 2003 URL: <http://www.dnzb.govt.nz/>
- 35 Donaldson R. Dr JP Fitzgerald: pioneer colonial surgeon, 1840-1854. *New Zealand Medical Journal* 1988;101:636-8.
- 36 Wright-St Clair RE. *Thoroughly a man of the world: A biography of Sir David Monro*. Whitcombe and Tombs, Christchurch 1971.
- 37 Hayton AC, Mullon HD. 'The unfortunate Dr McShane of Nelson and New Plymouth'. *New Zealand Medical Journal*. 1978; 87: 20-3.
- 38 Dow DA. *Maori Health and Government Policy 1840-1940*. p. 36. Victoria University Press. Wellington 1999.
- 39 Lambert G. *Peter Wilson, Colonial Surgeon*, p. 170. Dunmore Press, Palmerston North 1981.
- 40 Gluckman L.K. *Tangiwhai, Medical history of New Zealand prior to 1860*. pp. 101-2. Auckland 1976.
- 41 Gluckman L. *Touching on Deaths: a medical history of early Auckland based on the first 384 inquests*, pp. 1 19-125. Doppelganger, Auckland 2000.
- 42 Shepherd J. *The Crimean Doctors. A History of the British Medical Services in the Crimean War*. p. 329. Liverpool University Press. 1991.
- 43 Public Record Office. File WO 28 288. New Zealand Brigade Orders 1847-1855 p. I.
- 44 Wright-St Clair RE. Surgeon Thomson of the 58th Foot. *New Zealand Medical Journal*. 1976;84: 153-6.
- 45 Dow DA. *Maori Health and Government Policy 1840-1940*. pp. 52-3. Victoria University Press, Wellington 1999.
- 46 Thomson AS. *The Story of New Zealand: Past and Present - Savage and Civilised*. London, John Murray. 1859.
- 47 MacLean FS. *Challenge for Health. A history of public health in New Zealand*. Government Printer, Wellington 1964.
- 48 Wohl AS. *Endangered lives. Public Health in Victorian Britain*. Dent and Sons, London 1983.
- 49 Bohan E. *To be a hero: A biography of Sir George Grey*, p. 96. Harper Collins, Auckland 1998.
- 50 Gilmour M. New Zealand and its doctors, past and future. *New Zealand Medical Journal*. 1988; 101 (846 Pt 2): 292-6.
- 51 Gluckman L. *Touching on Deaths: a medical history of early Auckland based on the first 384 inquests*, p. 82 Doppelganger, Auckland 2000.
- 52 Lambert G. *Peter Wilson, Colonial Surgeon*, p. 180. Dunmore Press, Palmerston North 1981.
- 53 Shepherd J. *The Crimean Doctors. A History of the British Medical Services in the Crimean War*. p. 114. Liverpool University Press 1991.

Author

Ross Lawrenson, MD, DHMSA, MFPH, FAFPHM, MRCGP is Professor of Primary Health Care at the Postgraduate Medical School (University of Surrey).

Address:

Prof. Ross Lawrenson
Postgraduate Medical School, (University of Surrey)
Stirling House, Surrey Research Park
Guildford, Surrey GU2 7DJ, UK.
Email r.lawrenson@surrey.ac.uk

Leonardo da Vinci, Visual Perspective and the Crystalline Sphere (lens): If only Leonardo had had a Freezer

Rumy Hilooowala

Summary

This study confirms Leonardo's claim to have experimented on the bovine eye to determine the internal anatomy of the eye. The experiment, as described by Leonardo, was repeated in our laboratory. The study further discusses Leonardo's primary interest in the study of the eye (especially the lens), to determine how the image of an object which enters the eye in an inverted form is righted. The study shows the evolution of Leonardo's understanding of the anatomy and the physiology of vision. Initially, in keeping with his reading of the literature, the lens was placed in the centre but he made it globular. Later he promulgated two theories, reflection from the uvea and refraction within the lens to explain reversal of the image in the eye. Subsequently he rejected the first theory and, putting credence in the second theory, experimented (1509) to show that the lens is globular and is centrally placed. The fact that the present knowledge about the lens is at variance from his findings is not because he did not carry out the experiment, as suggested by some modern authors, but because of the limitation of the techniques available to him at the time.

Résumé

Cette étude confirme l'assertion de Léonard de Vinci selon laquelle le chercheur aurait expérimenté sur l'œil de bœuf pour déterminer précisément quelle était l'anatomie interne du globe oculaire. L'expérience de Léonard a été répétée dans notre laboratoire. Dans ce travail, est ensuite discuté, l'intérêt de Léonard pour expliquer comment l'image d'un objet entrant dans l'œil, initialement inversée, est ensuite redressée. La présente étude montre encore comment évolua, au fil du temps, la compréhension qu'eut Léonard de l'anatomie et la physiologie de la vision. Initialement, fort d'une connaissance acquise grâce à ses lectures, le chercheur avait placé le cristallin au milieu de l'œil, lui conférant une forme globuleuse. Plus tard, il élabora deux théories: la première postulait une réflexion du faisceau lumineux à partir de l'uvée ; la seconde théorie voulait expliquer le renversement de l'image, dans l'œil, par une réfraction de la lumière, au sein du cristallin. Léonard abandonna ensuite sa première théorie au profit de la seconde, ses expériences de 1509 s'efforçant de démontrer que le cristallin avait une forme globuleuse et qu'il se situait au milieu du globe oculaire. Aujourd'hui, nos connaissances sur le cristallin diffèrent des conclusions de Léonard. Pourtant, contrairement à ce qu'ont suggéré certains auteurs modernes, ceci n'est pas dû au fait que Léonard ne sut pas mener à bien son expérimentation. Si le chercheur fut limité dans la réalisation de son expérience sur l'œil de bœuf, c'était parce qu'il ne disposait pas, à son époque, de la technologie nécessaire pour la faire vraiment aboutir.

Introduction

Did Leonardo da Vinci (1452-1519) base his knowledge of the eye on that of past authorities, or were his significant observations based on his own experiments? Were his theories of vision constructed solely on his readings or on his experimental knowledge? This study shows that his knowledge of ocular anatomy, the globular shape of the lens and its central location were based on his own experiments, misleading as the results were. The error was not in experimental design or observation but on technical problems that he could not have foreseen. His theories of vision were a direct corollary to his anatomical findings about the eye.

Leonardo's Quest

Why were the shape and the position of the lens within the eyeball so important to Leonardo?

Leonardo, oft described as 'Renaissance Man', went beyond the mere anatomy of the eye. His seemingly simple phrase 'sapere come vedere', 'to know how to see', knowingly or unknowingly embodied his striving to understand the anatomy and physiology of vision.

Leonardo's interest in studying vision was prompted by questions about reversion in the eye.

With his knowledge of camera obscura, Leonardo deduced that the image entering the eye was reversed in the vicinity of the pupil. The problem that he saw as a supreme challenge was 'How the species [light rays emanating from an object that is viewed] of any object, which pass through some aperture to the eye, imprint themselves on its pupil upside down, and the common sense sees them upright'.⁽¹⁾ How, if the image is inverted in the eyeball, does the object appear erect to us?

Leonardo's response was: 'find out what re-inverts the species that intersect inside the pupil'.⁽²⁾ That the brain may have some function in recording an eventual upright image was totally beyond his ken. The only option he had was to contrive a second inversion within the eyeball so that the image inverted during the passage through the pupil would be upright before falling on the end of the optic nerve.

Leonardo's *modus operandi* was quite similar to that of a present scientific project⁽³⁾ firstly to review the literature, then to postulate a theory or theories, and finally to provide experimental proof. Leonardo's

projects began with a study of the authorities. Next, based on his experience and probably some initial experiments, he questioned the traditional wisdom. He then postulated his own theory, rejecting views that did not conform to his experience. In the final stage he conducted experiments to gain evidence for his theory.

The anatomy of the eye, especially the location and the shape of the lens, had been variously described by Leonardo's time. Leonardo was aware that some had described the lens as being not totally globular and not located in the geometric centre. Mondino (c. 1275-1326) described the crystalline humor as' ... more towards the front ...'.⁴⁾ Ali ibn al-Abbas (c. 940-1010), in Mondino, described the lens as a little flattened, arguing that this shape, rather than a spherical one, enabled the lens to be more securely lodged. The flattening also gave the lens a relatively larger surface area of contact with the visual rays.⁵⁾ Though Galen's (129-199) work was not illustrated, he considered the crystalline humour (lens) to be lenticular, not spherical. He thought that the slight curve of the anterior surface of the lens would help it to receive more points [of light] from the objects to be perceived.⁶⁾ Mediaeval writers gave the lens the same form.⁸⁾

Leonardo's Theories of Vision

Around 1487-1490, twenty years before his experiment, Leonardo postulated that the lens was in the centre of the eye and was globular (fig. 1). The position and the shape of the lens were important to Leonardo. He had previously suggested that the lens magnified an image'like a ball of glass full of water'.⁹⁾ He now combined the function of the glass ball with that of the camera obscura. The converging rays from an object cross at the pupil and the inverted image is then reverted in the lens (the glass ball) and falls on the optic nerve.¹⁰⁾ Based on this knowledge, Leonardo proposed two theories of vision for producing the second inversion, or reversion; 1), reflection from the uvea (the uvea theory); 2), refraction within the lens.

I) Reflection from the uvea. Leonardo considered the uvea to be a spherical concave mirror. Rays of the inverted image pass either through the crystalline sphere or bypass the sphere and fall directly on the uvea. Using the laws of reflection, Leonardo suggested that the inverted image is then reflected from the uvea onto the posterior surface of the lens,¹¹⁾ (fig. 2).

Leonardo later rejected the idea of reflection from the uvea based on the principle that '... the angle of incidence must be equal to the angle of reflection'.¹²⁾ From this basic principle of the physics of light he deduced that it is impossible for the uvea to reflect the

incident rays onto the crystalline sphere or to the termination of the optic nerve in the sphere. Ultimately he doubted that rays could be reflected off the inner black surface of the uvea.¹³⁾ 'The pupil is black because the uvea is black ...'.¹⁴⁾ His knowledge of the colour of the uvea is additional argument that he must have dissected the eye.

2) Refraction within the lens. Though the camera obscura was first described by Al-Kindi and Alhazen,¹⁵⁾ Leonardo was the first to conceive of the eye as a camera obscura and illustrate the principle.¹⁶⁾ He demonstrated, like Alhazen, that rays travel in straight lines and continue to travel on that path even after an intersection.¹⁷⁾ He was aware that because of the crossing of the rays at the spiracolo (the pupil) of the eye, the image entering the eyeball would be smaller and inverted. He attempted to solve the enigma of an inverted vision. 'Necessity has provided that all the images of objects in front of the eye shall intersect in two places. One of these intersections is in the pupil, the other in the crystalline lens; ...'.¹⁸⁾ (fig. 3).

Refraction of the rays in the eye, known at least since Archimedes (287-212 B.C.), was common knowledge in the field of optics in the west from about the thirteenth century.¹⁹⁾ Leonardo wrote'... it is necessary that the line should be bent as it is changed from the rarity of the air to the density of the humours of the eye'.²⁰⁾ He used this knowledge of intersection and refraction in a modified hypothesis to revert the image falling on the optic nerve, (fig. 4). The image, inverted at the pupil, falls on the front of the lens. The rays are refracted and pass through the lens, without intersection, to the posterior surface of the lens. As the rays exit, there is a second refraction and the rays intersect a second time (reverting the image) before reaching the optic nerve.

The shift from refraction within the lens to refraction on the posterior surface of the lens was prompted by the location of the termination of the optic nerve. In fig. 3 (c. 1492), the optic nerve terminates in contact with the posterior surface of the lens. In fig. 4, more likely of a date closer to 1500, the optic nerve terminates at the periphery of the eyeball. Having postulated his theory, Leonardo now proceeded to his experiment to determine ocular anatomy. He believed in experimental inference. 'Trust only those who have exercised their minds not on the proofs of nature but on the results of their own experiments'.²¹⁾

The Experiment

In 1509 Leonardo described an experiment to study the position of the lens in the bovine eye.'In the anatomy of the eye, in order to see the inside well without spilling

its humour, one should place the whole eye in white of an egg, make it boil and become solid, cutting the egg and the eye transversely in order that none of the middle portion of the eye be poured out'.⁽²²⁾ Leonardo, in mentioning sectioning the eyeball 'transversely', meant exactly what is understood today as a transverse section, the modality in which the body is viewed in a MRI or a CAT scan. His illustrated work is replete with sketches of skulls, brains, eyes and even an upper leg in transverse sections.

This experiment was proposed a few years after he made wax casts of the ventricles of the brain (1504) in his quest to find the 'senso commune' - the area in the brain where sensory input is interpreted.*⁽²³⁾ Some medical historians have doubted the execution of this experiment and have looked askance at Leonardo as evident from their quotes. 'Had Leonardo used this technique [sectioning of the eyeball] successfully, it is unlikely that he would have persisted in drawing the lens as round and central'.⁽²⁴⁾ 'Notwithstanding Leonardo's suggestion of a method of preserving the relations of its parts during dissection, his figures give no evidence that he had made use of the method'.⁽²⁵⁾

Belt attributes the central placement of the lens to the arrangement found in the myopic ox, an animal Leonardo used. Belt further elaborates that during the cutting of the eyeball '...the hard lens, which was difficult to cut, invariably slipped from its proper location...'<⁽²⁶⁾ Veterinary anatomy texts will refute this statement,⁽²⁷⁾ and so does the experiment conducted for the present study.'... in the anatomy of the dead, it [lens] is usually separate'.⁽²⁸⁾ This separation is not found in our observation of more than two thousand eyeballs bisected in the human gross anatomy laboratory. If Leonardo was capable of undertaking the experiment on the ventricles, there is little reason to doubt that he would carry out a much simpler experiment showing the internal anatomy of the eye.

Experimental Evidence

For this study, an experiment following Leonardo's instructions was performed on a bovine eye. The bovine eyeball was placed in a staining dish, routinely used for staining histological slides. The dish was 9.5 cm in length, 7.5 cm wide and 6.0 cm high. Initially, egg white was placed in the dish to the depth of one centimetre and heated till it congealed and became white in colour. This was to serve as the base on which to place the eyeball. The latter was centrally placed on its side, with its long axis corresponding with the long axis of the dish. The superior and the inferior surface of the eyeball faced the longitudinal walls of the dish. The eyeball was then totally

submerged in egg white. Subsequently, the dish was placed in a water bath and heated till the egg white congealed. On cooling, the block was removed from the dish. Leonardo does not mention the type of instrument he used for sectioning the eyeball. From a sketchy illustration in Ms K I 19r⁽²⁹⁾ it appears to be some form of a scalpel. In our experiment the block and the eyeball was sectioned, longitudinally and in the midline, with a brain knife. The length of the brain knife allowed a smooth cut without the 'sawing' action by a shorter scalpel blade, which may result in distortion of the specimen. In the cut transverse section, the lens was found to be globular and in the centre of the eyeball (fig. 5), as Leonardo has depicted in his illustrations. The spherical shape of the lens can be attributed to swelling of the alpha and beta crystalline protein, which is 80 to 90 percent of the protein in the lens⁽³⁰⁾. The swelling of the lens caused it to break free of the zonular fibres of the ciliary body and move to the centre of the eye.

The other eyeball from the same animal was frozen and then sectioned in a similar plane with a brain knife. This section revealed the lens to be elliptical and located anteriorly in the eye, as seen in the current works on ocular anatomy. The heating process resulted in some shrinkage of the eyeball. The ratio of the frozen to the boiled eyeball was 1.28:1.

Our experiment leaves no doubt that Leonardo did section the eyeball to determine the shape and position of the lens. He used basically the same method current in routine histological procedure. Instead of liquid paraffin, Leonardo used egg white and subsequently boiled the whole preparation to obtain a block suitable for sectioning.

Why did Leonardo use egg white, instead of wax that he used previously in studying the ventricles of the brain? His intention, stated above, was to section the eyeball without displacing its contents. Immersing the eyeball in hot wax and allowing the wax to cool would not have sufficiently solidified the inside of the eyeball to allow sectioning without the humors running out. Leonardo's decision to use the embedding medium was more likely substantiated by his observation of a cooked egg. The redness or yolk of the egg remains in the centre of the albumen without sinking on either side'.⁽³¹⁾ Had Leonardo chosen to freeze the eyeball, possibly by putting it on the window-sill in winter, his findings would have been more likely to be anatomically correct.

Leonardo's Findings

After his experiment, Leonardo wrote of his awareness of the disparity between his experimental knowledge and those of his predecessors 'The eye,

whose function we certainly know by experience, has down to my own time, been defined by an infinite number of authors as one thing; but I find, by experience that it is quite another'.³² Based on his experiments, Leonardo believed that the eye consisted of two concentric circles, the outer layer of uvea filled with albuminous or gelatinous material with the cornea in front. Located in the centre was the inner spherical vitreous body or the crystalline sphere - the lens.⁽³³⁾ Leonardo admonished 'Describe in your anatomy what ratios exist between the diameters of all the spheres of the eye and what distance there is between them and the crystalline sphere'.³⁴ He was aware that others had not described the lens as totally globular and not located in the geometric centre.

Leonardo's visual theories are not considered valid by present day historians. 'But in the end he failed to formulate a valid optical theory'.³⁵ Valid by what standards, however? Validity is, and should be, judged on the basis of prevalent knowledge and technique. Considering the state of both at the time and Leonardo's knowledge, experimental and textual, his theory of vision was as valid as any hypothesis in science.

References

Translations from Leonardo's manuscripts were taken mainly from various secondary sources. In the footnotes, where applicable, the *secondary source* is followed by the primary source of Leonardo's writings in bold print. Listed below are the abbreviations used in the footnotes and the full title with the dates.

MS A. 1492; MS B. 1490; MS D. 1508; MS E. 1513-1514; MS I. 1497; MS K. 1504. Manuscripts in the library of the Institut de France, Paris.

B.M.Arundel MS in the British Museum. 1504, 1508, 1516.

B.L British Library, London, 1504-1507.

C.A. Codex Atlanticus,Ambrosian Library, Milan.

W.L. MS at the Windsor Library. 1490-1516.

1 Strong D., *Leonardo on the Eye*, 1979, New York and London, Garland Publishing, Text p. 47, MS D. 2 verso, 9.

2 Kemp M.,'Leonardo and the Visual Pyramid', J. of the Warburg and Courtauld Institute, 1977,40:128-149, p. 144, C.A. 208v, 214vb and B.L. 220r.

3 Ackerman J.,'Leonardo's Eye'. J. of the Warburg and Courtauld Institute, 1978,41:108-146, p. 109.

4 Lindberg D., *Theories of Vision from Al-Kindi to Kepler*, 1976, Chicago, University of Chicago Press, p. 170.

5 Russell G., 'The Anatomy of the Eye in Ali ibn Al-Abbas Al-Magusi: A Textbook Case', pp. 246-265, p. 257, in Charles Burnett and Danielle Jacquot (eds).

Constantine the African and Ali ibn Al-Abbas Al-Magusi. The Pantegni and Related Texts, 1994, Leiden, New York, Koln, E.J.Brill.

- 6 Duckworth W, *Galen on Anatomical Procedures*, 1962, Cambridge, the University Press, p. 39.
- 7 May M., *Galen On the Usefulness of the Parts of the Body*,Translated from the Greek with an Introduction and Commentary. 1968, Ithaca, Cornell University Press,Tenth Book, p. 503.
- 8 Ackerman J.,'Leonardo's Eye'. J. of the Warburg and Courtauld Institute, 1978,41:108-146, p. 115.
- 9 Keele K., *Leonardo daVinci's Elements of the Science of Man*, 1983, New York, Academic Press, p. 68. C.A. 222ra
- 10 Keele K., *Leonardo daVinci's Elements of the Science of Man*, 1983, New York, Academic Press, p. 68. C.A. 337ra
- 11 Strong D., *Leonardo on the Eye*, 1979, New York and London, Garland Publishing, Commentary p. 122. MS D. 7 verso, 66.5.
- 12 Strong D., *Leonardo on the Eye*, 1979, New York and London, Garland Publishing.Text p. 88. 10 recto, 93.
- 13 Kemp M.,'Leonardo and the Visual Pyramid', J. of the Warburg and Courtauld Institute, 1977,40:128-149. p. 145.
- 14 Strong D., *Leonardo on the Eye*, 1979, New York and London, Garland Publishing, Text p. 55. MS D. 3 verso, 23.
- 15 Strong D., *Leonardo on the Eye*, 1979, New York and London, Garland Publishing, Commentary p. 124. 8 recto 78.1.
- 16 Strong D., *Leonardo on the Eye*, 1979, New York and London, Garland Publishing. Commentary p. 105. 2 verso, 2.
- 17 Richter J., *The Notebooks of Leonardo da Vinci*, 1970, New York, Dover Publications, 1:45, note 71. MS D 8a.
- 18 Richter J., *The Notebooks of Leonardo da Vinci*, 1970, New York, Dover Publications, 1:47, note 78. W.L. 145: B. a
- 19 Strong D., *Leonardo on the Eye*, 1979, New York and London, Garland Publishing, Commentary p. 121.7 verso 66.1.
- 20 Keele K., *Leonardo daVinci's Elements of the Science of Man*, 1983, New York, Academic Press, p. 75. C.A. 222ra.
- 21 Zubov V, *Leonardo da Vinci*, 1968, Cambridge, Harvard University Press, p. 173. MS I 102r.
- 22 MacCurdy E., *The Notebooks of Leonardo da Vinci*, 1938, New York, Reynal & Hitchcock, 1:267. MS K I 19[39]r.

- 23 McMurrich J., *Leonardo da Vinci. The Anatomist*, 1930, Baltimore, The Williams & Wilkins Company, p. 87.
- 24 Keele K., *Leonardo da Vinci's Elements of the Science of Man*, 1983, New York, Academic Press, p. 204.
- 25 McMurrich J., *Leonardo da Vinci. The Anatomist*, 1930, Baltimore, The Williams & Wilkins Company, p. 218.
- 26 Belt E., *Leonardo the Anatomist*, 1955, Lawrence, KS, University of Kansas Press, p. 34.
- 27 Getty R., *Sisson and Grossman's The Anatomy of the Domestic Animals*, 1975, vol. I. Philadelphia, London, Toronto. W B. Saunders Co. pp. 239 and 1191.
- 28 Todd E., *The Neuroanatomy of Leonardo da Vinci*, 1991, Park Ridge, IL., American Association of Neurological Surgeons, p. 63.
- 29 Todd E., *The Neuroanatomy of Leonardo da Vinci*, 1991, Park Ridge, IL., American Association of Neurological Surgeons, p. 71, fig. 32 MS D I 19r
- 30 Bloom W and Fawcett D., *A Textbook of Histology*, 1994, New York and London, Chapman and Hall, ed 12. pp. 891-892.
- 31 MacCurdy E., *The Notebooks of Leonardo da Vinci*, 1938, New York, Reynal & Hitchcock, 1:644. B.M. 94v.
- 32 Richter J., *The Notebooks of Leonardo da Vinci*, 1970, New York, Dover Publications, 1:19, note 21. C.A. I 17b; I 19va, 361 b.
- 33 Lindberg D., *Theories of Vision from Al-Kindi to Kepler*, 1976, Chicago, University of Chicago Press, p. 162.
- 34 Kemp M., *Leonardo on Painting*, 1989, New Haven and London, Yale University Press, p. 50. C.A. 345vb/949v.
- 35 Ackerman J.'Leonardo's Eye'. J. of the Warburg and Courtauld Institute, 1978, 41:108-146, p. 108.

Author

Rumy Hilloowalla is Professor Emeritus of Neurobiology and Anatomy at West Virginia University. His research interest is in post-natal cranio-facial anatomy and the history of anatomy especially as it relates to art, in the period from the Greeks to the Renaissance.

Address:

Department of Neurobiology and Anatomy,
West Virginia University, Health Sciences North,
Morgantown, WV 26506-9128 USA.

Figure Legends

Fig. I. Leonardo da Vinci. Diagrammatic sagittal section of the head. The lens is globular and in the centre of the eyeball. Compared to the longitudinal section of an onion. Windsor I2603r. c. 1490. Copied from O'Malley CD and Saunders JB: *Leonardo da Vinci on the Human Body*. New York, Henry Schuman, 1952. fig. 142

The following three figures copied from MS D can be traced back to the 1490's either through Leonardo's earlier manuscripts or Codex Atlanticus. The dates quoted are close estimations. (See Strong 1979, pp. 329-331).

Fig. 2. Leonardo da Vinci. Inverted rays from the pupil go to the uvea where they are reverted and reflected back into the lens upright. (MS D 7v). c. 1492. Copied from Strong, fig. 33, p. 74.

Fig. 3. Leonardo da Vinci. Two mechanisms, reflection and refraction, for inverting the rays that intersect inside the pupil. (MS D 1 Or), c. 1492. Copied from Strong, fig. 57, p. 89.

Fig. 4. Leonardo da Vinci. 'Double intersection of rays, outside the lens, so as to fall on the optic nerve in an upright position.' (MS D 3v). c. 1492-1500. Copied from Strong, fig. 20, p. 56.

Fig. 5. Hemi-section of the two eyeballs of the same bovine. Left, prepared according to Leonardo's instructions. Note the central position and the globular appearance of the lens. Right, section of the frozen eyeball. The lens is elliptical and in the normal anatomical position.

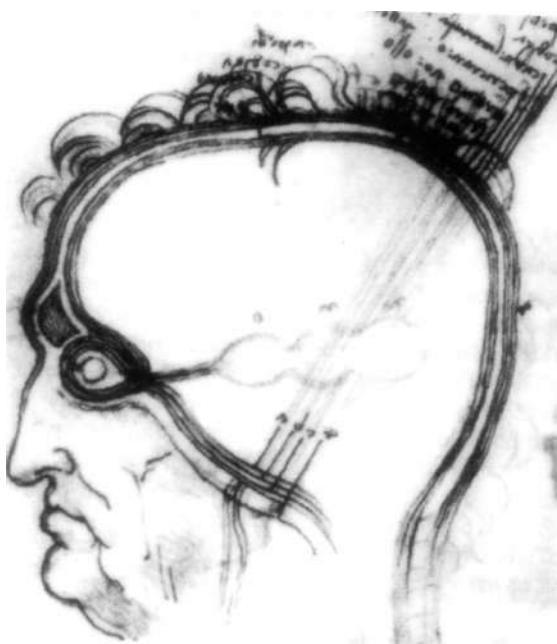


Fig.

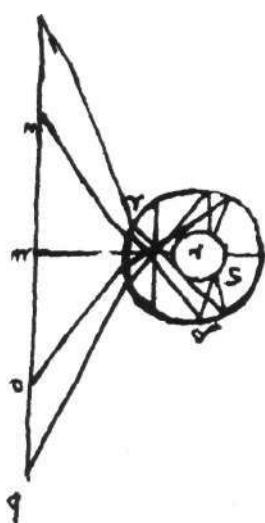


Fig. 2

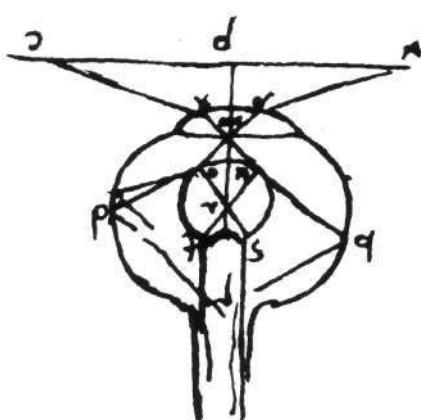


Fig. 3

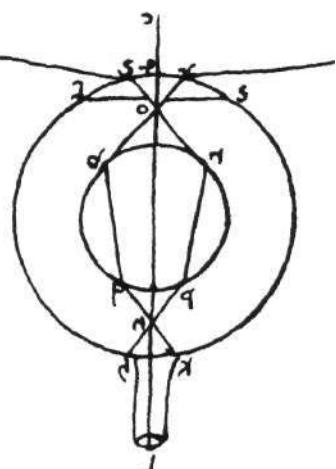


Fig. 4

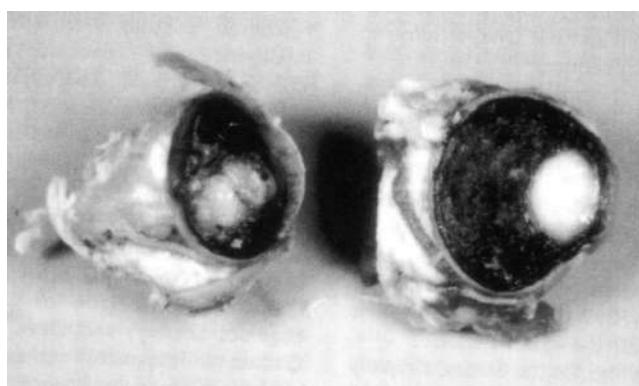


Fig. 5

To what extent were ideas and beliefs about eugenics held in Nazi Germany shared in Britain and the United States prior to the Second World War?

Emily Wittmann

Summary

The term eugenics was first coined by Darwin's cousin, Francis Galton, in 1883. The eugenic movement gained public popularity across Europe and North America at the end of the Victorian era, fuelled by the concept of 'social Darwinism' and public fear of a decline in the number of ideal citizens. The origins of eugenic legislation can be found in the USA's immigration acts of the early 1880's. Indiana was the first state to pass sterilisation laws, in 1907. The laws that followed were used as templates by the Nazis, thirty years later. In Britain the Wood Committee (1924) and the Brock Committee (1931) both put pressure on parliament to introduce eugenic laws but were defeated. The anti-eugenics movement was stronger than in other protestant European countries and eugenics fell out of favour as the 1930's progressed. In the USA however, support remained strong, leading one activist to comment in 1934, 'The Germans are beating us at our own game'. There appears to have been little emphasis on eugenics in the Weimar Parliament, but the Nazi's legislation, on coming to power in 1933, surpassed anything conceived on either side of the Atlantic at the outbreak of war in 1939.

Résumé

L'expression 'eugénisme' fut inventée, en 1883, par Francis Galton, le cousin de Charles Darwin. L'eugénisme acquit de la popularité à la fin de l'ère victorienne, stimulé par le développement du 'Darwinisme social' et par la peur d'un déclin de l'espèce, avec une diminution du nombre de citoyens normaux. A l'origine possible de la législation eugénique, on retrouve les « immigration acts », promulgués, aux Etats Unis, au début des années 1880. En 1907, l'Indiana fut ainsi le premier état américain à promulguer les lois encourageant la stérilisation. Celles qui suivirent servirent d'exemples aux Nazis, trente ans plus tard. En Grande Bretagne, les Comité Wood (1924) et Brock (1931) tentèrent, en vain, de faire adopter par le Parlement les lois eugéniques mais ils ne furent pas suivis. Le mouvement anti-eugénique acquit plus de force que dans d'autres pays européens protestants et les partisans de l'eugénisme perdirent la faveur du public, après les années 1930. Aux Etats-Unis, cependant, l'appui au mouvement eugénique restait puissant. Ainsi, un actif partisan de l'eugénisme remarquait-il, en 1934 'Les Allemands nous ont battu à notre propre jeu'. La République de Weimar ne semble pas avoir soutenu, de façon appuyée, l'eugénisme. Lorsqu'éclate la seconde guerre mondiale, par contre, la législation nazie en matière d'eugénisme s'est considérablement développée depuis 1933, date de l'accession au pouvoir d'Hitler et, en 1939, elle dépasse alors tout ce qu'il est possible d'imaginer de ce côté de l'Atlantique.

The final horrific consequences of a national, centrally implemented, government programme of eugenics are demonstrated nowhere better than in the context of Nazi Germany. The sequence of events that led up to the extermination camps of Auschwitz-Birkenau and Treblinka is so well known as to be imprinted in our national consciousness. What is less well known, indeed rarely acknowledged, is the extent to which eugenics enjoyed a wide following amongst the political and scientific elite of Great Britain and the United States in the first part of the twentieth century.

The term 'eugenics' was first coined by Francis Galton in 1883. Galton (first cousin of Charles Darwin) took the philosopher Herbert Spencer's idea of 'social Darwinism' (the idea of survival of the fittest to justify Victorian ideals of laissez-faire economics and individualism) and applied it to the human population as a whole. By 1900 the concept had caught the public imagination, particularly when the poor quality of recruits for the Boer War (1899-1902) became evident resulting in much debate over the nation's 'stock'.¹

Around the same time in the United States, a rapidly expanding and still volatile country, a number of immigration acts were introduced to prevent the free

influx of certain ethnic groups. Arguments for restricting immigration were economic, (it was thought that new arrivals would depress wages), cultural, (new arrivals might bring with them radical and 'un-American' ideas) and racist (working along side an African-American decreased the status of one's own job dramatically). The first laws, passed in 1882 and 1902, were the Chinese Exclusion Acts. Others followed; the number of eastern and southern Europeans allowed into the USA was restricted, as they were believed to be of inferior intelligence and capabilities to northern Europeans.² These laws provided a model upon which the Nazis later based their own legislation.³

It is easy to dismiss eugenics as a pseudoscience but it was supported by many of the leading academics of the day who employed the latest of modern techniques in investigating it. Eugenics appealed to a wide variety of fields. Fabians and Socialists; such as George Bernard Shaw, H. G. Wells, and J. B. S. Haldane, and Conservatives; Leonard Darwin (son of Charles and head of the Eugenics Society) and Dean William Inge of St. Paul's Cathedral.⁴ It appeared self-evident to these groups that qualities such as intelligence, mental illness, work ethic, criminality and poverty were inherited. Did intelligent,

hard working, upright citizens not breed more of the same? It seemed logical that if undesirable groups were prevented from reproducing, their numbers would decrease to the over all benefit of society.

Most eugenicists appear to have been in favour of sterilisation as a means of restricting population growth. More extreme ideas also circulated: Haldane advocated either massacre or a lavishment of wealth and freedom in which people would have the freedom to destroy themselves.⁵ However, as a biochemist and geneticist, he began to doubt whether 'feeble-mindedness' could ever be bred out of the population through sterilisation. He was one of the first to question this idea.

In the USA, Indiana was the first state to pass sterilisation laws in 1907. Others rapidly followed; by 1931 the total reached twenty-eight. In Iowa the law was especially strict, here is an extract from the draft of a model sterilisation law from 1922;

Sterilisation should be used for:

- (a) *A socially inadequate person who by his or her own efforts regardless of aetiology or prognosis, fails chronically in comparison with normal persons to maintain himself or herself as a useful member of the organised social life of the state; provided that the term socially inadequate shall not be applied to any person whose individual or social ineffectiveness is due to the normally expected exigencies of youth, old age, curable injuries, or temporary physical or mental illness.*
- (b) *The socially inadequate classes regardless of aetiology or prognosis are the following:*
 - (1) *Feeble-minded*
 - (2) *Insane (including psychopathic)*
 - (3) *Criminals (including the delinquent and wayward)*
 - (4) *Epileptic*
 - (5) *Inebriate (including drug habitues)*
 - (6) *Diseased (including the tuberculous, the syphilitic, the leprosy, and others with chronic infections and legally segregable disease)*
 - (7) *The Blind (including those with seriously impaired vision)*
 - (8) *The Deaf (including those with seriously impaired hearing)*
 - (9) *Deformed (including the crippled)*
 - (10) *Dependents (including orphans, ne'er-do-wells, the homeless, tramps and paupers)*

As David Galton comments, half the modern population of London could probably be fitted into one of these categories.⁶

Across the Atlantic, the British eugenics movement focused on the Eugenics Society formed in 1907. This mirrored the international trend; the Eugenics Record Office in the United States opened in 1904 and the German Society for Racial Hygiene in 1905. It has been

suggested that the Eugenic Society executed a three-phase plan. Firstly, the collection of evidence to support the heritability of mental deficiency and the use of these data to gain support for eugenics. Secondly, to lobby parliament to pass a bill legalizing voluntary sterilisation in a manner that would satisfy the public. And thirdly, to have legislation passed to allow the compulsory sterilisation of all people defined as 'socially inefficient'.⁷ Supporters in parliament included Winston Churchill who favoured the use of eugenic principles to address poverty. As Home Secretary in 1910, he actively circulated pro-eugenic literature and urged Sir Herbert Asquith (the then Prime Minister) to pass eugenic legislation.⁸

In 1924 the Wood Committee was appointed, and was given the task of reviewing the procedure for ascertaining the number of mental defectives. Its membership included prominent eugenists and the committee soon associated itself with the widespread fear that mental deficiency was accelerating. The language and terminology of the Wood Report (1929) was extremely eugenist and eugenics was praised as a science. It provided plenty of encouragement for the Eugenics Society, which stepped up its parliamentary campaign for a voluntary sterilization bill. This was defeated in the House of Commons in 1931.

Eugenics in Germany grew up at the same time and in the same conditions as the eugenics movement in the rest of Europe. Again, it appealed to a spectrum of people, encompassing both the political left and far-right, anthropologists, social scientists, and members of the medical profession. Originally it was an apolitical movement that counted Jews amongst its more prominent members. In 1903 the Racial Hygiene Society was founded, with the aim of establishing 'racial hygiene' as a credible and legitimate branch of science. It tried to occupy the middle ground between Aryan enthusiasts and socialist Darwinists.¹⁰ It appears strange that eugenics survived in the atmosphere of modernisation, rationalisation and experimentation that marked the Weimar Republic. Weindling suggests that organicist values deeply rooted in German culture provided the link the movement needed to survive.¹¹ In the early 1920s positive eugenic ideas predominated, these focussed on liberal ideas of the individual's personal efforts to improve their health as well as inspire more orderly behaviour and instil a sense of national duty. The German League for National Regeneration and Heredity was founded in 1925. This stressed the importance of science in the health of future generations, although it also took a nationalist slant. Both organisations became steadily more involved in the state's welfare apparatus.

From the mid-1920s however, the mood changed towards negative eugenic practices; sterilisation,

abortion and detention. Racist and nationalistic elements also grew in popularity. Issues such as birth control were fiercely contested by the feminist and sexual reform movements. The foundation of the Kaiser Wilhelm Institute for Anthropology, Human Heredity, and Eugenics in 1927 was crucial. Funded mostly by the state, its research was carried out in an atmosphere dominated by prominent eugenicists with strong anti-democratic sentiments.

The economic chaos following the Wall Street Crash led to the collapse of the German welfare system. Doctors found they had grown in power as the arbitrators of state benefits whilst economic pressure led to the combination of the anti-feminist, anti-Semitic and anti-socialist movements towards an authoritarian goal. Negative eugenic methods gained popularity as a cheaper alternative to welfare benefits and a method of avoiding what many saw as the looming genetic crisis. It should be noted however, that strong opposition remained, the Reich Health Office refused to support changes to the law regarding sterilisation in 1928 due to reports of cruelty in the USA's eugenics programmes and acknowledged that there were gaps in the understanding of the heritability of some conditions. However, international eugenics conferences and support from the church raised the acceptability of sterilisation as a welfare measure. The Nazis were amongst its staunchest supporters and following the 1932 elections were able to increase their political pressure. The simultaneous growth of racial anthropology was strongly criticised by the left as a cover for right-wing racism; however the massive growth in the right's political power was able to override the opposition.¹² Once Hitler came to power in 1933 the Nazis were able to pass increasingly stringent eugenic laws with little opposition, the exact nature of these is well documented elsewhere and goes beyond the scope of this essay. However, it should be noted that the scale of Nazi eugenic policy could only have been implemented in a centrally controlled totalitarian state.

In 1932 the Brock Committee was appointed in Britain to assess the extent to which mental illnesses are hereditary and to evaluate the use of sterilization as a means to limit the dissemination of such illness. This marked the peak of the eugenists' influence in Britain. The committee was named after its Chairman, Sir Laurence Brock, a senior civil servant with close contacts amongst the eugenics movement. Brock managed to secure a high level of autonomy in appointing members of the committee, four of whom were dedicated eugenists. The committee's report (1934) is clearly biased by this selection. This had three consequences; toleration of imprecision in defining who would be encouraged to submit themselves to

'voluntary' sterilisation; confusion over consent; and a need to discount recently discovered evidence for environmental causes of mental illness. The Brock Committee recommended in favour of voluntary sterilisation. A Royal Commission however was never appointed, and the committee itself was quietly forgotten as the cruelty of compulsory sterilisations in Germany became apparent¹³ from the mid-1930s and public enthusiasm waned.

Britain was one of the few northern European Protestant countries not to pass eugenics laws. The Scandinavian countries all started sterilisation programmes in 1926. In Sweden the laws were not repealed until 1976, resulting in the sterilisation of twenty thousand young women. Britain's anti-eugenics movement was based on ideas expressed in books such as J. S. Mill's 'On Liberty', (published in 1859). This advocated that eugenics was a question of an individual's choice not a matter for state control. Evidence for environmental factors in the aetiology of mental illness started to emerge in the 1930s challenging those who argued that it was entirely inherited. Biologists also started to argue that the concept of definitive races did not exist. In 1935 J. Huxley and A. C Haddon published a paper in which they studied the characteristics of Jews and gentiles. They found that both groups overlapped in every possible characteristic and, without uniform environment, it was impossible to tell whether there were any innate genetic differences at all. Arguments such as these prompted people such as Haldane to swap sides in the debate.¹⁴ The Catholic Church also played an important role; to people who believe the right to give and take life is God's alone, the idea of state enforced sterilisation was obviously anathema.

Despite dwindling support for eugenics in Britain, eugenics programmes in America continued with majority support throughout the 1930s. In 1934, Dr. J. DeJarnette (a major influence in the sterilisation programme in Virginia) was moved to comment that, 'The Germans are beating us at our own game.'¹⁵ Indeed in the early years of the Nazi regime in Germany, praise for the laws introduced was forthcoming from America. In 1933, an officer of the American Eugenics Society wrote to newspaper editors praising Hitler's great courage and statesmanship. In 1936, the University of Heidelberg awarded Harry Laughlin (head of the Eugenics Record Office) an honorary doctorate of medicine, an honour he accepted as 'evidence of a common understanding of German and American scientists of the nature of eugenics'. This does not however make the American eugenicists in any way complicit in the final outcome of the Nazis' eugenics legislation. It is most likely that they could not, or did not want to guess at what the Nazis were capable of.¹⁶

The Nazis' drive for national racial purity is well documented and its full details are outside the scope of this essay. On coming to power in 1933, Hitler's government formulated a Eugenic Sterilisation Law, which came into effect the following year. An extreme version of the American draft law quoted earlier, it forced physicians to report all 'unfit' persons to Hereditary Health Courts who judged whether they should be sterilised. By 1937, two hundred and twenty-five thousand people had been sterilised (ten times the number sterilised over the past thirty years in America). During the first few years of the regime Nazi eugenic policies ran independently of anti-Semitic policies; the two merged in the Nuremberg marriage Laws of 1935. After the Second World War at the Nuremberg trials it emerged that Nazi doctors had established centres for experimental sterilisation. Witnesses amongst the survivors reported that their aim was to find the most effective method in order to repopulate all western European countries within one generation after the war.¹⁷

In conclusion, support for the concept and practice of eugenics was common to Britain, the United States, and Germany, until the mid-1930s. The United States was the first country to introduce eugenic laws in 1907, although they never became federal and their severity varied greatly between states. Support for the eugenics movement (centred at the Eugenics Records Office) continued throughout the 1930s, with Nazi eugenic legislation being praised by many. In Britain the eugenics movement (led by the Eugenics Society, formed in 1907), enjoyed much popular support until the mid-1930s. Legislation came close to being passed in 1929 following the Wood Report and in 1934, following the Brock Report, but opposition from liberal, scientific and religious quarters prevented this from occurring. Reports of the cruelty of compulsory sterilisations occurring in Germany and a cooling of the diplomatic atmosphere meant that eugenics never returned to favour amongst the British public. In Germany pro-eugenic and anti-eugenic movements followed a pattern comparable to those in Britain prior to the Wall Street Crash. Following the collapse of the welfare state negative eugenic measures were seen as a method with which to control spending and save the nation from 'genetic crisis'. Political opinion swung away from liberal values of individual consent towards totalitarian government, the support of the church aided public acceptance of sterilisation and abortion. On coming to power in 1933, Hitler seized the opportunity to pass more and more extreme eugenic legislation. In the early 1930s, this may have had some resemblance to the most extreme of American state's laws, but the Nazis went into depths only possible in a totalitarian state during the circumstances of world war.

References

- 1 Ridely M., *Genome, the Autobiography of a Species*, Fourth Estate Ltd, London 1999
- 2 Galton D., *Eugenics, the Future of Human Life in the 21st Century*, Abacus, London 2002
- 3 Kevles DJ., *In the Name of Eugenics - Genetics and the uses of Human Heredity*, Harvard University Press, USA 2002
- 4 *ibid*
- 5 Galton D., *Eugenics, the Future of Human Life in the 21st Century*, Abacus, London 2002 p. 1
- 6 *ibid*
- 7 Macnicol J., 'The Voluntary Sterilisation Campaign in Britain, 1918-39' *Journal of the History of Sexuality*, 2 (1992), 422-37, p. 428 as referred to in King D and Hansen R 'Experts at Work: State Autonomy, Social Learning and Eugenic Sterilisation in 1930s Britain', *British Journal of Political Science* 29, 77-107
- 8 King D and Hansen R., 'Experts at Work: State Autonomy, Social Learning and Eugenic Sterilisation in 1930s Britain', *British Journal of Political Science* 29, 77-107
- 9 *ibid*
- 10 Weindling P., *Health Race and German Politics between national unification and Nazism, 1870-1945*, Cambridge University Press 1989 p. 125
- 11 Weindling P., *Health Race and German Politics between national unification and Nazism, 1870-1945*, Cambridge University Press 1989 p. 401
- 12 Weindling P., *Health Race and German Politics between national unification and Nazism, 1870-1945*, Cambridge University Press 1989 pp. 399-480
- 13 King D and Hansen R., 'Experts at Work: State Autonomy, Social Learning and Eugenic Sterilisation in 1930s Britain', *British Journal of Political Science* 29, 77-107
- 14 Kevles DJ., *In the Name of Eugenics - Genetics and the uses of Human Heredity*, Harvard University Press, USA 2002
- 15 Richmond Times-Dispatch, Feb 27 1980; March 2 1980. As referred to by Kevles DJ *In the Name of Eugenics - Genetics and the uses of Human Heredity*, Harvard University Press, USA 2002
- 16 Kevles DJ., *In the Name of Eugenics - Genetics and the uses of Human Heredity*, Harvard University Press, USA 2002
- 17 *ibid*

Author

Emily Wittmann is a medical student at the University of Wales College of Medicine, Cardiff. This paper won the John Blair Trust Prize in 2003.

Le Fabuleux Destin du Docteur Véron

Claude A Planchon



Résumé

Extraordinaire odyssée que celui du Docteur Louis-Désiré Véron (1798-1867), Interne des Hôpitaux de Paris. Déçu par la médecine en un temps où l'on ne pouvait faire carrière à Paris sans « être bien-né », il prend une étonnante revanche sur la société, après avoir fait fortune par hasard dans la pharmacie. Il innove dans le journalisme en tant que précurseur de la publicité médicale. Il dirige, de main de maître, l'Opéra de Paris, rue Le Peletier, de 1831 à 1835, l'une des plus belles périodes. Il y crée notamment, pour le lyrique, « Robert le Diable », de Meyerbeer et « La Sylphide », de Filippo Taglioni, l'une des pièces maîtresses du ballet romantique, interprétée par la propre fille du chorégraphe, Marie Taglioni. Véron en sera le protecteur. Malgré un physique ingrat, compensé par un esprit hors du commun, Véron séduira Rachel, la plus grande tragédienne du Théâtre-Français de l'époque.

Summary

The life of Doctor Louis-Desire Veron (1798-1867) was an incredible odyssey. Starting his professional life as an 'Interne des Hopitaux de Paris', he found himself unable to enter the medical establishment at a time when it was practically impossible to succeed in Parisian society without having been born into a wealthy family. He was eventually able to take his revenge on Paris when he had made a fortune from pharmacy. He became the head of the Le Pelletier Paris Opera (1831-1835), in one of the most brilliant periods of opera history, with productions of Robert le Diable by Meyerbeer and La Sylphide, a ballet choreographed by Filippo Taglioni. This latter was first interpreted by Marie, the prima ballerina daughter of Taglioni. Doctor Veron became her protector. He compensated for his ugly physical appearance by a combination of smart intelligence and a keen spirit, which enabled him to seduce Mademoiselle Rachel, one of the most famous tragic actresses of the era at La Comédie-Française.

Des débuts brillants

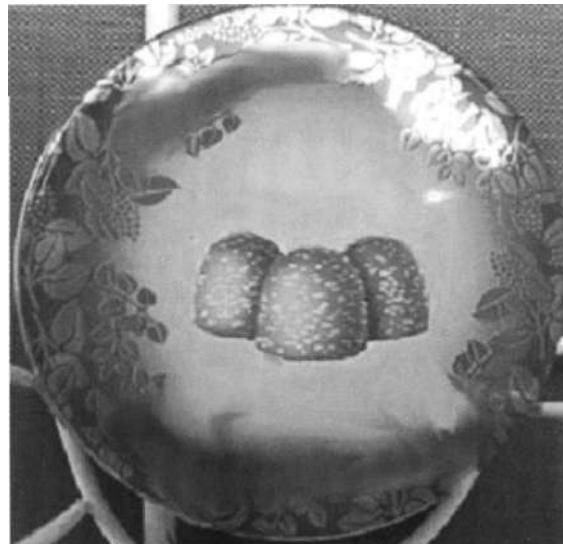
Louis-Désiré Véron est né à Paris, le 18 germinal de l'an VI (5 avril 1798), au numéro 69 de la rue du Bac, dans le 7ème arrondissement de Paris, où ses parents tenaient une librairie-papeterie. Il entre à 11 ans, en même temps qu'Eugène Delacroix au Lycée Impérial

Louis-le-Grand. Il s'initie, dès 15 ans, aux plaisirs de l'Opéra sur l'initiative de son père qui lui octroie, comme professeur de violon, l'un des musiciens du célèbre orchestre. Après des débuts remarqués en poésie, il entre au « Conservateur Littéraire », en compagnie des trois fils Hugo, dont Victor. Il y est chargé

des compte-rendus des séances publiques de l'Académie des Beaux-Arts et de l'Académie Française. Peu motivé et gagnant médiocrement sa vie, comme commis de librairie chez ses parents, son père le fait inscrire à l'Ecole de Médecine, grâce à l'appui d'amis bonapartistes tels que le Pr. Antoine Dubois, chirurgien de renom et le Docteur Auvity, médecin en vogue (qui habitait le même immeuble et qui pouvait se targuer du titre de médecin du Roi de Rome). Avide d'argent, le jeune Véron établit bientôt, à la Faculté, un commerce parallèle de squelettes et joue dans les tripots du Palais-Royal où il se ruine et accumule les dettes. Le soucis financiers ne l'empêchent pas de se consacrer à ses études et de se plonger dans la lecture de grands écrivains : Pascal, Voltaire, Saint-Simon

Il est nommé à l'externat, en 1819 puis, « Interne de 2ème classe », à l'Hospice de Bicêtre dont il démissionne pour pouvoir repasser, plus brillamment, le concours de l'Externat dont il sort, cette fois, major. Il est alors nommé « Interne de 1ère classe » des Hospices Civils de Paris, en 1820. Il exerce chez Chomel, à La Charité puis, chez Richevaud et Biet, à Saint-Louis. Il passe chez Guersant, aux Enfants-Malades, avant de se consacrer à la Pédiatrie, à La Charité, chez le « Père Boyer », ancien chirurgien de l'Empereur. La dernière année est effectuée aux Enfants-Trouvés, chez Baron, médecin des Enfants de France sous la Restauration. Véron sera ensuite « Suppléant de Chirurgien Externe », à La Charité (ce qui correspond au titre actuel d'Assistant-Chef de Clinique). Il soutient sa thèse, *Considérations générales sur les sensations suivies de quelques propositions médicales*, le 23 août 1823, avec Richerand comme Président et Dupuytren, comme membre du Jury.

Après avoir acquis quelques biens à la mort de son père, Véron est nommé, à 25 ans, à l'Ecole Pratique, « Aide Expectant » (c'était l'ancien nom des prosateurs d'anatomie). Il sera refusé comme « titulaire », ce qui mettra un terme à ses ambitions professorales. Il est cependant admis, un an plus tard, à la Société Royale des Bonnes Lettres de la rue de Choiseul dont le président d'honneur n'est autre que Chateaubriand. Il y occupe le poste de professeur de Physiologie de la Commission Littéraire et Scientifique. Il écrit également quelques articles dans *La Quotidienne* et, grâce à sa verve et son esprit, il se compose un auditoire choisi. Ainsi, fort de ses diplômes, de ses attaches avec les cercles littéraires et de ses relations mondaines, il installe, en 1824, son cabinet au numéro 30 de la rue Caumartin. Il publie, en 1825, *Observations sur les maladies des enfants : premier cahier* et devient Médecin des Musées Nationaux et Chirurgien temporaire de la Maison Militaire du Roi, à l'Hôpital Militaire du Gros-Caillou, rue Saint-Dominique



Un homme avisé

Désenchanté par l'exercice en clientèle de ville, désargenté, et la trentaine passée, le Docteur Véron s'ennuie... La pharmacie Regnault, sise 45, rue Caumartin, à proximité de son cabinet, se signale fièrement aux passants par deux phares rouge et bleu. Véron ne manque pas de s'y arrêter souvent pour tuer le temps. C'est ainsi qu'il tisse les liens d'une réelle amitié avec le pharmacien et qu'il reste des heures à admirer, dans l'officine, les habiles préparations magistrales, dont une pâte pectorale qui fait, grâce au bouche à oreille, le bonheur de tous les toussous, quinteux et catarrheux du quartier [2].

A la mort du pharmacien Regnault, Véron crée le 2 juin 1826, avec son successeur, Louis-René Frère, une Société de Commerce pour la confection et le débit de la pâte pectorale balsamique de Monsieur Regnault ainé. Fort de ses bonnes relations avec la presse, Véron obtient l'insertion, dans *La Quotidienne* (1826-1827), de l'annonce suivante :

« La pâte balsamique de M. Regnault ainé, pharmacien de S.A.R. Monseigneur le Dauphin, rue Caumartin, 45 à Paris, dont nous avons déjà rapporté les heureux effets dans les rhumes, les catarrhes et les diverses maladies de la poitrine, acquiert, de jour en jour, plus de vogue et de réputation; elle diminue la toux, calme l'irritation de la gorge et facilite l'expectoration; elle est aussi d'une utilité incontestée aux personnes qui parlent et chantent en public. Les journaux médicaux les plus accrédités en font l'éloge; les médecins les plus habiles en prescrivent

l'usage. On ne saurait donc trop conseiller la PÂTE PECTORALE BALSAMIQUE, dont l'efficacité est déjà connue en France et chez l'étranger ».

La publicité médicale est née: elle contribuera au succès de la pâte pectorale et fera la fortune du Docteur Véron.



De la presse à l'Opéra

Après avoir tenu, pendant 6 ans, la rubrique politique de *La Quotidienne*, sorte de bulletin polémique de l'époque, Véron se désintéresse peu à peu de la médecine, au profit du journalisme. Il tient, pour un temps, la rédaction du feuilleton des théâtres (critique littéraire) au journal *Le Messager des Chambres*. Ceci lui vaut notamment de rencontrer et de faire l'éloge d'une danseuse prodige, Marie Taglioni. Il publie, en 1828, une *Etude minutieuse de la situation financière des théâtres*. Sa rencontre avec le banquier Aguedo, véritable parisien d'Espagne, lui permet d'emprunter les 80.000 francs nécessaires à la fondation de *La Revue de Paris*, un mensuel attrayant dans lequel les lettres prennent le pas sur les autres questions d'actualité. Véron sait s'entourer des meilleurs collaborateurs, tels que Jules Janin, Sainte-Beuve (alors étudiant en médecine), Mérimée, George Sand, Alfred de Vigny, Victor Hugo... Le premier numéro paraît le 9 février 1828 et le nombre des abonnés dépasse rapidement toutes les espérances. Véron conçoit alors l'idée de génie d'attribuer un prix littéraire réservé aux jeunes auteurs. Seule *La Revue des Deux-Mondes*, fondée en 1830, lui porte ombrage et finira par s'approprier sa revue, en 1834.

Fort des relations entretenues avec le monde des lettres, des arts et de la politique et des liens d'amitié tissés avec des compositeurs (dont Rossini) et des auteurs de renom (dont Eugène Scribe), Véron verra, tout naturellement, sa candidature patronnée par Armand Bertin, Directeur du *Journal des Débats*, auprès de Sosthène de La Rochefoucauld, à la tête des Beaux-

Arts (cette direction englobait aussi l'Académie Royale de Musique). En 1830, le déficit d'exploitation de l'Opéra s'élevait à un million de francs, une somme considérable qui sera prélevée directement sur la cassette personnelle du Roi Louis-Philippe. En nommant Louis-Désiré Véron à la tête de cette prestigieuse institution, par décret du 28 février 1831, M. de Montalivet, Pair du Royaume et Ministre Sous-Secrétaire d'Etat au Département de l'Intérieur, eut certainement l'impression « de confier un malade à un Docteur ! ». L'article 1er du cahier des charges surprendrait aujourd'hui plus d'un haut-fonctionnaire : « *L'Administration de l'Académie Royale de Musique sera confiée à un Directeur-Entrepreneur qui l'exploitera pendant six ans à ses risques et périls et fortune...* » et Véron dut mettre à contribution son ami banquier Aguedo, pour l'aider à régler la caution, d'un montant de 200.000 francs.

Doué d'un réel talent d'organisateur, Véron voit juste et voit grand : son activité débordante n'a d'égale que son ambition [3] ! La salle de l'Opéra Le Peletier datant de 1820 a perdu de son lustre. Pour attirer à nouveau le « Tout-Paris », il lui redonne du clinquant, de l'or et des lumières, tout en lui conservant une acoustique superbe. La création de *Robert le Diable*, opéra de Meyerbeer en cinq actes, sur un livret de Scribe et Delavigne, inaugure, le 21 novembre 1831, une ère nouvelle : le succès est considérable, du jamais vu: plus de 10.000 francs de recette, en une seule soirée. Le divertissement de Philippe Taglioni consacre sa fille Marie comme héroïne du ballet romantique. Le *80/et des Nonnes* est interprété admirablement et si légèrement, que ceci lui suggère l'idée d'un ballet romantique, *La Sylphide*. La chorégraphie est commandée à Taglioni, sur un argument d'Adolphe Nourrit et une musique de Schneitzhoeffer. Le 12 mars 1832, c'est à nouveau un triomphe! [4].

Le Docteur Véron irrite autant qu'il fascine: sa bonne fortune et son physique ingrat le livrent en pâture aux quolibets et à la caricature (Honoré Daumier en fait ses « choux-gras »). Pourtant, on lui doit d'avoir évité une faillite retentissante en finançant l'opéra sur ses propres deniers, lors de la grande épidémie de choléra que connaît Paris, en 1832. C'est encore à lui qu'est dû le succès obtenu en commanditant *La Juive* (créée le 23 février 1835, sur une musique de L. Halévy et un livret d'Eugène Scribe). C'est toujours Véron qui réussit à engager la célèbre danseuse anglaise Fanny Essler. Celle-ci, dans une compétition de virtuosité farouche avec Marie Taglioni, enflamme les foules et remplit les caisses du théâtre. A l'initiative de Véron, sera créé le poste de Médecin des Théâtres, pour assurer la sécurité d'un public de plus en plus nombreux. Après s'être attiré les

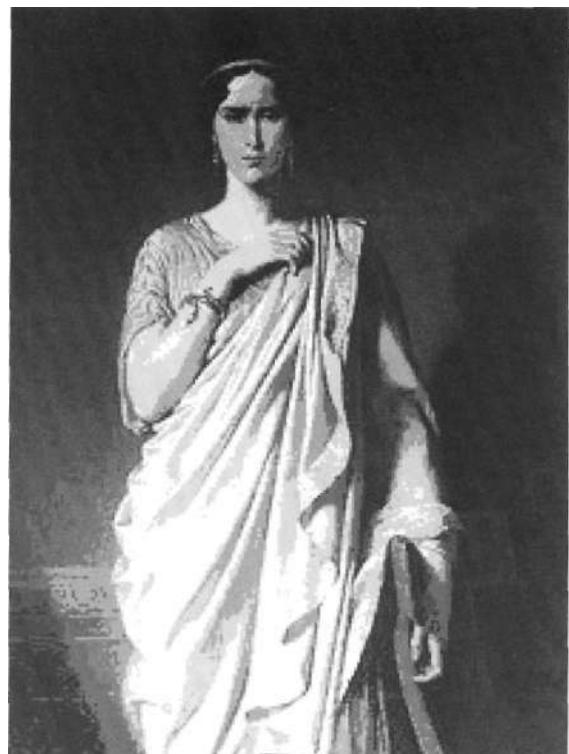
foudres de M. Thiers (mieux valait alors faire pitié que susciter l'envie), auréolé, fortuné, Véron quitte son fauteuil de Directeur de l'Opéra à l'âge de 37 ans, après quatre ans de bons et loyaux services.



..et de l'Opéra à la politique

En 1838, après avoir été honorablement battu à une élection en Bretagne comme candidat de l'opposition par le candidat légitimiste Las Cazes, Thiers, retiré des affaires, suggère, non sans arrière-pensée, à Véron de se rendre acquéreur d'actions du *Constitutionnel*, ce que ce dernier s'empressera de faire, devenant ainsi rapidement Administrateur-Gérant. Véron est élevé au rang de Chevalier dans l'Ordre de la Légion d'Honneur, non pas en tant que journaliste ou ancien directeur de l'Opéra, mais en qualité de médecin, sur la recommandation d'Orfila, son ancien juge à l'Ecole Pratique et maintenant, Doyen de la Faculté de Médecine de Paris.

Le 12 juin 1838, Véron découvre, avec bonheur, la noblesse et la dignité d'allure de Mademoiselle Rachel qui fait ses débuts au Théâtre-Français, dans *Phèdre*. La



jeune provinciale, d'origine modeste, ne tarde pas à se laisser séduire et à tirer le meilleur parti de ce bourgeois ventripotent, à l'apparence repoussante, de 20 ans son aîné. Mais Véron est suffisamment spirituel et fortuné pour ouvrir à Rachel les portes des plus grands salons littéraires de l'époque, dont celui de Juliette Récamier [5].

En 1848, alors que souffle le vent de la Révolution, son journal prend ouvertement fait et cause pour le Prince Louis-Napoléon, élu Président de la République, le 10 décembre. Louis-Désiré Véron atteint alors le sommet de la gloire et sa salle à manger devient l'une des tables gastronomiques les plus courues de Paris [6], grâce aux talents de sa cuisinière normande hors-pair, Sophie. Cette dernière lui avait été léguée par Fanny Essler, avant de partir, en tournée, danser aux quatre coins du monde. On doit à Véron la qualification « Tournedos » et secondairement, l'appellation « Rossini » [7] car il aimait la viande de bœuf tranchée, épaisse (ce qui n'était pas l'usage). Ceci désespérait les garçons de restaurant qui préféraient le servir *derrière son dos*, pour ne pas se faire remarquer des autres clients. L'élite de la société parisienne se presse au domicile de Véron, 232 rue de Rivoli. Napoléon III s'y rend lui-même et lui octroie, le 14

décembre 1851, les insignes d'Officier dans l'Ordre de la Légion d'Honneur. Malgré quelques articles qui lui valent, un temps, la disgrâce, Véron accède, en 1852, à la députation de Sceaux. Devenu gênant, Thiers se voit débarqué du *Constitutionnel* : ceci laissera libre cours au talent de son gérant qui aura fait beaucoup pour l'accession au trône du futur Empereur Napoléon III [8].



Le *Constitutionnel* vendu, Véron en retire une compensation financière importante qu'il va perdre, en partie à cause du procès que lui intente son coactionnaire, le Comte de Morny. C'est en épicurien vieilli et déçu, perclus d'arthrose et rendu impotent par la goutte, que Véron se retire, peu à peu, des mondanités pour se consacrer d'avantage à l'écriture et rédiger, entre autres ouvrages, *Les Mémoires d'un bourgeois de Paris*. Ceux-ci paraissent, en cinq volumes, en 1853 mais le succès est mitigé.

Véron s'éteindra doucement, le 27 septembre 1867, à l'âge de 69 ans, dans les bras de sa vieille Sophie, restée jusqu'au bout sa fidèle et dévouée gouvernante. Deux rues portent aujourd'hui son nom, dans le 18ème arrondissement de Paris : la « Cité Véron », qui donne sur le Boulevard de Clichy, et la rue Véron, située entre les rues Lepic et Germain Pilon.

Bibliographie

- 1 M.-E. BINET, « Un médecin pas ordinaire, le Docteur Véron », Albin Michel, 1945.
- 2 Dr. CABANES., « Remèdes d'autrefois », Maloine, 2ème série, 1913.
- 3 A. EHRHARD., « L'Opéra sous la direction Véron », 1907.
- 4 L.VAILLAT, « La Taglioni ou la vie d'une danseuse », Albin Michel, 1942.

- 5 H. FLEICHMAN., « Rachel intime ».
- 6 J. d'ARCY., La salle à manger du Docteur Véron », A. Lemerre, 1858.
- 7 P. COUDERC, « Recettes des Grandes Tables : le Tournedos Rossini », site Internet du Nouvel Observateur sur <http://permanent.nouvelobs.com/conseils/gastronomie/recettes>
- 8 E. de MIRECOURT, « Louis Véron dans les contemporains », G. Havard, 1855.

Oeuvres de Dr Louis Véron

- Considérations générales sur les sensations, suivies de quelques propositions médicales. Thèse, Paris, 1823.
- Observations sur les maladies des enfants, 1er cahier. Baillière, 1825.
- Mémoires d'un Bourgeois de Paris, 5 vol., Librairie Nouvelle, 1856-1857.
- Nouveaux Mémoires d'un Bourgeois de Paris, 1 vol., Librairie Nouvelle, 1866.
- Cinq cent mille francs de rente, 2 vol., Librairie Nouvelle, 1855.
- Quatre ans de règne. Où en sommes-nous ? Librairie Nouvelle, 1857.

Remerciements :

A Madame Gilberte COURNAND, Journaliste & Critique, directrice et fondatrice de la galerie « La Danse », à Paris, qui m'a mis sur les traces du Docteur Véron, en témoignage de ma reconnaissance et de mon profond attachement.

Author

Dr Claude A Planchon. C.E.S.
Médecine Nucléaire & D.E.U. Cancérologie Clinique,
The American Hospital of Paris,
BP. 109, 63, boulevard Victor-Hugo,
F-92202 Neuilly-Sur-Seine Cedex.
E3 caplanchon@nerim.net.

Examens Médicaux Post-Mortem : les pratiques de l'autopsie scientifique et de V autopsie médico-légale, aux XIXème siècle, en France.

Sandra Menenteau

Résumé :

La réalisation d'une autopsie diffère beaucoup s'il s'agit de médecine légale ou d'anatomie pathologique. Ces deux opérations *post-mortem* divergent car l'une est effectuée pour la justice et l'autre pour la science. Cette différence fondamentale dicte les gestes et l'attitude du médecin. En effet, même si de nombreux points communs existent entre les autopsies judiciaire et scientifique, les divergences sont encore plus déterminantes.

L'introduction du facteur « justice » entraîne des modifications techniques tel qu'un examen externe scrupuleux mais confère, en échange, au médecin une liberté d'action que ne connaissent pas les praticiens de l'anatomie pathologique.

La présence de la justice soumet l'expert à une tension résultant de la nécessité de ne pas faire d'erreur et s'accompagne d'un climat d'urgence, l'obligeant à agir rapidement et dans des conditions parfois difficiles.

Summary: Post-mortem medical examinations: practices of scientific autopsy and forensic autopsy, in the nineteenth century, in France.

The performance of a pathological post-mortem examination is quite different from one carried out for medico-legal reasons. One is directed by a search for scientific knowledge, the other by justice. Even though they have much in common, there are clear differences in the physician's practice and approach.

Medico-legal considerations introduce technical modifications, including a more scrupulous external examination, giving the forensic expert an advantage not available to the pathologist.

In addition, the forensic expert is often working under pressure, as he is obliged to avoid any professional errors and may have to work quickly under difficult conditions.

Le terme « *autopsie* » s'emploie pour désigner un examen dont le but est de déterminer les causes de la mort d'un individu. La juxtaposition d'un adjectif à ce substantif permet d'en préciser les raisons, les finalités ainsi que les protagonistes. On peut distinguer trois sortes d'autopsies. Tout d'abord, celle qualifiée de « privée », effectuée sur demande de la famille et confiée à un médecin choisi par celle-ci.¹ Ensuite, l'autopsie dite « médicale », « scientifique » ou encore, « anatomo-pathologique ». Réclamée par tout le corps médical, elle est effectuée pour les progrès de la science et se pratique à l'hôpital. Enfin, la troisième et dernière sorte d'autopsie est appelée « judiciaire » ou « médico-légale »: ordonnée par un magistrat, elle est confiée à un médecin assermenté, pourvu du titre d'expert² et réalisée dans les cas de mort suspecte ou violente.³ Parmi ces trois types d'autopsies, la première est la moins fréquemment effectuée car « la curiosité scientifique [est] rare à l'état pur chez les non-professionnels ».⁴ Comparer l'autopsie « anatomo-pathologique » et l'autopsie « médico-légale » est l'objectif de cette contribution. Pour ce, il importe de s'attacher aux techniques opératoires et aux manipulations réalisées sur le cadavre.

Les deux commandements : tu n'omettras rien et tu auras le matériel approprié.

Les deux catégories d'autopsies ayant une finalité identique : découvrir les causes du décès, elles présentent des points communs. Le premier d'entre eux peut se résumer à une sorte de précepte : l'*autopsie*

doit être complète.

Une telle recommandation est un véritable leitmotiv dans la littérature médicale du XIXème siècle. Il est indispensable de ne rien omettre durant l'examen, **de poursuivre les recherches même lorsque le médecin a découvert une lésion assez importante pour avoir causé la mort.** Charles Marc affirme en 1808 que « *même quand on croit avoir découvert dans une cavité une cause suffisante de la mort, il est à propos de ne pas négliger la visite des autres* ».⁵ Cette obligation est également présente sous la plume de Gabriel Tourdes⁶, à la fin des années 1860 ainsi que dans le célèbre ouvrage d'Alexandre Lacassagne, *Le vademecum du médecin expert*.⁷ Si leur opinion peut diverger quant aux techniques employées pour réaliser l'autopsie, à la manière d'ouvrir telle cavité ou d'extraire tel organe, les auteurs s'accordent pour dire qu'une autopsie incomplète est une autopsie dont on ne peut tirer de conclusions significatives. Cette exigence est **une des raisons pour lesquelles Lacassagne met au point des fiches modèles, récapitulant toutes les observations à faire pour un genre de mort donné.** Ainsi, en utilisant ces fiches d'autopsie types, le médecin expert est quasi certain de ne rien oublier, lors de l'exécution de l'opération *post-mortem* ou lors de la rédaction du rapport d'expertise.

En anatomie pathologique, il est également indispensable que l'autopsie soit complète, que tous les organes soient examinés, **mais avec quelques nuances.** Certaines opérations sont fortement déconseillées, voire interdites, parce que le corps sera

rendu à la famille ou, tout au moins visité, par celle-ci. L'examen des organes du cou n'est réalisé que dans les cas où ils ont un lien évident avec le décès ou si aucune lésion mortelle n'a été observée sur un autre organe. **Le risque de l'oubli** est très présent dans l'esprit des auteurs, au point que certains d'entre-eux donnent des solutions contre les omissions. En 1817, Chomel⁸ propose de « **ne pas commencer par la région où Ton pense trouver les lésions responsables du trépas** » ; ceci évite au médecin d'être trop influencé et, par conséquent, d'oublier l'observation d'une autre partie du corps.

Mais **cette solution ne peut s'appliquer à la médecine légale**. En effet, si le cadavre présente une blessure ou si des indices circonstanciels amènent à soupçonner tel genre de mort, la règle veut que l'expert débute l'examen par la zone concernée. Gabriel Tourdes signale que « *l'ordre dans lequel les cavités sont ouvertes est déterminé par le genre de mort* ». Puis, il ajoute, pour souligner cette affirmation, qu'il faut commencer « *par la région qui est le siège des blessures* ».⁹

Le matériel nécessaire aux deux autopsies est également très similaire puisque les opérations à effectuer sont les mêmes. Sans aller jusqu'à écrire que les listes d'instruments sont toujours identiques d'un auteur à l'autre, tout au long du siècle, il existe bien des instruments récurrents. En effet, tous les auteurs recommandent de se munir de plusieurs scalpels de dimensions différentes, au cas où le premier s'abîmerait. Ils conseillent également d'avoir diverses sortes de couteaux, des paires de ciseaux à lames droites et à lames courbes, un entérotome, une scie pour les parties osseuses, des pinces à dissection, différents types de sondes et stylets. Il apparaît donc que les hommes de l'art s'accordent quant aux instruments fondamentaux pour faire une autopsie.

Les divergences concernent, en fait, le nombre et la forme des **instruments spécialisés** : par exemple, pour examiner la moelle épinière et diviser les vertèbres, Gabriel Tourdes¹⁰ mentionne le rachitome double (fig. 1), constitué de deux scies parallèles sur un même manche, alors que Vibert¹² recommande un rachitome (fig. 2) ayant la forme d'un ciseau. Tourdes est également un des rares auteurs à préconiser l'emploi du bronchiotome (fig. 3), dans l'examen des poumons. Enfin, une technique d'ouverture particulière peut nécessiter l'emploi d'autres instruments. La liste de François Chaussier¹³ est un exemple significatif car elle comporte trois instruments n'apparaissant pas dans les autres inventaires : un couteau mince et flexible, une « tréphine », appelé aussi trépan anglais (fig. 5) et un « élévatoire » (fig. 6), sorte d'écarteur servant notamment à soulever les

parties osseuses enfoncées.¹⁴ Chaussier emploie ces trois instruments dans l'ouverture du crâne (fig. 7). Alors que les autres médecins scient ou fendent les os, Chaussier pratique quatre ouvertures circulaires avec la « tréphine » : l'opération consiste à enfoncez la pointe pour empêcher la lame de glisser et à tourner, pour scier l'os. Les portions osseuses sciées sont ensuite retirées avec « l'élévatoire ». Enfin, on introduit, par ces ouvertures, le couteau à lame mince et flexible afin de décoller la dure-mère et, ainsi, éviter de la scier en même temps que le reste de la boîte crânienne.

Echanges de bons procédés.

Les ressemblances techniques entre les deux autopsies découlent principalement du fait que ces examens ne se développent pas de manière isolée. En effet, il est fréquent de trouver des références concernant l'autopsie anatomo-pathologique dans les ouvrages traitant de médecine légale.

Nombre d'auteurs n'hésitent pas à exposer les pratiques autorisées pour une des autopsies et qu'il faut, au contraire, éviter d'employer pour l'autre. Emile Goubert,¹⁵ même si son ouvrage concerne l'art des autopsies cadavériques, « *surtout dans ses applications à l'anatomie pathologique* », mentionne fréquemment les particularités de l'autopsie médico-légale, les précautions supplémentaires qu'elle requiert : « *dans les expertises de médecine légale, l'exploration de toutes les parties est d'ailleurs un devoir rigoureux* ».¹⁶

Il faut noter que ce sont souvent les ouvrages traitant principalement de l'autopsie anatomo-pathologique qui font quelques remarques sur la pratique médico-légale. Le contraire ne s'est jamais vérifié : les *Considérations médico-légales sur la manière de procéder à l'ouverture des cadavre et, spécialement, dans les cas de visites judiciaires* de François Chaussier, sont consacrées exclusivement à l'autopsie judiciaire, aucune remarque n'est faite sur l'autre forme d'autopsie. Finalement, on peut considérer que l'examen *post-mortem* judiciaire est un sous-ensemble de l'examen anatomo-pathologique, appliqué à certains cas particuliers. Il nécessite certaines précautions ou bénéficie de quelques libertés d'opérations ou de procédés.

Cependant, l'anatomie pathologique est une science encore peu développée au début du XIX^e siècle : très peu de travaux lui sont consacrés alors que la médecine légale, et, par conséquent, l'autopsie judiciaire, est l'objet d'un bon nombre d'ouvrages, dès le début du siècle. Les médecins voulant s'adonner à l'anatomie pathologique utilisent donc des pratiques proches des procédés médico-légaux : par exemple, **l'incision cruciale des téguments du crâne**, comprenant une incision d'une

oreille à l'autre, passant par le sommet de la tête et une seconde incision, partant de la racine du nez, coupant la première perpendiculairement et s'arrêtant au niveau de la bosse occipitale. Cette pratique est recommandée par Béclard¹⁷, dans l'article « Cadavre », du *Dictionnaire de médecine*, dans lequel il traite de l'ouverture cadavérique en anatomie pathologique.¹⁸

La technique d'*ouverture du tronc* est également empruntée à la pratique médico-légale. En effet, l'auteur de l'article « Cadavre » du *Dictionnaire abrégé des sciences médicales*¹⁹ recommande l'incision elliptique pour l'ouverture simultanée du thorax et de l'abdomen. Or, deux ans auparavant, Renard, reprenant pour sa thèse, les écrits de son maître François Chaussier²⁰, conseille la même incision pour une autopsie judiciaire²¹ (fig. 8).

Mais à partir du milieu du XIXème siècle, lorsque des médecins s'intéressent de plus près à la pratique anatomo-pathologique de l'examen *post-mortem*, ils se rendent compte que les diverses techniques employées en médecine légale sont, pour la « *plupart, inapplicables à la pratique ordinaire* »²² de l'autopsie. C'est pourquoi Goubert décrit une technique différente pour l'incision de la peau et des muscles du crâne : il préfère pratiquer une seule incision, « *allant de l'os temporal d'un côté à celui du côté opposé, en passant par le vertex* ».²³ Cette incision unique permet de préserver le front et est plus facilement cachée par les cheveux, ni coupés ni rasés, bien sûr. Ce principe de l'incision unique, facile à soustraire au regard, s'applique également à la nouvelle technique d'*ouverture du tronc*, recommandée par Maurice Letulle.²⁴ Il conseille de faire une incision médiane, allant du menton jusqu'au pubis (fig. 10),²⁵ au lieu de l'incision elliptique qui laisse, une fois l'examen terminé, des sutures beaucoup plus importantes.

Donc, les anatomo-pathologistes se servent de l'*expérience déjà longue de la médecine légale* pour mettre au point leurs propres procédés, en les rendant notamment moins mutilants. A l'inverse, ces nouvelles techniques peuvent être employées par les médecins experts, s'ils souhaitent ménager le corps un peu plus que d'habitude mais seulement, si cette procédure n'empêche pas une observation ou ne détruit pas l'aspect d'une lésion.

En fait, malgré les améliorations apportées par l'anatomie pathologique, les procédures d'examen employées dans l'autopsie judiciaire demeurent les mêmes. Letulle, donnant quelques indications sur les autopsies médico-légales, dans un ouvrage consacré à l'autopsie scientifique, décrit l'incision devant servir à ouvrir le thorax et l'abdomen. Il s'agit d'une incision qui forme un « *large plastron ovalaire* »,²⁶ semblable à celui

décrit par François Chaussier, quatre-vingt ans plus tôt²⁷ (% 8).

Les deux opérations, dites anatomo-pathologique et médico-légale, sont donc très proches, se ressemblent sur un certain nombre d'éléments. Néanmoins, c'est ce qui les différencie l'une de l'autre qui prime : les deux autopsies se définissent par leurs différences et leurs divergences, dans les techniques opératoires.

Les règlements et la famille : sources d'interdits pour le médecin.

Le fait d'avoir des manipulations différentes, des techniques employées uniquement pour une catégorie d'examen *post-mortem* est dû, tout d'abord, aux lois. L'article 7 de l'arrêté du Conseil général des hospices,²⁸ datant du 6 avril 1842, limite l'étendue de l'autopsie anatomo-pathologique « à l'*exploration des organes dont l'étude paraît indispensable* ».²⁹

Cette restriction de l'examen est dénoncée par Marc Sée, soulignant que le médecin « *perd l'occasion de constater des altérations intéressantes, se rattachant ou non à celles qui ont provoqué la mort* ».³⁰ De plus, cette limitation va à l'encontre de la règle de l'examen complet, commune aux trois catégories d'autopsies.

A l'inverse, les autorités judiciaires françaises n'imposent aucune règle opératoire au médecin chargé d'une autopsie médico-légale. Celui-ci est tout fait libre de procéder comme il l'entend : « *le médecin désigné et assermenté agit comme il le croit convenable, en se conformant aux préceptes de la science* ».³¹ En Prusse, au contraire, l'autorité judiciaire donne aux médecins experts des instructions détaillées sur la procédure à suivre pour réaliser son opération. Ces instructions peuvent aller jusqu'à lui imposer un mode d'*ouverture des cavités*, suivant le genre de mort supposé.³²

Néanmoins, à la fin du XIXème siècle, certains auteurs du monde médical, parmi lesquels Alexandre Lacassagne, déplorent cette absence de consignes réglementant l'autopsie. La justice laisse « *trop d'initiative ou de latitude au médecin expert* ».³³ C'est pourquoi Lacassagne tente de combler cette lacune en fournissant aux médecins experts des sortes de fiches modèles, spécifiques à chaque genre de mort, dont l'*expert peut se servir pour s'assurer qu'il n'omet rien* et procède de la bonne manière.

Mais Lacassagne veut aller plus loin, en obligeant l'autorité judiciaire à exercer un certain contrôle sur l'*expert requis*, par l'intermédiaire de la remise, à ce dernier, d'une sorte de fiche d'autopsie qui le guiderait pour son examen *post-mortem*. « // *faudrait, disions-nous, qu'en envoyant à l'expert sa commise, le juge d'instruction ou l'officier de police judiciaire lui remît une feuille d'observation*

médico-légale, analogue à celle dont les étudiants font usage dans les cliniques ».³⁴ Ainsi, sans imposer une technique particulière d'autopsie, la justice surveillerait néanmoins le médecin expert et pourrait s'assurer que l'examen a été fait dans les règles et de façon complète.

Cependant, l'élément fondamental qui influence les pratiques de l'autopsie scientifique est la prise en compte des sentiments, du chagrin des proches de l'autopsié. Après une autopsie anatomo-pathologique, le corps peut être rendu à la famille ou, visité par celle-ci, avant la mise en bière. Il est donc nécessaire que les indices de l'examen soient dissimulés, une fois le corps habillé.³⁵

Il faut tout d'abord se garder d'incisions superflues, inutiles aux recherches.³⁶ En outre, ces incisions ne doivent pas être trop apparentes : la dissimulation est facile, sauf pour le cou et le crâne. Pour examiner le cou, le médecin fait une incision partant du milieu de la lèvre inférieure et descendant jusqu'au sternum (fig. 9). Même en mettant un foulard, l'incision est toujours visible, surtout au niveau du menton. C'est pourquoi Maurice Letulle propose une pratique laissant moins de traces : l'incision commence juste au dessous du menton et garde, ainsi, intacts les téguments compris entre ce dernier et la lèvre³⁷ (fig. 10). En fait, l'ouverture du cou ne doit être pratiquée en anatomie pathologique que si les recherches la nécessitent. Elle ne doit pas être systématique, ce qui est inimaginable en médecine légale car une autopsie judiciaire doit toujours être exhaustive.

Pour l'ouverture du crâne, il est vivement recommandé, dans une autopsie médico-légale, de couper ou de raser les cheveux, notamment pour examiner d'éventuelles plaies du cuir chevelu ; en anatomie pathologique, si le corps est susceptible d'être visité par ses proches, les cheveux doivent rester intacts. La présence des cheveux est gênante pour pratiquer l'incision : il faut bien les écarter pour dégager la ligne à couper, qui relie une oreille à l'autre, en passant par le sommet de la tête.³⁸ Néanmoins, les cheveux présentent l'avantage de dissimuler la suture, lorsqu'ils sont remis en place.

De plus, il est indispensable de rendre l'autopsié présentable pour sa famille. Toutes les incisions doivent être suturées et le corps lavé. Le corps doit être rhabillé, avec les vêtements qu'il portait avant l'autopsie et recoiffé.

Dans les autopsies judiciaires, l'opération terminée, le corps est également suturé et nettoyé mais le corps est rarement visité par les proches, une fois l'examen effectué. Renard explique qu'une fois le corps refermé et lavé, le médecin doit envelopper celui-ci dans un grand drap qu'il coud et sur lequel le représentant de la justice

appose un scellé. Ensuite, la dépouille est placée dans le cercueil confié à la municipalité, pour l'inhumation.³⁹ Même si, dans la pratique, la procédure recommandée par Renard n'est pas suivie totalement, une fois l'autopsie achevée, le corps est rapidement mis en bière par le médecin et les personnes présentes à l'examen. La famille, qui récupère le cercueil, ne voit pas obligatoirement le défunt autopsié. Ceci est encore plus vrai dans les cas d'infanticides car, soit la mère est inconnue pour le moment, soit elle est soupçonnée du crime et, par conséquent, ne peut s'occuper des funérailles. Ainsi, dans les deux cas, le corps est remis au maire par le magistrat afin d'effectuer l'inhumation, selon la loi.

Cependant, même si la famille ne voit pas le cadavre après l'autopsie, ceci n'autorise pas les hommes de l'art requis à faire n'importe quoi, lors de leur examen. François Chaussier s'insurge contre les procédés employés jusqu'à présent par ses confrères pour réaliser une autopsie médico-légale : selon lui, il est impossible d'imaginer que les « recherches d'un homme sage et sensible » puissent laisser le cadavre « ainsi déformé, altéré, ensanglanté dans toutes ses parties ».⁴⁰

Des techniques divergentes.

Les divergences de pratiques sont aussi dictées par la science et par le fait que l'anatomo-pathologiste n'est pas confronté aux mêmes genres de mort que le médecin expert. L'autopsie scientifique concerne principalement des décès suites à une maladie mal connue et qui, pour les progrès de la médecine, nécessite d'être étudiée de plus près. L'autopsie judiciaire s'applique aux morts qui peuvent être consécutives à un crime. En effet, l'article 81 du Code civil déclare que « lorsqu'il y aura des signes ou indices de mort violente [...], on ne pourra faire l'inhumation qu'après qu'un officier de police, assisté d'un docteur en médecine ou en chirurgie, aura dressé procès-verbal de l'état du cadavre ».

Or, l'introduction de la justice dans une opération scientifique joue un rôle important dans la distinction des pratiques utilisées pour les deux autopsies. Certes, la justice ne dirige pas la technique ; elle laisse l'expert agir suivant le mode opératoire qu'il a choisi et qu'il estime le plus approprié. Néanmoins, l'ombre de la justice, planant toujours derrière le médecin expert, l'oblige à prendre plus de précautions, l'autorise à prendre des libertés et à faire des recherches moins indispensables en anatomie pathologique.

En effet, dans les ouvrages consacrés aux autopsies anatomo-pathologiques, les auteurs soulignent fréquemment que l'examen extérieur, même s'il doit être fait, « acquiert une très grande importance en

médecine légale ».⁴¹ Lors d'un examen *post-mortem* anatomo-pathologique, le médecin doit rechercher principalement les altérations de la peau sous la forme d'éruption, de coloration particulière de l'épiderme, constater si la rigidité cadavérique et la putréfaction ont commencé. En médecine légale, ces mêmes constatations sont effectuées mais l'expert doit réaliser un examen encore plus minutieux : « *les moindres détails, même en apparence insignifiants, doivent être relevés avec soin* ».⁴² Réaliser un examen externe minutieux du cadavre, sans omission, est essentiel car, contrairement à Panatomo-pathologiste qui peut réexaminer un autre malade ayant succombé à la même pathologie, l'expert travaille toujours sur un cas unique. C'est ce qu'Alexandre Lacassagne veut faire comprendre en affirmant, presque sans appel, qu'une « *autopsie mal faite ne se recommence pas* »⁴³ : plusieurs personnes peuvent succomber au même genre de mort, la noyade, l'asphyxie, un coup de fusil mais **les circonstances qui entourent le décès sont propres à chaque victime.**

L'**ouverture du crâne** est, sans doute, l'opération qui différencie le plus l'autopsie anatomo-pathologique de son corollaire judiciaire. Pour la réaliser, l'anatomopathologiste a deux instruments à sa disposition : le marteau (fig. 4) et la scie. Il peut choisir celui qu'il préfère, sachant que le marteau est plus commode mais moins précis et entraîne la création d'esquilles. D'un autre côté, la scie peut entamer la première méninge, voire la substance encéphalique mais donne une coupe plus nette. Dans les écrits médico-légaux, l'emploi de la scie est fortement recommandé, pour ne pas dire obligatoire. En effet, le marteau risque de provoquer des fractures et des lésions que le médecin expert pourrait confondre avec des blessures, faites au moment de la mort.

« *Autopsie* » est un mot utilisé, un peu, à tort et à travers, au XIXème siècle. Du point de vue étymologique, il signifie " *action de voir de ses propres yeux* ", ce qui peut s'appliquer à bon nombre d'actes, non uniquement scientifiques. Néanmoins, au début du XIXème siècle, il désigne l'ouverture du cadavre et principalement, cette opération, ce qui amène François Chaussier à qualifier cet emploi restrictif et inapproprié de « *ridicule* ».⁴⁴ En effet, ce terme est trop général, trop imprécis pour être utilisé comme synonyme " *ouverture cadavérique* ".

A partir des années 1860, dans la littérature médicale, le mot " *autopsie* " commence à prendre un sens plus large, sans toutefois retrouver son sens premier. Certains auteurs utilisent " *autopsie* " pour désigner l'examen, externe et interne, d'un corps privé de vie. Mais la plupart des médecins experts distinguent encore

" *examen extérieur* " du corps et " *autopsie* ", puisqu'ils réservent ce dernier terme à l'ouverture cadavérique. En France, en août 1854, un médecin du département de la Vienne est requis pour examiner le corps d'une femme. Dans son rapport d'expertise, après avoir décrit les diverses ecchymoses, ce qui constitue l'examen externe du corps, le médecin poursuit son investigation en explorant les cavités viscérales. Dans la marge, il indique cette nouvelle étape de l'observation en écrivant « *Autopsie* », l'examen effectué jusqu'à présent étant, dans son esprit, distinctement séparé de l'autopsie.⁴⁵

Au total, si le mot " *autopsie* " manque de précision quant aux actes qu'il désigne, il est également trop vague pour être utilisé sans qualificatif, car il est alors impossible de savoir s'il s'agit de médecine légale ou d'anatomie pathologique. Il est donc nécessaire de lui juxtaposer un adjectif qui permet de le définir et d'en donner les limites, au niveau des manipulations, des recherches effectuées. Si ces deux opérations sont très proches, possèdent de nombreux points communs, techniques notamment, il n'en reste pas moins qu'elles ont de nombreuses différences, dues à l'irruption de l'autorité judiciaire dans la réalisation d'un acte scientifique.

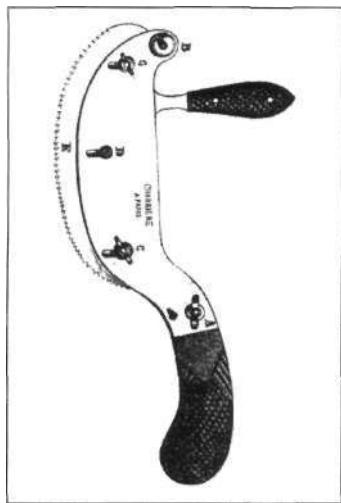


Fig. 1 : Rachitome double :
scie composée de deux lames parallèles et
dont la profondeur de coupe est limitée.

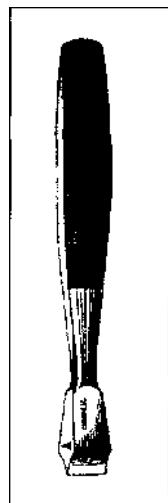


Fig. 2 : Rachitome,
ayant la forme d'un ciseau.

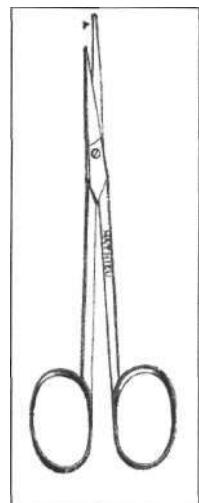


Fig. 3: Bronchiotome.



Fig. 4 : Marteau.

Illustrations tirées de Goubert, E. *Manuel de l'art des autopsies cadavériques, surtout dans ses applications à l'anatomie pathologique*, en collaboration avec A. Hardon, Paris, Germer Bailliére, 1867, pp. 46, 44, 59 et 37.
Collection de l'auteur.

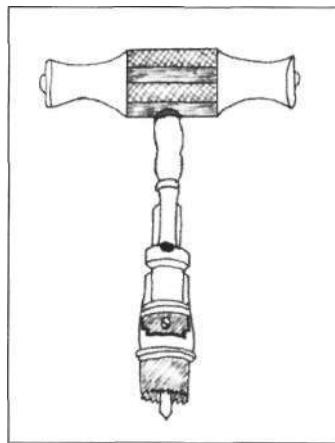


Fig. 5 :Tréphine : trépan surmonté
d'une poignée transversale.

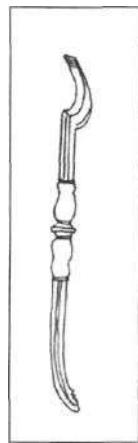


Fig. 6 :
Elévatoire.

Illustrations reproduites à partir de Bougery, J.-M., *Traité complet de l'anatomie de l'homme comprenant la médecine opératoire, t. 6 iconographie d'anatomie chirurgicale et de médecine opératoire, 1ère division, planches lithographiées par N. H. Jacob, Paris, Delaunay, 1837, planche 53.*
Collection de l'auteur.

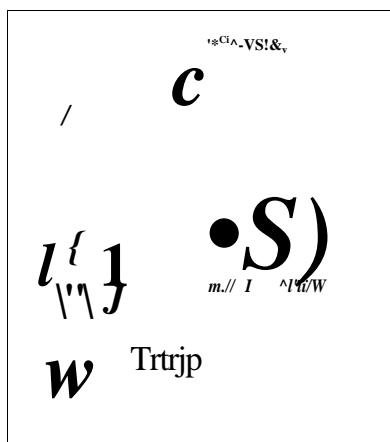


Fig. 7 : Section du crâne.

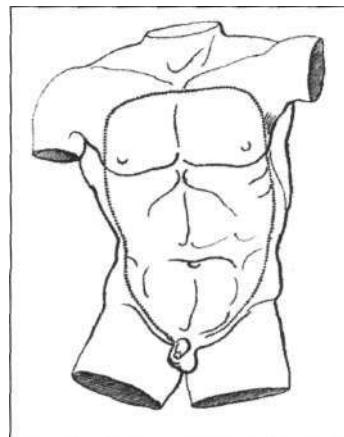


Fig. 8 : Incision elliptique du tronc.



Fig. 9 : Incision du cou.

Illustrations tirées de Chaussier, F., *Recueil de mémoires, consultations et rapports sur divers objets de médecine légale*, Paris. Th. Barrois et Compère Jeune, 1824, pp. 507, 501 et 505.
Collection de l'auteur.

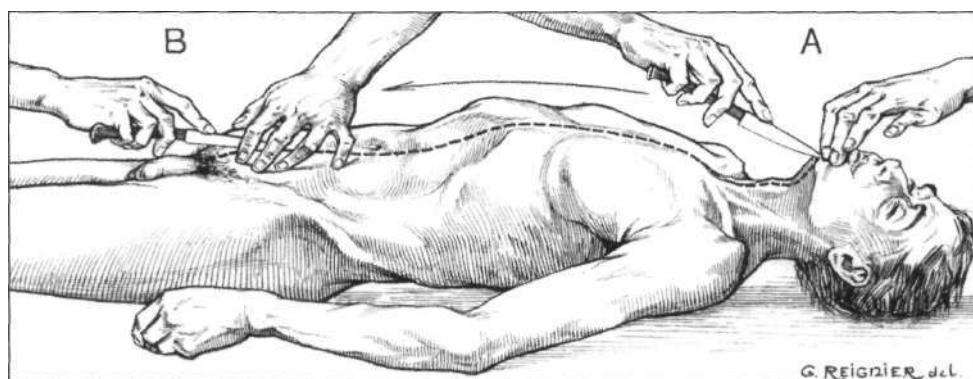


Fig. 10 : Incision mento-pubienne.

Illustration tirée de Letuile, M., *La pratique des autopsies*, Paris, Naud, 1903, p. 101.
Collection de l'auteur.

Notes de références :

- 1 Brocas, R., *Le droit à l'autopsie. Etude historique et juridique*, thèse de droit, Université de Paris, Gap, impr. Louis Jean, 1938, p. 83.
- 2 Bien que l'expression " *médecin légiste* " existe et soit employée par les hommes du XIXème siècle, il est préférable d'utiliser celle de " *médecin expert* " pour désigner l'homme de l'art, chargé de pratiquer une autopsie ou toute autre expertise judiciaire. En effet, il convient sans doute de réserver le terme de " *médecin légiste* " aux hommes possédant un diplôme de médecine légale, ce qui n'est possible qu'à partir du début du XXème siècle, lorsque des Facultés de médecine commencent à délivrer les premiers diplômes.
- 3 Sur les experts et la médecine légale, voir : Chauvaud, F., *Les experts du crime. La médecine légale en France, au XIXème siècle*, Paris, Aubier, 2000 ; Porret, M. (Dir), *Le corps violenté. Du geste à la parole*, Genève, Droz, 1998 ; Porret, M., « *Pratique pénale et médecine légale au XIXème siècle* » : la qualification des " mauvais traitements " et des homicides, l'exemple genevois (1815-1890) », in: Chauvaud, F., Petit, J.-G. (Dirs), *L'histoire contemporaine et les usages des archives judiciaires* (1800-1930), Paris, Honoré Champion, 1998, pp. 343-355.
- 4 Brocas, R., *op. cit.*, p. 84.
- 5 Marc, C., *Manuel d'autopsie cadavérique médico-légale*, Paris, Duminil-Lesueur et Crochard, 1808. p. 13. **Charles-Chrétien-Henri Marc** est né à Amsterdam, en 1771 et mort à Paris, en 1841. Reçu docteur en 1792, à Erlangen, en Bavière, il s'installe à Paris, en 1795. Il fonde avec Fourcroy, Cabanis et quelques autres, la Société médicale d'émulation. En 1811, il obtient le titre de docteur en médecine, à la Faculté de Paris. Il consacre sa carrière à la médecine et à l'aliénation mentale. Il fut l'un des premiers à étudier les rapports entre le crime et l'aliénation mentale. En 1829, il participe à la création des *Annales d'hygiène publique et de médecine légale* dans lesquelles il publie de nombreux articles. Il participe également à la rédaction du *Dictionnaire des sciences médicales* et du *Dictionnaire de médecine*, en 21 volumes.
- 6 Tourdes, G., « *Autopsie (médecine légale)* », in: Dechambre, A. (Dir), *Dictionnaire encyclopédique des sciences médicales*, Paris, Asselin & Houzeau et Masson, 1867, 1ère série, t. 7, p. 422.
- 7 Lacassagne, A., *Le vade mecum du médecin expert Guide médical ou aide-mémoire de l'expert, du juge d'instruction, de l'avocat, des officiers de police judiciaire*, Lyon, Storck, 1900, p. XI.
- 8 **Alexandre Lacassagne** (1843-1924) est un des élèves de Gabriel Tourdes et le créateur de la médecine légale lyonnaise. Après des études à l'Ecole de santé militaire de Strasbourg, il est nommé au Val de Grâce, en 1873, où il occupe la chaire d'hygiène professionnelle. En 1880, il devient professeur de médecine légale à la Faculté de Lyon. Lacassagne est un des opposants aux théories de Lombroso sur le criminel-né et un des fondateurs de l'école française d'anthropologie criminelle. Il crée d'ailleurs, avec Garraud et Coutagne, les *Archives d'anthropologie criminelle*, en 1886. Cette revue, de renommée internationale et qui disparaît avec le début du premier conflit mondial, traite principalement d'anthropologie criminelle, de médecine légale et de sociologie. Les ouvrages les plus importants d'Alexandre Lacassagne sont : *Précis de médecine judiciaire*, publié en 1886, et *Vade mecum du médecin expert* (dont la première édition paraît en 1892).
- 9 Chomel, A. R., *Eléments de pathologie générale*, Paris, Crochard, 1817. p. 444.
- 10 Tourdes, G., *op. cit.*, p. 426.
- 11 *Ibid.*, p. 425.
- 12 Vibert, C., « *Autopsie* », in: Jaccoud, S. (Dir), *Nouveau dictionnaire de médecine et de chirurgie pratiques. Supplément*, Paris, Baillière, 1886, t. 40, p. 70.
- 13 **Charles Vibert** est né à Paris en 1849 et mort, dans

cette même ville, en service commandé, en 1918. Expert près du tribunal de la Seine, il est le chef des travaux du laboratoire de médecine légale, à la Faculté de médecine de Paris. C'est un des collaborateurs principaux du célèbre médecin expert parisien de la fin du XIXème siècle, Paul Brouardel. Sa grande expérience pratique lui permet de rédiger nombre de livres sur les problèmes médico-légaux, dont un *Précis de médecine légale*, publié en 1886 et réédité neuf fois, ainsi qu'une *Etude médico-légale sur les blessures produites par les accidents de chemin de fer*, parue en 1888.

13 **François Chaussier** est né à Dijon, en 1746 et décédé à Paris, en 1828. Professeur d'anatomie et de physiologie à Paris, expert auprès des tribunaux, il est chargé en 1794, avec son frère Fourcroy, de réorganiser les Ecoles de médecine. Il s'intéresse à tous les points de la science : anatomie, médecine, chirurgie, médecine légale, accouchement. Ceci lui permet de publier des *Tableaux synoptiques*, son ouvrage le plus important, sur de nombreux sujets, notamment les *Tableaux synoptiques sur l'ouverture des cadavres*. François Chaussier est, d'après Alexandre Lacassagne, l'une des personnalités majeures de la médecine légale du premier XIXème siècle.

14 Chaussier, R., *Recueil de mémoires, consultations et rapports sur divers objets de médecine légale*, Paris, Th. Barrois et Compère Jeune, 1824, pp. 3 I -32.

15 **Emile Goubert** est professeur de sciences physiques. Il a rédigé plusieurs ouvrages de réflexion sur les sciences, notamment *La science vis-à-vis de la religion* avec G.Wyrouboff, publiée en 1865.

16 Goubert, E., *Manuel de l'art des autopsies cadavériques, surtout dans ses applications à l'anatomie pathologique*, en collaboration avec A. Hardon, Paris, Germer Baillière, 1867, p. 26.

17 **Pierre Augustin Béclard** est né en 1785, à Angers et décédé en 1825. Anatomiste et chirurgien, il est nommé chef des travaux anatomiques à la Faculté de Paris, en 1812 puis devient chirurgien, à l'hôpital de la Pitié. Il publie, en 1823, des *Eléments d'anatomie générale ou description de tous les genres d'organes qui composent le corps humain*.

18 Béclard, A., « *Cadavre* », in: Adelon et al. (Dirs), *Dictionnaire de médecine*, Paris, Béchet Jeune, 1822, t. 4, p. 19.

19 « *Cadavre* », article anonyme, in: Adelon et al. (Dirs), *Dictionnaire abrégé des sciences médicales*, s. I. [Paris], Panckoucke, 1821, t. 3, p. 178.

20 François Chaussier a fourni à plusieurs de ces étudiants ses propres travaux afin que ceux-ci les utilisent comme thèses. Ces travaux ont été

rassemblés dans un ouvrage publié en 1819. Quelques années plus tard, en 1824, Chaussier lui-même a publié ses écrits dans un livre intitulé: *Recueil de mémoires, consultations et rapports sur divers objets de médecine légale*, en insérant quelques compléments à ceux qu'avaient publiés ses étudiants.

- 21 Renard, M., « *Considérations médico-légales sur la manière de procéder à l'ouverture des cadavre et spécialement, dans les cas de visites judiciaires* », in: Laisné, G., Lecieux, A., Renard, M., Rieux, J. J. G., *Médecine légale*, Paris, Bailliére, 1819, p. 102.
- 22 Bourneville, D. M., Bricon, P., *Manuel de technique des autopsies*, Paris, Delahaye et Lecrosnier, 1885, p.VII. **Désiré Magloire Bourneville** est né en 1840, dans l'Eure. Ancien interne des hôpitaux de Paris, il est médecin de l'hospice de Bicêtre ainsi que rédacteur en chef de deux périodiques : le *Progrès médical* et les *Archives de neurologie*. Il est l'auteur de nombreux ouvrages sur les maladies mentales, le travail des infirmières. Il rédige également un *Manuel des injections sous-cutanées* et un *Manuel de techniques des autopsies*, en collaboration avec **Paul Bricon**. Ce dernier est docteur en médecine de la Faculté de Strasbourg puis médecin à Paris. Bricon est mort en 1890.
- 23 Goubert, E., op. cit., p. 37.
- 24 **Maurice Letulle** est né à Mortagne dans l'Orne, en 1853 et décédé à Paris, en 1929. Docteur en médecine puis professeur agrégé de la Faculté de médecine, il est médecin des hôpitaux de Paris. Il participe notamment à la rédaction d'un *Précis d'anatomie pathologique*, publié en 1912.
- 25 Letulle, M., *La pratique des autopsies*, Paris, Naud, 1903, p. 101.
- 26 Ibid., p. 477.
- 27 Chaussier, F., *Recueil...* op. cit., p. 501.
- 28 Administration qui supervise les différents hôpitaux parisiens et qui rend des comptes à l'Assistance publique.
- 29 Brocas, R., op. cit., p. 105.
- 30 Sée, M., « *Autopsie (anatomie)* », in: Dechambre, A. (Dir), *Dictionnaire encyclopédique des sciences médicales*, Paris, Asselin & Houzeau et Masson, 1867, 1ère série, t. 7, p. 412.
- 31 Tourdes, G., op. cit., p. 421.
- 32 Ibid., p. 422.
- 33 Lacassagne, A., op. cit., p. VII.
- 34 /b/d., p. XI.
- 35 Goubert, E., op. cit., p. XI.
- 36 Tourdes, G., op. cit., p. 423.
- 37 Letulle, M., op. cit., p. 101.
- 38 Bourneville, D. M., Bricon, P., op. cit., p. 167.

- 39 Renard, M., *op. cit.*, p. 125.
40 Chaussier, F, *Recueil... op. cit.*, p. 20.
41 Bourneville, D. M., Bricon, P., *op. cit.*, p. 75.
42 *Ibid.*
43 Lacassagne,A., p.VIII.
44 Chaussier, F, « *Autopsie* », in: Adelon et al. (Dirs),
Dictionnaire des sciences médicales, Paris, Panckoucke,
1812, t. 2, p. 464.
45 Archives départementales de la Vienne (86), 2U 1624
(1854), « *Coups volontaires portés sans intention de
donner la mort mais l'ayant pourtant occasionné* » :
Procès-verbal du médecin, 23 août 1854.

NOTICE BIOGRAPHIQUE :

Sandra Menenteau, : 19 rue de Champagne, n° 1, 86 000 Poitiers, FRANCE.

Doctorante en histoire à l'UFR Sciences humaines et Arts, 8 rue Descartes, BP 603, 86022 Poitiers Cedex, FRANCE. E-mail : MENENTEAUSA@cc-parthenay.fr

-Thèse sur l'autopsie médico-légale en France, au XIXème siècle, sous la direction de Frédéric Chauvaud.
-Publications: « *Les blessures corporelles dans l'autopsie médico-légale au XIXème siècle* », in : *Les Cahiers du GERHICO : La blessure corporelle. Violences et souffrances. Symboles et représentations*, table ronde de juin 2000, textes rassemblés par Pierre Cordier et Sébastien Jahan, Université de Poitiers, 2003, n°4, pp. 77-91.

« *Garder un œil sur ses morts : le contrôle social par delà la mort, au XIXème siècle, en France* », in : *Histoire et contrôle social*, actes de la session commune du DEA des Universités de Clermont-Ferrand-Limoges-Poitiers, organisée à Poitiers (mars 2003), textes rassemblés par Frédéric Chauvaud, Rennes, PUR, (en cours de publication).

Rafael Joseph Czerwiakowski the father of Polish surgery

Richard W. Gryglewski

Summary

Rafael Joseph Czerwiakowski was the first professor of Surgery in Poland. He studied in Padua and Bologna and visited France and Germany before his appointment in 1779. He taught anatomy and surgery and collected many surgical instruments. He is also remembered for his writings on surgery. This article briefly reviews his life and work.

Résumé

Raphaël Joseph Czerwiakowski fut le premier Professeur de chirurgie de Pologne. Il étudia à Padoue et Bologne et visita la France et l'Allemagne avant son nomination, en 1779. Il enseigna l'anatomie et la chirurgie et il rassembla de nombreux instruments chirurgicaux. Il est également célèbre pour ses écrits sur la chirurgie. Cet article décrit brièvement ce que furent sa vie et ses travaux.

In Poland, as was common in the rest of Europe, surgery was, for many centuries, not seen as a truly medical subject. Of course there were famous surgeons, such as Ambroise Pare, and there were special schools for surgery, for example in Montpellier in France, but generally surgeon did not mean physician. This situation began to change in the 17th and 18th centuries, with a different attitude towards education, the beginnings of clinics and the development of medicine itself. Surgery found its way to universities and took its place in the realm of medical sciences.

From its very foundation in 1364, the University in Cracow, (which became known as the Jagiellonian University), included a medical faculty. However, the faculty had to wait for over four hundred years for its first chair of surgery. In the late 1770s, when great reforms in the field of education were taking place, the medical faculty underwent major re-organisation, with the aim of achieving the best modern standards in the teaching of medicine. It was vital to find a well-educated surgeon who would be able to organize the first chair of surgery and surgical clinics in the history of Poland. Fortunately, such a man was at hand. His name was Rafael Joseph Czerwiakowski.

Born in 1743, Czerwiakowski was, in his younger days, devoted to the idea of priesthood and saw his life as a monk in the Piarist convent. However, he discovered an interest in medicine and was given permission to go abroad to study. He completed full courses of studies of medicine, first in the University of Padua and then in Bologna.¹ As a young physician he worked for three years in the Hospital of the Holy Spirit in Rome. When in Italy, he focused on the subject of surgery and decided to go to Germany and France, where this discipline was thought to have achieved a high level. It was not surprising that, when the authorities of Cracow University were searching for a physician with a deep knowledge of surgery, Czerwiakowski was the first candidate. He was in fact the only candidate.

Thus in 1779, when the Chair of Anatomy, Surgery and Obstetrics came into being, Czerwiakowski became its

Professor. His inaugural lecture had the significant title '*The argument on surgical instruments*'. Czerwiakowski claimed that the collecting and progressive building up of surgical equipment was the foundation of modern surgery, a truth not so obvious for physicians in those days. Very soon afterwards, in 1780, he opened the first surgical clinic in Poland. This was located in the Saint Barbara College in the Small Market, very close to the centre of Cracow. The surgical clinic started with a small room with space for only two beds. In a few years' time, the clinic was able to take about a dozen patients in three rooms. In the Saint Barbara College Czerwiakowski started regular lectures on the subjects of anatomy and surgery and here he conducted the very first postmortem autopsies in Poland, in public, in the spring of 1780. From that point, modern (that is to say, late eighteenth century) surgery was finally established in Cracow. However, it soon became clear that the Saint Barbara College was inadequate for the needs of the surgical clinic and in 1789 it moved to the St. Lazarus Hospital.

In St. Lazarus, Czerwiakowski deepened his knowledge of anatomy and surgery, taught his students, and constantly worked on many modifications of surgical instruments. From this period comes a set of four cauteries, a mouth gag, and a pair of forceps for crushing bladder stones, which represent a lamentably small part of Czerwiakowski's surgical instrument collection. At one time this totaled about two hundred items, but during the 19th century most of them wore out and were simply thrown away. Those instruments remaining are now housed in the Museum of the Faculty of Medicine at the Jagiellonian University in Cracow.²

While Surgery was the main field, it was not the only one in Czerwiakowski's medical practice. Czerwiakowski's name is associated with the history of obstetrics. He was a founder of an obstetric ward in the surgical clinic and a school for young girls who were taught the basics of pregnancy and delivery so they could act in the future as qualified midwives to help women in childbirth.

Czerwiakowski's practical skills found their theoretical presentation in a multivolume work *Surgical dressing of common organs, parts 1-6*, now recognized as the first professional book on surgery published in Poland. Issued in the years 1816 and 1817, it presented a complete and very modern picture of what was then a new academic discipline.³ It represented his life's work and was a scientific testimony for those who came later.

He spoke on surgery on many occasions, considering it to be one of the most important fields of medical sciences. He wrote, in the form of an open letter to the Polish King Stanislaus Augustus Poniatowski.a short text entitled *Dissertation about nobleness, need, and practical use of surgery*.⁴ Printed in 1791, it gave a precise and clear view of the value and significance of theoretical and practical surgery. This dissertation became well known among Polish physicians, making its author famous.

Without doubt, he was the pioneer of surgery in Poland. He provided the basis for Cracow's school of surgery, which was later to be represented with distinction by such personalities as Rust, Mikulicz, and Rydygier.⁵ He placed great emphasis on the practical and theoretical knowledge of his pupils, giving special attention to innovations in techniques of operation. He died in Cracow, in 1816, from tuberculosis, but even today his name retains significance and a place in the history of Polish medicine.⁽⁵⁾

References

- 1 A Wysocki, *History of Cracow's surgery* [in:] Splendours of Cracow's surgery 1779-1939, Krakow 2002, s. 15.
- 2 Z. Gajda, *The Museum of the Faculty of Medicine at the Jagiellonian University*, Krakow 2000, s. 73.
- 3 Z. Gajda, *The Museum of the Faculty of Medicine at the Jagiellonian University*, Krakow 2002, s. 72.
- 4 M. Skulimowski, *Facultas Medica Cracoviensis*, Krakow 1981, s. 69.
- 5 T Popiela J Legutko, *History of Polish Gastrointestinal Surgery*, Journal of Physiology and Pharmacology, Krakow 2003, 54, Supp. 3, pp. 193-203.

Author

Dr Richard W Gryglewski,
Chair of the History of Medicine,
Jagiellonian University Médical Collège,
Ul Kopernika 7,
31-034 Kraków, Poland.



Leopold Schenk (1840-1902)

Alexander Emed

Summary

Leopold Schenk attained international fame by his contributions to the science of embryology. The first chair of embryology in any medical school was established for him in the University of Vienna. This article briefly describes his life and his work.

Résumé

Leopold Schenk devint célèbre pour ses contributions à la science embryologique. La première chaire d' Embryologie fut créée, pour lui, dans un Ecole de Médecine, à l'Université de Vienne . Cet article décrit brièvement quelles furent la vie et l'œuvre de L Schenk.

Leopold Schenk was born into a poor Jewish family in Urmény, in northern Hungary, in 1840. He graduated from high school in Budapest and studied medicine at the University of Vienna, receiving his MD in 1865. He became assistant to Prof Brücke at the Institute of Physiology and published, in the 'Sitzungberichten der Akademie der Wissenschaften' (Proceedings of the Academy of Sciences), a series of papers on the embryology of the heart and of the pleural and pericardial cavities.

In 1869 he was appointed as a lecturer on evolutionary theory - the Physiology of Procreation and Development - and in 1873 a new chair of Embryology was established and he became Associate Professor. A year later, he published his 'Lehrbuch der vergleichenden Embryologie der Wirbeltiere' (Textbook of Comparative Embryology of Vertebrates). Very soon, he was surrounded by many students and visitors and he became a popular personality in Vienna.

He published the results of the research from his department in a journal 'Mitteilungen aus dem k.k. Institute für Embryologie der Universität Wien' (Communications of the Imperial Royal Institute of Embryology in Vienna).

In 1885, 'Grundriss der normalen Histologie des Menschen' (Outline of normal Human Histology) was published, to be followed by 'Grundriss der Bakteriologie', subsequently published in the USA as a Manual of Bacteriology for Practitioners and Students.

In 1896 he became a full Professor, but two years later there came a break with the Faculty following the publication of his new book. This was 'Über den Einfluss auf das Geschlechtsverhältnis' (On influencing the Sex Ratio), which appeared in 1898 in Magdeburg with the Theory of Schenk' on its front cover. In the book, he advanced theories concerning the determination of sex, claiming that the sex of a child depended on the nutrition of the mother during her pregnancy. This theory met with harsh criticism at the time from colleagues such as Virchow and in 1900 he resigned his chair.

Despite the opposition to his beliefs, he stoutly maintained them until the end of his life, claiming that it not only was it possible to determine the sex of a child, but that by special nutrition it was possible to develop special characteristics in a child. His last book was 'Lehrbuch der Geschlechtsbestimmung' Halle 1901, (Textbook of sex determination), while a book of his memoirs appeared in 1900 'Aus meinem Universitätsleben' (From my life at University).

He died at Schwanberg on August 17 1902, a memorable figure, known far beyond Vienna because of his controversial and strongly held beliefs.

References

- 1 Erna Lesky, Die Wiener Medizinische Schule im 19. Jahrhundert 1965. Graz-Köln. **513-515**
- 2 S Kagan, Jewish Medicine. Boston 1952. **155**
- 3 Sidney Osborne, Germany and her Jews. 939. **405**
- 4 Pagel, Biographisches Lexicon hervorragender Ärzte des 19.jahrhunderts.
- 5 I Fischer; Biographisches Lexicon der hervorragenden Ärzte der letzten fünfzig Jahre: 1933. **518**
- 6 Ludwig Eisenberg, Das geistige Wien Bd.2. 1893
- 7 The Jewish Encyclopedia, pp. 94-95
JewishEncyclopedia.com)

Author

Dr Alexander Emed is a retired paediatrician who lives in Haifa. His address is:
Dr Alexander Emed,
Einstein str. 127,
Haifa, Israel.

The First British Illustrated Surgical Catalogue

NH Naqvi

Summary

Surgical instrument catalogues are valuable documents, which help in both the identification and dating of instruments. A rare copy of the first British illustrated surgical catalogue was offered for sale in 2003. This paper gives brief details of the catalogue and its author, JH Savigny.

Résumé

Les catalogues d'instruments chirurgicaux sont des documents précieux qui aident, à la fois, à l'identification et à la datation de ces instruments. Un exemplaire rare du premier catalogue chirurgical illustré a été vendu, en 2003. Cet article donne quelques détails sur le catalogue et son auteur.

Surgical instrument makers' catalogues are valuable documents. Medical historians, museums and collectors all appreciate their usefulness. Apart from their historical merit, such catalogues provide reference points for recognising and dating surgical instruments. One of the most comprehensive collections of these catalogues is in the Library of the Wellcome Centre for the History of Medicine. Another is in the Library of the Royal College of Surgeons in London. During the last few years, the Thackray Museum in Leeds has developed an impressive collection of medical and surgical catalogues, especially of the 20th century.

It is not often that a rare surgical instrument catalogue appears for sale on the open market. When it does, it causes a ripple of excitement among collectors of rare books, museum curators, and librarians. In 2003, Nigel Phillips, the London antiquarian booksellers, offered an opportunity to buy a copy of the first illustrated British surgical instrument catalogue. The book was sold to a private buyer for £7200.¹ The *English Short Titled Catalogue (ESTC)* lists this publication as the first British surgical instrument catalogue and also records brief additional information about the book.

The book is generally referred to as *Savigny* after its author, JH Savigny of London. During the last quarter of the 18th century, Savigny worked with many surgeons in London, designing and making surgical instruments to specific order. This was a time when surgical instruments were not standardised and surgeons relied on skilful cutlers and instrument makers to construct tools suited to their needs.

Using his knowledge and experience, Savigny prepared a catalogue of his instruments, titled *A collection of engravings, representing the most modern and approved instruments used in the practice of surgery, with appropriate explanation*. It was published by T Bensley in London at the Letterhead Press, (fig. 1). The year it was published is not recorded anywhere in the publication, but the *ESTC* and other cataloguers have recorded the date as 1798. Some of the plates carry a date, eg plates I and III are dated 1793 and on plate XXX a date of 1795 is recorded. There are no records of further reprints after

the first edition, nor is the number of copies printed originally known.

The book is in large format, measuring approximately 37 cm by 54 cm. The index at the end of the book shows 38 engraved plates, but the total number of plates should be 39, as plate XVI appears twice. The text is written on the left and all the illustrations appear on the right side of the large folios. The instruments are illustrated natural size and the figures are accompanied by numbers and legends (figs. 2 and 3). The pages are not numbered but are 86 in total. At the right lower corner of each plate are the words *Hery Sculp.* The text describes interesting details of the methods used to make the various instruments. The book also lists the names of the surgeons who devised the instruments, before these were made by Savigny. In the preface, the author puts great emphasis on the need for and the usefulness of such a catalogue.

At present, seven copies of this catalogue have been traced by the author, who would be grateful for information about the existence and whereabouts of other copies.

Two copies are in the Wellcome Library. One is not in good shape and requires extensive conservation, while the other is in fair condition. Two copies are recorded in different libraries in the USA, but their condition is unknown. An excellent copy is held by the Royal College of Surgeons in London. One copy in premium condition was acquired, about 5 years ago, by the Thackray Museum in Leeds. The seventh copy, in private hands, is the one referred to in this article. I have not been able to check that there is one in the British Library. There may be other copies in libraries in Europe and America but the book remains a rare article.

Not much biographical detail is available of Savigny, who was probably of Huguenot origin. His name is not in the *Dictionary of National Biography*. A list of his writings appears in the *Bibliotheca Britannica; or a General Index to British and foreign Literature* by Robert Watt, published in 1824,² which gives four entries under his name.

- a) A booklet, '*On the use and management of the Razor!*' London, 1786.
- b) A paper, '*Description of a new key instrument for the extraction of teeth*'; Medical Facts p. 90 1787.
- c) '*Description of a portable Apparatus for the recovery of Persons apparently drowned*'. London, 1790.
- d) '*A Collection of Engravings, representing the most modern and approved instruments used in the practice of surgery with appropriate explanation*'. London, T Bensley, 1798.

There is another title not listed by Watt, but which is in the Catalogue of the Wellcome Library as, '*Description of the construction and uses of a portable apparatus for recovery of the apparent dead; as recommended by Mr Charles Kite and approved by the London Humane Society, made by John Savigny*'. London: 1789.

This apparatus was described in a comprehensive paper published in 1972,³ which however, contained no biographical information about Savigny.

Although Savigny is described as the first illustrated British catalogue of surgical instruments, there was an earlier un-illustrated catalogue.

In the Royal College of Surgeons in London, there is a copy of a catalogue entitled '*Laundy, Surgeon's Instrument-maker to St Thomas's and Guy's Hospital*' which is inscribed '*Higgins, pupil to St Thomas's and Guy's Hospitals, 1795*'. Laundy was listed as a Surgeon's Instrument-maker, 12 St Thomas's Street Borough, in Kent's Directory for 1794⁴ and his catalogue was a 14-page pamphlet, without illustrations. Unlike Savigny's catalogue, it gives the price of every item.

Acknowledgement

The author is grateful to Mr Allen Humphries, curator of the Thackray Medical Museum for permission to take the photographs published in this article.

References

- 1 Patrick N., Nigel Phillips Catalogue; 2003 p. 53.
- 2 Robert Watt, *Bibliotheca Britannica; or a General Index to British and foreign Literature*. Edinburgh. Archibald Constable and company and Longman, Hurst, Rees, Orome, Brown and Green 1824.
- 3 Lee RV, Cardiopulmonary Resuscitation in the 18th Century. *Journal of History of Medicine and allied Sciences*. 1972. vol xxvii; pp. 418-433
- 4 Kent's Directory for the year 1794. Cities of London and Westminster, Borough of Southwark.

Author

Dr Nasim H Naqvi is a retired Anaesthetist with a particular interest in surgical instruments.

Address:

Heaton Grange Cottage
Heaton Grange Drive
Bolton BL1 5DA
UK.

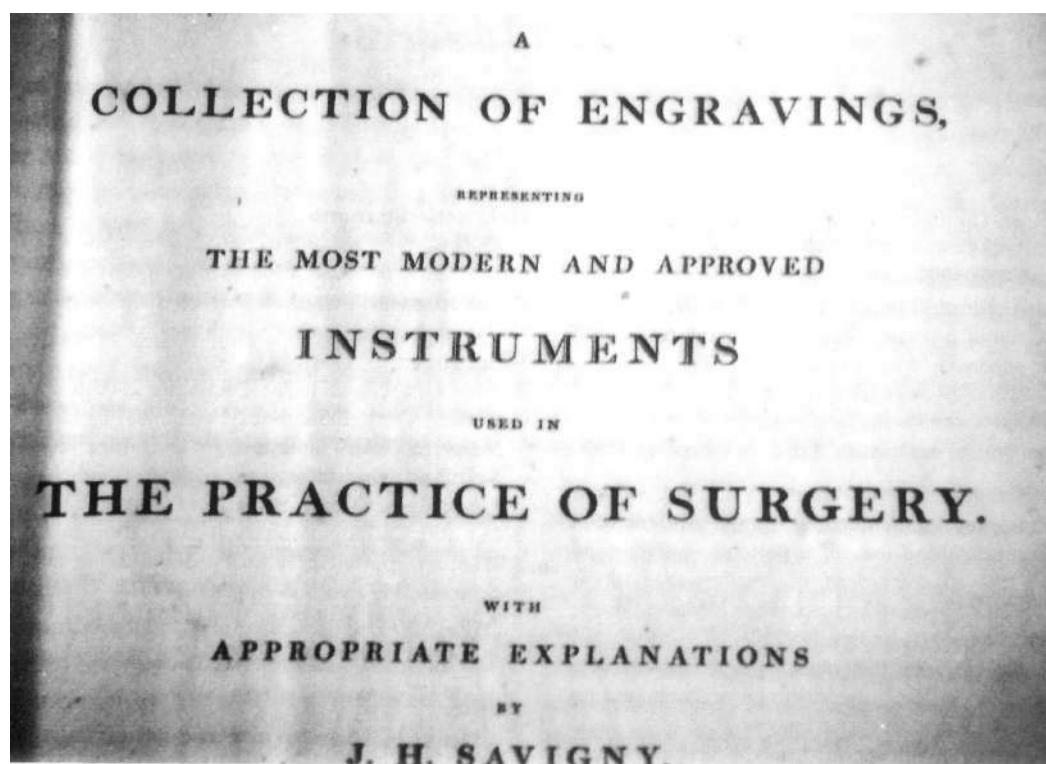


Fig 1.The title page of *A collection of Engravings, representing the most modern and approved instruments used in the practice of surgery, with appropriate explanation.*

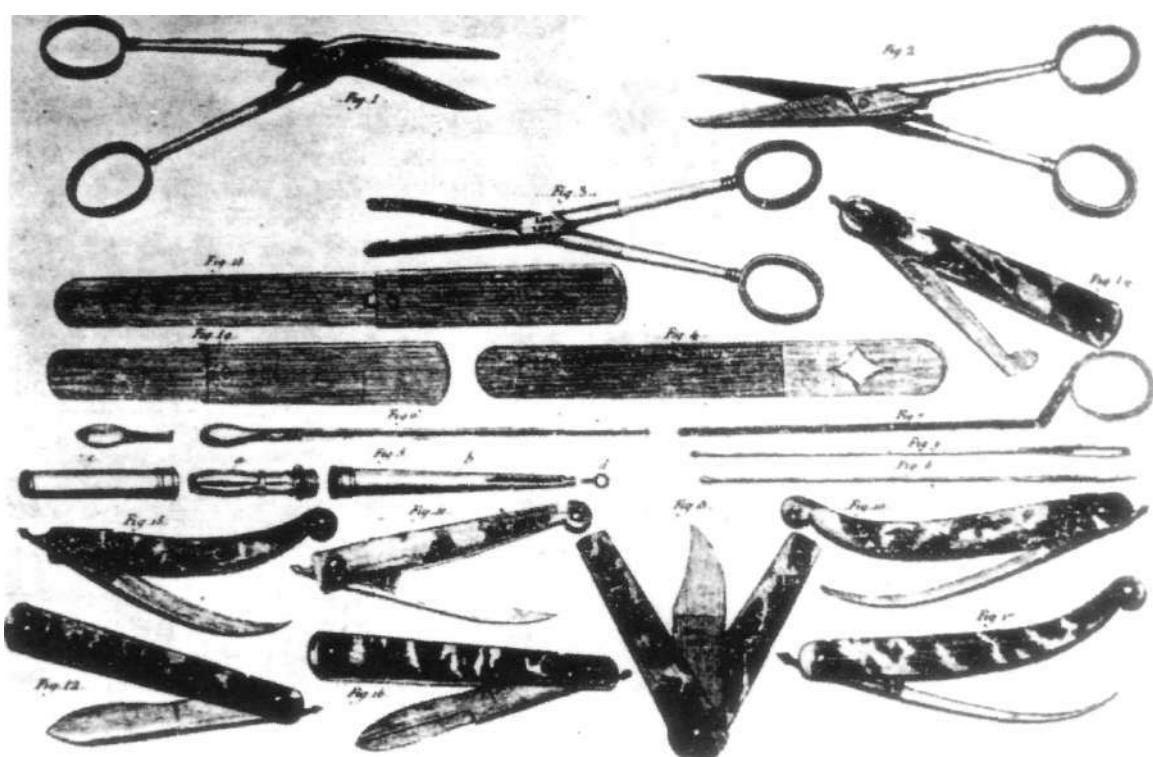


Fig 3.Another page illustrating surgical knives and scissors.



Fig 2. Surgical instruments illustrated in their actual size.

**Photographs from the 28th International
Congress of the History of Medicine
Paris, 29th August - 3rd September 1982**



Fig 1. Places on the Panel
M. Guerra (Spain), M.Theodorides (France), Prof. J-Ch. Sournia (France)



Fig 2. Hôtel de Dieu de Paris
Statue of Dupuytren



Fig 3. (From right, Dr L Dulieu,
Mme Dumaître, Dr A Pecker)
Musée National de la Renaissance, Abbaye de Royaumont



Fig 4. (From right Dr L Dulieu, Dr R A Watermann and his wife)
Musée National de la Renaissance, Abbaye de Royaumont

**Photograph from the 27th International
Congress of the History of Medicine
Barcelona, 31st August - 6th September 1980**



Fig 5. (From left, Prof J Ch Sournia,
with Mme M Sournia behind, Dr A Pecker)

News from Venezuela

The National Academy of Medicine of Venezuela, which was founded on April 7, 1904 and installed on June 11, the same year, célèbrâtes its First Centennial Congress from May 26-29th, 2004. The programme includes up-dates in Oncology, Family Medicine, Diabète, Ischaemic Heart Disease, Nutrition in Venezuela, and New Illnesses. There are pre-Congress Courses in Emergencies in Medicine, Psychiatric Emergencies, Imaging in Contemporary Medicine, and Progress in Paediatrics.

The 8th Venezuelan Congress on the History of Medicine, organized by the Venezuelan Society of the

History of Medicine will take place in the beautiful city of Merida, in the Venezuelan Andes, from October 10-12th, 2004. The programme includes Médical progress in the last 50 years, Bioethics facing Médical progress, Homage to Moses ben Maimon on the 800th anniversary of his death, Surgical progress in epilepsy and progress in Radiology.

Dr. Miguel Gonzalez-Guerra. Venezuela

Médical History Conférences and Meetings 2004-2005

Conférence	Date	Contact/web site
Italy - Bari. 39th ISHM Congress	5-10th September, 2004.	Professor Alfredo Musajo-Somma www.39ishmcongress2004.it
United Kingdom- British Society for the History of Paediatrics and Child Health- 3rd Annual Conference. Southmead Hospital, Bristol	24-25th September, 2004.	Professor PM Dunn Univ. of Bristol Med. School Southmead Hospital Southmead Road Bristol BS10 5ND P.M.Dunn@bristol.ac.uk
Greece - Delphi Symposium on the History of Diabète	7-9 September, 2005.	Congress@cne.gr cbartsok@cc.uoa.gr
Greece- Thessaloniki 2nd Convention & 4th Exhibition of the Panhellenic Society for the History of Medicine "The History of Psychiatry and Neurology"	3-4 December 2004	Dr H. Christopoulou-Aletra History of Medicine School of Medicine Aristotle University of Thessaloniki PO.Box 356, Greece Tel.: (2310) 999136 Fax: (23 10) 999139 Email: ealetra@med.auth.gr ealetra@hotmail.com

Book Reviews

History Supplement 2003

The Journal of the Royal College of Physicians of Edinburgh

ISSN 0953-0932

Guest Editor M McCroie

This supplement of the Journal of the Royal College of Physicians of Edinburgh contains nine articles by various authors. Although the titles of the articles suggest Scottish subjects, most have a relevance outside Scotland and should appeal to a wider readership.

An article entitled "Andrew Duncan and the Health of Nations" by Morrice McCrae looks at the many contributions made by Andrew Duncan in his long professional life in Edinburgh, and in particular his role in helping to found the discipline of public health. The philosophy of Christian Wolff and JJ Rousseau and JP Frank's System Einer Vollständigen Medizinischen Polizey (Complete System of Medical Police) are discussed as factors in the development of Duncan's ideas.

An article entitled "David Livingstone and Southern Africa's first recorded case of Sickle Cell Anaemia" by GW Clendennen and J Lwanda presents a convincing case that the disease that Livingstone described in 1863, during a journey near Lake Malawi, was sickle cell

disease. Livingstone's words are seen to be very similar to twentieth century accounts of the circumstances and symptoms of a sickle cell crisis.

An article by JR Roy on the "The case of Madeleine Smith: a Victorian discourse of desire and death" describes the circumstances of the murder of Pierre Emile L'Angelier and the details of Smith's subsequent trial in Glasgow, one of the most notable trials of the nineteenth century. The verdict was "Not proven", a verdict seen as "Not guilty, but don't do it again". Smith survived to the age of 93, living in London for many years and finally emigrating to the USA.

These three articles give some idea of the appeal of the publication. There is considerable interest in each of the other six. The college web site gives details of this and other RCPE publications and the various articles themselves can be accessed from this site.

<http://www.rcpe.ac.uk/publications/articles/history.html>

David Wright

Dental Practice in Europe at the End of the 18th Century

Christine Hillam (ed),

(*Editions Rodopi B.V. Amsterdam - New York NY 2003*). pp518,

ISBN 90-420-1268-4 and 90-420-1258-7

Bound 135 euros/US\$176, Paper 55 euros/US\$7

In the preface, Christine Hillam stated that the aim of the book was to determine how accurate the stereotypical image of the dental practitioner of this period was and whether the results of studies in the United Kingdom held good for other European countries.

In order to answer these questions, Hillam assembled a panel of distinguished dental historians from the United Kingdom, France, Germany, Hungary, and the Netherlands, to scrutinise the pages of trade directories and newspapers of the period. The historic, political and social backgrounds were examined where relevant, revealing that they played a major role in the development of dentistry. Throughout, the work reflects in no small measure the meticulous approach to research into dental history practised by the editor.

One of the conclusions is that those who called themselves dental practitioners - a specialist occupation - were still far from being a profession. Calls for regulation whether from inside or outside the group were several decades in the future, and came mainly

from educated practitioners who did not wish to be associated with the increasing numbers of the unqualified.

Hillam concluded that although the range of dental treatment was uniform across Europe, it varied in its sophistication from country to country. The study also showed that dental practice, in all its forms, was closely tied to the wider history of therapeutic provision. As scientific knowledge spread, some were turning towards specialisation whilst others were distancing themselves from the unqualified. This trend led to the emergence of stomatology in some countries and to dentistry in others.

As well as an essential reference for dental and medical historians, the work is a most fascinating and absorbing account of an evolving, turbulent period in the development of dentistry and its relation to medicine. It stands as a fitting memorial and tribute to Christine Hillam, an outstanding dental historian, who died before the book was completed.

Rufus M Ross

The National Health Service in Scotland Origins and Ideals, 1900 - 1950

by Dr Morrice McCrae - Tuckwell Press, Hardback - £25

This fascinating and scholarly history takes a broad sweep through the centuries, relating the development of medical service, education and practice to the cultured and economic circumstances of society, and placing Scotland - with its unique traditions and problems - in its U.K. and wider international context. The players who strut or fret upon this revealing stage are treated with Burnsian authority.

The text glows with the enlightenment of visionary doctors and statesmen, (such as Walter Elliot who was both), who emerge as the architects of change in the struggle against poverty and ignorance. The readers' interest is gripped by telling anecdotes such as the hostile reaction of the Minister of Health to the damning evidence of malnutrition from John Boyd Orr's surveys in the mid 1930's.

It is a joy when history debunks history. This searching review of a cornucopia of sources challenges many historical misconceptions. There is the assumption that the National Health Insurance Act of 1911 improved the health of the nation: in Scotland, at least, it did no such thing. Ironically, it had the converse effect where it sabotaged employers' own schemes. Then, embarrassingly for its historians, there is the myth that the British Medical Association was the most powerful force in resisting legislative changes. Apparently, it was the 'medical elite' in the London Teaching Hospitals, the Royal Colleges and Harley Street who were 'the most powerful medical influence in Britain': the publicity recorded to the activists in the BMA misled the historians.

The most striking myth of all is the canard in Webster's Official history of the NHS, that the separate legislation for Scotland was just a late modification of the Bill for England and Wales. Dr. McCrae avers that 'the differences between the two services, in ethos and in practice, are too fundamental to allow this dismissive official history to stand.'

The reader is soon convinced that the differences between the two services faithfully reflect their very different backgrounds. There were two favourable forces at work in Scotland compared to England, when Beveridge threw down the gauntlet in 1942. First, Scotland already had a blueprint; England and Wales had none. The failure of the NHS Act of 1911 to help the sparsely populated, disadvantaged Highlands and Islands had led to the establishment in 1913 of the unique, pioneering Highlands and Islands Medical Service (HIMS) which inspired the plans of the Cathcart Committee Report of 1936 for a comprehensive health service for the whole of Scotland. The NHS south of the border owed much to the Scottish experience and would have done well to have heeded its messages more acutely. Second, in stark contrast with England, Scotland enjoyed a consensus in support of the NHS. The HIMS and the Cathcart Report share the credit with the different medical tradition in Scotland, where there was no counterpart of the London 'entrepreneurial medical elite' which 'kept medical science at a careful distance' and disguised its commitment to empiric clinical individualism as 'clinical freedom'. In Scotland, the profession had not developed a hierarchical structure, but looked for its leadership among those who had distinguished themselves in public service or medical science, notably in the university medical schools. Thanks to the Boerhaave tradition and the Carnegie Trust, the profession represented the values and composition of the society which it served much more closely than in other countries.

Alexander W Macara

Titles Received

George Olms

Verlagag

Report of publications 111/2003 and 112004

Arabian studies • Byzantine Studies • Classical Studies • English and American Language and Literature • Folklore • German Language and Literature • Medieval Humanistic and Renaissance Studies • History of Learning • Manuscripts • History of Medicine and Pharmacy • Philosophy • Religious Studies • Romance Studies • Slovenic Languages and Literature • Spanish and Portuguese Studies • History of Technology • History of Universities 'Women's Studies.

Details obtainable from business editor.

Bulletin Du Centre D'Etude D'Histoire De La Medecine

No. 48-April 2004

*International Society
for the History of Medicine*

APPLICATION FOR MEMBERSHIP

Style and titles : Mr Mrs Dr Prof

Surname :

Forenames :

Date of birth :

Address :

Ex. 1

5

Language spoken fluently:

Languages Read :

Your experience in the History of Medicine

Historical Field of Interest :

Periods studied :

Current research :

Published works :

Do you teach the history of medicine ?

O No

O Yes:

Are you affiliated with another institution associated with the history of medicine (e.g. museum, library) ?
If so, which one?

Would you be available for translations for Vesalius or for the Internet site ?
If so, from which language to which language ?

Date:

Signature :

This application form should be sent to the General Secretary :
Dr *Philippe ALBOU*, 13 Cours Fleurus, 18200 SAINT-AMAND (FRANCE)
E-mail: philippe.albou@wanadoo.fr Fax : 00 33 2 48 96 27 98

**Société Internationale
d'Histoire de la Médecine**

FORMULAIRE D'ADHESION

Titres : M. Mme. Dr Pr

Nom :

Prénoms :

Date de naissance :

Adresse :

Téléphone :

Fax :

E-mail :

Langue (s) parlée (s) couramment :....

Langue (s) comprise (s) en lecture :....

Votre expérience en Histoire de la Médecine

Points d'intérêt historiques :

Epoques étudiées :

Recherche actuelle :

Travaux publiés :

Fonctions d'enseignement en histoire de la médecine :

Non

Oui :

Autres fonctions en rapport avec l'histoire de la médecine
(musée, bibliothèque, etc.) :

Seriez-vous disponible pour des traductions (pour Vesalius ou pour le site Internet) ?

Si oui : de quelle langue en quelle langue :

Date:

Signature :

Ce formulaire doit être adressé au Secrétaire Général :
Dr Philippe ALBOU, 13 Cours Fleurus, 18200 SAINT-AMAND (FRANCE)
E-mail : philippe.albou@wanadoo.fr Fax : 00 33 2 48 96 27 98

Table of Contents

- 2 Editorial
Alain Lelouchjozsef Honti
Alfredo Musajo-Somma
- 4 Medical Practice in New Zealand 1769-1860
Ross Lawrenson
- 10 Leonardo da Vinci, Visual Perspective and the Crystalline Sphere (lens):
If only Leonardo had had a Freezer
Rumy Hilloowala
- 16 To what extent were ideas and beliefs about eugenics held in Nazi Germany shared in Britain and the United States prior to the Second World War?
Emily Wittmann
- 20 Le Fabuleux Destin du Docteur Veron
Claude A. Planchon
- 25 Examens Medicaux Post-Mortem : les pratiques de l'autopsie scientifique et de l'autopsie medico-legale, aux XIXeme siecle, en France
Sandra Menenteau
- 35 Rafael Joseph Czerwiakowski - the father of Polish surgery
Richard W. Gryglewski
- 37 Leopold Schenk (1840-1902)
Alexander Emed
- 38 The First British Illustrated Surgical Catalogue
N. H. Naqvi
- 42 Photographs from previous ISHM Congresses
- 44 Conferences, Meetings and News
News from Venezuela
Dr Miguel Gonzalez-Guerra
Medical History Conferences and Meetings
- 45 Book Reviews
History Supplement 2003, The Journal of the Royal College of Physicians of Edinburgh
David Wright
Dental Practice in Europe at the end of the 18th Century
Rufus Ross
The National Health Service in Scotland, Origins and Ideals, 1900-1950
Alexander Macara
- 47 Applications for membership