

Health & Medicine in the 19th Century

Source: Victoria and Albert Museum – on line

Early Victorian ideas of human physiology involved a clear understanding of anatomy (at least among experts; but the populace often had hazy knowledge of the location and role of internal organs), allied to a concept of vital forces focused on the hematological and nervous systems that now seems closer to the ancient 'humours' than to present-day models. Little was known of biochemistry or endocrinology. Traditional ideas of the body, whereby women were regarded as smaller versions of men, and 'turned outside in' (i.e. with internal rather than external sexual organs) were gradually superseded by a binary concept of sexual determinism, in which difference governed all aspects of physiology, health and social behaviour. As the body was also defined as a closed system of energy, physical, mental and reproductive expenditure were held to be in competition. Hence the notions that male sexual 'excess' led to debility and female reproductive health was damaged by intellectual study. Hence, too, must have derived the Victorian prescription for many ailments: rest.

In the early Victorian period disease transmission was largely understood as a matter of inherited susceptibility (today's 'genetic' component) and individual intemperance ('lifestyle'), abetted by climate and location, which were deemed productive of noxious exhalations (a version of environmental causation). Water- and air-borne infection was not generally accepted.

Thus the 1848 edition of Buchan's *Domestic Medicine*, with its coloured frontispiece showing the symptoms of smallpox, scarlet fever and measles, listed among the general causes of illness 'diseased parents', night air, sedentary habits, anger, wet feet and abrupt changes of temperature. The causes of fever included injury, bad air, violent emotion, irregular bowels and extremes of heat and cold. Cholera, shortly to be epidemic in many British cities, was said to be caused by rancid or putrid food, by 'cold fruits' such as cucumbers and melons, and by passionate fear or rage.

Treatments relied heavily on a 'change of air' (to the coast, for example), together with emetic and laxative purgation and bleeding by cup or leech (a traditional remedy only abandoned in mid-century) to clear 'impurities' from the body. A limited range of medication was employed, and the power of prayer was regularly invoked.

Diseases such as pulmonary tuberculosis (often called consumption) were endemic; others such as cholera, were frighteningly epidemic. In the morbidity statistics, infectious and respiratory causes predominated (the latter owing much to the sulphurous fogs known as pea-soupers). Male death rates were aggravated by occupational injury and toxic substances, those for women by childbirth and violence. Work-related conditions were often specific: young women match-makers suffered 'phossy jaw', an incurable necrosis caused by exposure to phosphorous.

In Britain, epidemiological measuring and mapping of mortality and morbidity was one of the first fruits of the Victorian passion for taxonomy, leading to the clear association of pollution and disease, followed by appropriate environmental health measures. A major breakthrough came

during the 1854 cholera outbreak, when Dr John Snow demonstrated that infection was spread not by miasmas but by contaminated water from a public pump in crowded Soho. When the pump handle was removed, cholera subsided. It was then possible for public health officials such as Sir John Simon to push forward projects to provide clean water, separate sewage systems and rubbish removal in urban areas, as well as to legislate for improved housing - one goal being to reduce overcrowding. The number of inhabitants per house in Scotland, for example, fell from 7.6 in 1861 to 4.7 in 1901. Between 1847 and 1900 there were 50 new statutes on housing, ranging from the major Public Health Acts of 1848 and 1872 to the 1866 Lodging Houses and Dwellings (Ireland) Act, the 1885 Housing of the Working Classes Act and the 1888 Local Government Act. On a household basis, the indoor water-closet began to replace the traditional outdoor privy.

Scientific developments in the 19th century had a major impact on understanding health and disease, as experimental research resulted in new knowledge in histology, pathology and microbiology. Few of these advances took place in Britain, where medical practice was rarely linked to scientific work and there was public hostility to the animal vivisection on which many experiments relied. The biochemical understanding of physiology began in Germany in the 1850s, together with significant work on vision and the neuromuscular system, while in France Louis Pasteur laid the foundations of the germ theory of disease based on the identification of micro-bacterial organisms. By the end of the century a new understanding of biology was thus coming into being, ushering in a new emphasis on rigorous hygiene and fresh air, and a long-lasting fear of invisible contagion from the unwashed multitude, toilet seats and shared utensils. British patent applications around 1900 include devices for avoiding infection via the communion chalice and the new-fangled telephone.

Technological developments underpinned this process, from the ophthalmoscope and improved microscopes that revealed micro-organisms, to instruments like the kymograph, to measure blood pressure and muscular contraction. By mid-century, the stethoscope, invented in France in 1817 to aid diagnosis of respiratory and cardiac disorders, became the symbolic icon of the medical profession. However, the most famous British visual image, Luke Fildes's *The Doctor* (exhibited at the Royal Academy in 1891) shows a medical man with virtually no 'modern' equipment.

Surgery advanced - or at least increased - owing largely to the invention of anaesthesia in the late 1840s. Significant events include a notable public demonstration of the effects of ether in London in October 1846 and the use of chloroform for the queen's eighth confinement in 1853. Anaesthetics enabled surgeons to perform more sophisticated operations in addition to the traditional amputations. Specialised surgical instruments and techniques followed, for some time with mixed results, as unsterile equipment frequently led to fatal infection.

Antiseptic surgical procedures based on the practical application of Pasteur's laboratory work were developed by Joseph Lister (1827-1912) using carbolic acid (phenol) from 1869 in Edinburgh and in 1877 in London. Aseptic procedures followed, involving sterilisation of whole environments. Successful outcomes, such as Edward VII's appendicitis operation on the eve of his scheduled coronation, helped pave the way for the 20th-century era of heroic surgery.

In 1895, at the end of the era, came Wilhelm Roentgen's discovery of X-rays, and in due course the photo of Roentgen's wife's hand became a potent sign of medical advance through scientific instruments. But overall the 19th century is notable more for systematic monitoring of disease aetiology than for curative treatment.

A growing medical industry

Like other learned professions, medicine grew in size and regulation. In the early Victorian era it was dominated by the gentlemen physicians of the Royal College (founded 1518), with surgeons and apothecaries occupying lower positions. The British Medical Association was established in 1856 and from 1858 the General Medical Council (GMC) controlled entry through central registration. In the same spirit, the profession also resisted the admission of women, who struggled to have their qualifications recognised. Partly in response to population growth, however, numbers rose; for example, from a total of 14,415 physicians and surgeons in England and Wales in 1861, to 22,698 (of whom 212 were female) in 1901. At the turn of the century the GMC register held 35,650 names altogether, including 6580 in military and imperial service. The number of dentists rose from 1584 in 1861 to 5309 (including 140 women) in 1901. A growing proportion of qualified personnel worked in public institutions, and a new hierarchy arose, headed by hospital consultants. This reflected the rise in hospital-based practice, for this was also the era of heroic hospital building in the major cities, accompanied by municipal and Poor Law infirmaries elsewhere. These were for working-class patients; those in higher economic groups received treatment at home.

A secondary aspect of growth and regulation was the steady medicalisation of childbirth, so that over this period traditional female midwives were superseded by male obstetricians, with all their 'modern' ideas and instruments. Under prevailing conditions, however, intervention through the use of forceps, for example, often caused puerperal fever and the high maternal mortality, which was a mid-century concern.

Largely through the endeavours and energy of Florence Nightingale, whose nursing team at Scutari captured the public imagination amid military deficiencies in the Crimean War, hospital and home nursing was reformed, chiefly along sanitary lines. Rigorous nurse training also raised the social status of the profession and created a career structure largely occupied by women.

Despite these and other improvements, death rates remained relatively steady. Roughly one quarter of all children died in the first year at the end of Victoria's reign as at the beginning, and maternal mortality showed no decline. In some fields, however, survival rates improved and mortality statistics slowly declined. Thus crude death rates fell from 21.6 per thousand in 1841 to 14.6 in 1901. Here, the main factors were public hygiene and better nutrition thanks to higher earnings - that is, prevention rather than cure. Although doctors made much of their medicines with Latin names and measured doses, effective remedies were few, and chemical pharmacology as it is known in 2001 only began at the end of the Victorian era. From the 1870s (animal) thyroid extract was used for various complaints including constipation and depression, while from 1889 animal testicular extracts were deployed in pursuit of rejuvenation and miracle cures. At the same date aspirin was developed to replace traditional opiate painkillers.

As a result, many conditions remained chronic or incurable. These limitations, together with the relatively high cost of medical attendance, led to the rise (or extension) of alternative therapies including homeopathy, naturopathy ('herbal remedies'), hydropathy (water cures), mesmerism (hypnotism) and galvanism (electric therapy) as well as blatant fraudulence through the promotion of useless pills, powders and coloured liquids. From 1866 notions that disease was caused and cured by mental or spiritual power alone were circulated by the Christian Science movement.

Treating mental illness

Another highly popular fashion was that of phrenology, which claimed to identify temperamental characteristics such as aggression or lust ('amativeness') by means of lumps and bumps on the individual skull, and facial physiognomy. Psychology itself retained largely traditional concepts such 'melancholic' and 'choleric' tendencies, but in 1846 the term 'psychiatry' was coined to denote medical treatment of disabling mental conditions, which were generally held to have hereditary causes.

The Victorian period witnessed an impressive growth in the classification and isolation (or strictly the concentration) of the insane and mentally impaired in large, strictly regulated lunatic asylums outside major cities, where women and men were legally incarcerated, usually for life. Opened in 1851, the Colney Hatch Asylum in Middlesex housed 1250 patients. Wealthier families made use of private care, in smaller establishments.

Two major figures in the Victorian mental health field were James Connolly, author of *The Construction and Government of Lunatic Asylums* (1847) and Henry Maudsley, whose influential books included *The Physiology and Pathology of Mind* (1867).

Regarded at the time as progressive and humane, mental policies and asylum practices now seem almost as cruel as the earlier punitive regimes. Men and women were housed in separate wards and put to different work, most devoted to supply and service within the asylum. The use of mechanical restraints such as manacles and muzzles was steadily phased out in favour of 'moral management', although solitary confinement and straitjackets continued to be used. By the end of the era therapeutic hopes of restoring patients to sanity were largely replaced by programmes of control, where best practice was judged by inmates' docility. As part of the passion for measuring and classifying, patient records and photographs were kept, in order to 'illustrate' the physical evidence or effects of different types of derangement. Particular attention was paid to female patients, whose lack of approved feminine qualities was tautologically taken to 'prove' their madness. Over the period, sexualised theories of insanity were steadily imposed on mad women, in ways that were unmistakably manipulative. Towards the end of the 19th century, the term 'neurasthenia' came into use to describe milder or temporary nervous conditions, especially among the educated classes.

Throughout the era, since disorders of both body and mind were believed to be heritable conditions, the chronic sick, the mentally impaired and the deranged were vigorously urged against marriage and parenthood.

Jan Marsh

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Questions:

- 1) How did Victorian Era doctors view disease transmission? What didn't they believe in?
- 2) What did they believe caused fevers and cholera?
- 3) How were these things treated?
- 4) Where did the medical advances generally take place?
- 5) Name a couple of technical advances in medicine in this era.
- 6) How did surgery change during this time?
- 7) What new alternative therapies began during this time? Why?
- 8) Explain what a person could expect if they had a mental illness.