anthropometric formulae applied to the long bones of the lower limbs indicated a height in life of 170 cm. Photographs were taken of the bones in situ and then correctly disposed on tables for examination (fig 2), and the remains were reverently deposited in the new casket from Taverna, which was re-interred at the original site after a solemn High Mass "de requie" on Saturday 15 December 1962.

Exhumations in history

Exhumations do not feature in most doctors' experience, even in the rather gruesome circumstances of forensic investigation, still less under the more fascinating aspect of historical research. As examples of historical exhumations I recall "An Account of what appeared On Opening the Coffin of KING CHARLES THE FIRST, in the vault of King Henry the Eight, in St George's Chapel at Windsor, on the First of April MDCCCXIII by Sir Henry Halford, Bart, FRS and FAS, Physician to the King and the Prince Regent" (published in London in 1813). Rather more portentous must have been the exhumations and the searches for traces of arsenic poisoning performed on the remains of Napoleon. Piteous indeed was the finding in 1674 in the Tower of London of the wooden chest containing the presumed remains of the two Princes, sons of Edward IV, said to have been murdered by Richard Crookback. In 1933 these remains were examined by Professor William Wright for the Anatomical Society and the identification practically confirmed.

There was nothing sinister in my own experience with Mattia Preti, solemn and serious enough, but almost a joyous occasion through its artistic connotation. Nor do I remember being deterred by the imprecation on the tombstone of William Shakespeare "and curst be he y' moves my bones!"

Medical Nobels—stamp of genius

James M Dunlop

Many doctors take up stamp collecting and a major attraction is that you are instantly available to deal with an emergency as your hands are clean (*1*). The popular image of a stamp collector as an elderly gentleman seated at a table, magnifying glass in hand (*2*) as he pores over little bits of paper, is far from true. People of every age collect stamps and there are probably as many women as men. All governments produce postage stamps illustrating countless different topics for a variety of reasons, and because of the vast number of stamps issued annually it is impossible to collect them all. So it is wise to confine collecting to a chosen country or theme—topical or thematic collecting.

The subject depicted on the stamp is the attraction and the choice is legion. Favourites are birds (*3*), plants (*4*), flowers (*5*), animals (*6*), ships (*7*), space (*8*), famous paintings (*9*), etc. Even famous fictional detectives (*10*) have appeared on stamps. My original theme was skulls (*11*).[1] This was later expanded to anatomical drawings (*12*), then well known children's stories (*13*), and more recently to the stamping out of infectious diseases (*14*).[2]

Collecting stamps portraying Nobel prize winners is a popular theme for collectors (*15*). The subject is clearly defined and not too extensive. But it is difficult to discover whether some winners have ever appeared on stamps let alone to track them down—particularly when a country with no apparent connection with a prize winner portrays them on one of its stamps. The hunt adds to the fun.

Nobel and his prize

Alfred Nobel (*16*), 1833-96, the Swedish industrialist, explosives chemist, and inventor, endowed his fortune to fund a foundation whose income was to be "distributed annually in the form of prizes to those who during the preceding year conferred the greatest benefit on mankind." The document outlined five fields of endeavour—physics, chemistry, physiology or medicine, literature, and peace. Nobel's will concluded with the admonition that the most worthy be rewarded "whether he be Scandinavian or not."

Nobel made his money originally by prospecting for oil in Baku, Russia, and later by manufacturing dynamite—he patented its manufacture in 1867. Nobel chose the Karolinska Institute, which was founded by the Swedish doctor Jons Jacob Berzelius (*17*), 1779-1848, to award the prize for physiology or medicine. Berzelius is considered to be the founder of inorganic chemistry—in 1840 he isolated biliverdin which he mistook for chlorophyl. Previously he had discovered the elements cerium, selenium, and thorium (by 1880, 22 of the 68 elements then known had been discovered in Sweden), and he assigned the actual symbols that we still use for them today. In 1806 Berzelius wrote prophetically:

> Of all the sciences contributing to medicine, chemistry is the primary one and apart from the general light it throws on the entire art of healing, it will soon give some of its branches a perfection such as one never could have anticipated.

The Nobel peace prize is awarded by the Norwegian parliament—Norway was united with Sweden when Nobel died—the physics and chemistry prizes by the Swedish Academy of Sciences (Berzelius was its secretary from 1818-48), and the literature prize by the Swedish Academy. As part of its tercentennial celebrations in 1968 the Bank of Sweden founded a prize for economics in Nobel's memory (*18*).

The first Nobel prizes were awarded in 1901 (*19*) and from 1961 to 1981 Sweden issued annually on 10 December—the anniversary of Nobel's death and celebrated as Nobel day in Sweden—stamps commemorating the prize winners of exactly 60 years before. Thereafter the annual commemorative stamp issues have been devoted to one aspect of the prizes as follows: 1982—nuclear physics; 1983—chemistry; 1984—physiology; 1985—literature; 1986—peace; 1987—astrophysics. Where possible each year the Nobel prizewinners are handed their prizes by the King of Sweden at a ceremony in Stockholm.

First medical laureate

Emil Adolph Von Behring, 1854-1917, the German bacteriologist, became the first Nobel laureate in medicine in 1901 for his work with antiserum treatment and discovery of antitoxins (*20*). A cowinner of the first Nobel peace prize was Henri Dunant, 1828-1910, the founder in 1864 of the Red Cross Organisation (*21*). He chose to reverse the colours

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of the Swiss flag as the organisation's international symbol (*22*). In most Islamic countries a sister organisation displays the red crescent. The International Red Cross has won the peace prize three times (*23*). The Russians use the cross and crescent combined (*24*) and there is a League of Red Cross and Red Crescent Societies based in Geneva, which is quite separate from the International Red Cross. The following year (1902) Dr (later Sir) Ronald Ross, 1857-1932, became the second Nobel laureate in medicine "for his work in malaria, by which he has shown how it enters the organism and thereby has laid the foundation for successful research on this disease and methods of combatting it" (*25*).

Though not medically qualified, Pierre and Marie Curie, a husband and wife team working in Paris, were chosen in 1903 with a French physicist, Becquerel, for their work on radioactivity (*26*). The award was for physics but their discovery opened up a whole new era in medicine, particularly when taken in conjunction with Roentgen's discovery of *x* rays (Roentgen had received the first Nobel prize for physics in 1901). Marie Curie was awarded a second Nobel prize in 1911—this time for chemistry—for the discovery of radium and the study of its properties (*27*). The Curies' daughter, Irene, with her husband, Frederick Joliot, continued her parents' work on radium and was the third member of the family to receive a Nobel prize (for chemistry) in 1935 (*28*). The Curies have been honoured, individually and jointly, on the stamps of many countries as great scientists. Incidentally, a father and son were honoured in 1915—Sir William Henry Bragg and Sir William Lawrence Bragg "for their service in the analysis of crystal structure by means of *x*-rays." Because of the first world war only the literature prize was awarded in 1916.

The winner of the chemistry prize in 1903 was Svante Arrhenius, 1859-1927, the Swede, for his discovery of electrolytic dissociation (*29*). He also studied the possibility of a relationship between menstruation and the moon. The prize for medicine in 1903 went to the Dane Niels Ryberg Finsen for his work on phototherapy (*30*). He showed that the ultraviolet parts of the light spectrum had an effect on health.

Ivan Petrovich Pavlov, 1849-1936, the Russian physiologist, was honoured in 1904 for his work on digestion and conditioned reflexes. The following year the German bacteriologist Heinrich Hermann Robert Koch, 1843-1910, received the medicine prize for his discovery, among other things, of the tubercle and cholera bacilli (*31*). The Spanish histologist and neuroanatomist Ramon Y Cajal, 1852-1934, with Camillo Golgi, 1844-1926, an Italian histologist, were prize winners in 1906 for their work on human brain cells (*32*). In 1907 Charles Louis Alphonse Laveran, 1845-1902, the French physician, received the prize for medicine for his work on sleeping sickness and discovering the malarial parasite (*33*). Rudyard Kipling, 1865-1936, received the literature prize that year "in consideration of the power of observation, originality of imagination, virility of ideas and remarkable talent for narration which characterize the creations of this world-famous author."

The German scientist, Paul Ehrlich, 1854-1915, together with a Russian zoologist Ilia Ilich Metchnikoff, 1845-1916, were jointly awarded the medicine prize in 1908 for their work on immunity (*34*). Lord Rutherford, 1871-1937, received the chemistry prize that year for his "investigations into the disintegration of the elements, and the chemistry of radioactive substances." His researches into radiation and atomic structure were basic to the developments that have

occurred since in nuclear physics. Further Nobel prizes for doctors working on immunity were those received in 1960 by Sir Macfarlane Burnet (*35*) and Sir Peter Medawar for their work in acquired immunological tolerance to tissue transplants. The 1913 medicine prize was awarded to Charles Robert Richet, 1850-1935, the French physiologist, for his work on serology and serum treatment. Together with the French bacteriologist Paul Jones Portier, 1875-1962, he discovered anaphylactic shock and coined the word "anaphylaxis" for certain serum reactions as they appeared to be the opposite of prophylaxis (*36*). George Bernard Shaw, 1856-1950, who received the literature prize in 1925 (*37*), published his play *The Doctor's Dilemma* in 1906 in Berlin. This has an interesting medical connection. The leading character—Sir Colenso Ridgeon—was based on his friend Sir Almroth Wright, 1861-1947, the main protagonist of the theory of opsonins in immunity and also typhoid vaccination of soldiers in the Boer war. Sir Almroth Wright appears again in literature when his opsonin theories are challenged by Max Gottlieb in Sinclair Lewis's novel *Arrowsmith*.

Jacques Lucien Monod (*38*), 1910-76, the French molecular biologist and director of the Pasteur Institute (*39*), 1971-6, was a joint prize winner in 1965 for medicine and physiology. Pasteur (*40*), 1822-95, appears on many stamps and died the year before Nobel. Ernest Ruska died in June 1988, aged 81, and in 1986 he shared a belated Nobel prize for physics for his invention half a century earlier of an electron microscope in West Berlin. In 1931 he had developed an instrument that focussed electron beams on objects too small to be detected by light, thus allowing the details of cell structure, the shape of viruses, etc, to be observed.

The Frenchman Albert Camus (*41*), 1913-60, won the literature prize in 1957 and he has an interesting connection with medicine. His book *The Plague* was first published in June 1947. Like Daniel Defoe's *Journal of the Plague Year*, which first appeared in 1722 (three years after he published *Robinson Crusoe* (*42*), it is virtually plotless. It seems to recount the daily reactions of a group of men to the horrors of bubonic and pneumonic plague, though some people regard it as an allegory about France under the Nazi occupation. (The plague bacillus was isolated in 1894 by Alexandre Emil John Yersin (*43*), 1863-1943, the Swiss bacteriologist, and in 1895 he prepared a serum to combat the disease. Earlier in 1889-90, while working in the Pasteur Institute with Roux, 1853-1933, on diphtheria serum these two discovered the existence of diphtheria toxin.)

Ambassadors of achievement

This is only a sample of some of the hundred or more doctors who have received Nobel prizes during the past 87 years. When first awarded at the beginning of the century the prize money seemed fantastic. Even today it is still worth well over £50 000. Nobel indicated in the wording of the trust that the medicine or physiology prize was to recognise both laboratory and clinical work. By the very nature of medical research, few working clinicians have featured in recent years. Nevertheless, the judgments of the Karolinska Institute over the years have stood the test of time. Regrettably, although many British doctors and scientists have received Nobel prizes for medicine, none have so far had a specific stamp issued by the British Post Office to commemorate the event. The closest might be the British discoveries issue of 1978 depicting penicillin mould (*44*), though other countries portrayed Sir Alexander Fleming (*45*), who was awarded the medicine prize in 1945, to commemorate the 50th anniversary of his discovery. Surely this is a grave oversight that should be rectified without delay. After all Sir Winston Churchill (*46*), who received the Nobel prize for literature in 1953, appears on British stamps in 1965 and 1974 in addition to numerous issues world wide. Stamps are one of the best ambassadors we have to show the world our nation's virtues, and they could be used to a much greater extent to publicise the achievements of our Nobel prizewinners.

1 Dunlop JM. Skullduggery. *Stamp Collecting* 1975;**123**:1223-5.
2 Dunlop JM. Infectious diseases—can we stamp them out? In: *Public health matters*. Proceedings of the conference commemorating the centenary of the Society of Community Medicine. London: Society of Community Medicine, 1988.

Caput Medusae in medicine and art

Richard H R Park, Maureen P Park

> The Gorgon Medusa had serpents for hair, huge teeth, a protruding tongue, and altogether so ugly a face that all who gazed at it were petrified with fright.[1]

The many antique vases, paintings, and sculptures that depict the Medusa's viperous head testify to her powerful inspiration for artists since classical times. Florentines in the Renaissance likened their city's struggle for freedom against invading forces with Perseus's victory over the Medusa. Armourers decorated parade shields with her image because of her power to turn her enemies to stone. To philosophers her head symbolised the triumph of man's reason over his senses.[2] And yet her influence has not been restricted to the arts. The Medusa has achieved immortality in that most academic of publications—the medical textbook.

Despite the lack of an adolescent upbringing in the classics the modern medical student readily identifies the clinical sign of tortuous, dilated, periumbilical veins secondary to portal hypertension as "caput Medusae." But although so many medical students are aware of this rare clinical sign, few will encounter caput Medusae in their clinical careers.

How many students know its origin? This ignorance is not limited to undergraduates. Authors of major postgraduate medical textbooks on liver disease and on clinical signs in medicine and surgery—including Hamilton Bailey and his successors[3]—fail to identify the origin of this sign. Several medical dictionaries attribute caput Medusae to the Parisian pathologist Jean Cruveilhier, 1791-1874 (fig 1), and the German pathologist Paul Clemens Von Baumgarten, 1791-1873. In *Stedman's Medical Dictionary* caput Medusae is defined as "Cruveilhier's sign; varicose veins radiating from the umbilicus, seen in the Cruveilhier-Baumgarten syndrome," which is "cirrhosis of the liver with patent umbilical or periumbilical veins and varicose periumbilical veins."[4] The Cruveilhier-Baumgarten murmur is "the venous

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