Introduction

This work is the companion to *The Western Medical Tradition, 800 BC to AD 1800*. Like the former work, it is written by members of the academic staff of The Wellcome Trust Centre for the History of Medicine at University College London (successor to the Academic Unit of the Wellcome Institute). In its planning, it was also decided to devote a chapter to the half century just past, resulting in one of the first extensive historical overviews of medicine's most recent past published anywhere. The collective aims of the authors are similar to those of the first volume: to examine the Western medical tradition as broadly as possible within the space allowed. They deal not only with medicine as a set of intellectual and material resources used to treat the ill, often in negotiation with patients, but the power of science within medicine, the legal and institutional faces of medicine within the state, and the medical relationships developed beyond the nation, including international frameworks and commerce. Many of these subjects have become of greater importance in the last two centuries than anytime before, making the recent history of medicine different in a number of ways from the Western medical tradition described in the first volume.

What then is this 'Western medical tradition'? Or perhaps we should even ask 'is there a Western medical tradition'? The authors recognize that not only historians, but health care professionals of many kinds are constantly inventing medical 'traditions' – common sets of values, memories, and icons – to support their own views of the present. The past is often described as pointing to matters in the present and an imagined future to convince others about how things are meant to be. For instance, when, early in the twentieth century, the influential physician Sir William Osler was working to bring 'science to the bedside', as the slogan had it, he commissioned a young historian, Charles Singer, to write about the history of science and the history of science in medicine to make one vision of medicine's path appear to be 'natural'. In this sense, the authors acknowledge that the 'Western medical tradition', too, is an invented tradition, and that it may not mean quite the same thing when applied to the last two centuries that it does when applied to the period before 1800. Indeed, the introduction

to the companion volume even declared its 'demise' in the nineteenth century.

Yet the idea of a Western medical tradition not only helps to shape the book that follows, but points to the confluence of several long-term developments. What do we mean by it? The first point of definition is the word 'Western'. We all recognize that the kind of medicine now sometimes called 'Western' has spread across the globe, and that some of the most important changes in it are emerging in countries far from Europe and North America. Our authors refer to many other places (most especially the former Soviet Union), but they focus mainly on Northwestern Europe and North America as the regions in which a certain kind of nation-state, with particular social and economic forms, medical organizations, and intellectual culture first generated the widespread view that science in medicine would benefit not only some individuals but all citizens. This focus is not meant to denigrate other medical traditions in the West or elsewhere, only to enable the authors to discuss within the compass of one book the major developments in the medical tradition that have come to dominate the thinking of most governmental and non-governmental organizations (NGOs) of the early twenty-first century.

The second point to note is that the Western medical tradition is often seen to be based on a set of concepts. Indeed, the introduction to our companion volume referred to it as a 'system of medical ideas' and 'systems of explanation'. Evident in the last two centuries is the further development of an analytical and largely materialist endeavour to study the body and those things that affect it. This kind of thinking, long practised at the bedside and in the dissecting theatre, has had the power of the laboratory added to it over the course of the last 200 years. These endeavours are ordinarily treated under the rubric of 'science in medicine' (as William Bynum has it). The meanings of that term have varied widely, however. The studies that go under the label of 'medical science' from about 1800 have ranged from investigations into the kinds of tissues that made up bodily organs, to the development of cell theory and germ theory, to the discovery of hormones, vitamins, and genes, to molecular biology. It might be said that in this strand of medicine, the investigations into living bodies have focused their attention on smaller and smaller structures; it has been accompanied by the assumption that by examining complex systems in light of the relationships between the simplest components, information becomes available that in turn can be used to affect change. There have, of course, also been many movements within medicine that have opposed materialism and

reductionism, such as the early-nineteenth-century physicians who were suspicious about the extent of the claims of morbid anatomists, the opposition to Koch's ideas on the grounds that disease could not be reduced merely to the presence of germs in the body, and a variety of holistic movements in the early and late twentieth century (a point particularly stressed by Christopher Lawrence) emerging within orthodox medicine. Other forms of protest have been voiced by religious groups, animal rights advocates, and patients' organizations, among others. Perhaps more importantly, scientific reductionism does little to capture the complexities and ambiguities of clinical knowledge nor the varieties of change in patient experience. Nevertheless, there has been a constant stream of investigators who have, by examining the smallest structures possible, tried to find out how living things work and how disturbances of their normal function come about. Over the years, tools of investigation of greater and greater precision have been created to aid their work. Very powerful intellectual claims have resulted, and are embodied in such matters as reproductive technology. The story of how this strand of thinking has developed can be built into a coherent historical narrative about how one thing leads to another.

Yet concepts also affect social relationships. Those who know certain things often distinguish themselves from others who do not or who hold other views, thus creating self-defined communities. In medicine, many of these groups, most notably doctors, have attempted, often successfully, to give their knowledge public authority through the law. In unregulated practice, the power of even the most knowledgeable practitioners over their clients and patients is seldom great because patients can take their custom elsewhere and often have their own ideas about what they want from the practitioners they consult. At its most simple, then, the doctor-patient relationship is one of negotiation and persuasion between almost equal partners. The development of the modern nation-state has altered this, however. On the argument that the public needs protection from the incompetent or malign, legislation has been used to suppress practitioners who do not conform to particular rules, so that, for instance, only those approved of by certain medical bodies are able to practise openly, in turn limiting the options of those seeking medical assistance. Even more easily policed rules have been developed in other settings: associations of practitioners decide who can belong to their groups; universities, hospitals, armed forces, and government departments regulate the appointment of members of their institutions; and health insurance companies or state payment systems limit recompense for treatment to certain kinds of practitioners. Very often,

the ability to gain entry to an institution, to join a group, or to be remunerated is made conditional on the possession of knowledge of a certain kind, especially where clearly defined concepts and information make assessment easy. In this sense, scientific medicine has been a bureaucratic tool that allows some groups to flourish and others to be handicapped. How various medical groups have claimed authority and tried to institute it is, then, another theme that runs throughout these chapters.

Medicine is, however, more than a way of creating concepts or social distinctions. It also affects bodies. To prove that any particular kind of knowledge has benefits in practice is very difficult. There are many examples of enthusiasm for apparently well-grounded practices that are now considered inappropriate: 'preventive' appendectomies, excessive transorbital lobotomies and electro-convulsive therapy, or the prescription of thalidomide as a sedative, all on a very widespread basis, suggest the power of scientific medicine to harm as well as to help. Yet, without a doubt, from the point of view of both patients and governments, there have been enormous improvements to the human condition that result from medicine. As any observer of the modern media is aware, one of the most obvious signs of human progress to most people lies in medical improvements, particularly in surgery and pharmacy. These include the development of anaesthesia, aseptic and antiseptic procedures, organ transplants and keyhole surgeries, and the production of antibiotics and other 'miracle drugs'. It is also notable that, compared to previous centuries, the burden of communicable disease has been remarkably lessened and life expectancy lengthened. Many alterations in the conditions of life have affected such morbidity and mortality patterns, from better nutrition and housing to less daily hard labour. But medicine has also contributed its share to these demographic changes, often by identifying ways to better prevent disease, such as by improving sanitation or introducing vaccination, although the extent of its contribution is much contested.

Governments and other parties have, therefore, invested large amounts of political and financial capital in encouraging certain kinds of medicine, claiming that it would yield positive results in the struggle against disease and disability. Their aims have sometimes been far from humanitarian: to increase the population and the number of fit productive workers paying taxes rather than drawing on them, to reduce the financial burden on powerful business interests or to favour certain kinds of economic development, to return soldiers to the battlefield as quickly as possible, or to recruit more souls to a religious movement or more voters to a political party. At other

times, especially at moments of widespread political representation and commitment, politicians and civil servants have found it possible to move against established interests for the improvement of the public's health. Whatever the mixture of causes, despite horrific setbacks and continuing challenges, there have been clearly measurable improvements in human health in the West over the last centuries because governments have supported certain kinds of interventions to prevent disease. It is less easy to say whether the results have created greater happiness because the modern world has also developed, sometimes with the aid of medicine, new methods for controlling behaviour and even for enabling mass murder. Yet, if matters such as the development of powerful analgesics, reconstructive surgery, and better methods to help women control their fertility are taken into consideration, perhaps medicine can even be said to have contributed some share to human happiness as well as to material betterment. The Western medical tradition's association with the growing apparatus of the nation-state has therefore not only helped it gain authority over patients and publics, it has also, at least in some kinds of political systems, yielded benefits.

The Western medical tradition is not bounded by the nation-state, however. Beyond the nation lies the world of international organizations and of global corporations and financial capital. Several international bodies have given medical matters top priority in efforts to improve human health by coordinating the work of the member governments, among them the Red Cross, the League of Nations Health Organization, and more recently the World Health Organization (WHO). It is, for instance, hard to imagine how the eradication of smallpox as a communicable disease could have been achieved without the collaboration of medical personnel in many countries, even if local authorities and individuals sometimes resented their efforts. The authors are also aware that many important medical relationships occur outside the system of nations. The Rockefeller Foundation, for instance, used its private resources to promote science in medicine throughout the world in the twentieth century. Based in the United States, it was not a government agency, and although its work generally also helped to advance U.S. interests, it could do things that a government agency could not. The support for scientific medicine within religious institutions, NGOs, and other charities has also helped to disseminate it widely. Moreover, global financial interests have affected health and disease. Among such interests are medical corporations, the most visible of which are the pharmaceutical companies, which have in their harvesting of resources, production

methods, and distribution and remuneration systems, affected people the world over for good and ill in ways that national governments can sometimes not control even when they try.

Yet not even a combination of ideas, social relations, and political economy fully captures the complexity of the Western medical tradition. Medical schools and hospitals, philanthropic associations, and many individual persons also figure in the story. For instance, the authors have noted changes in the techniques of microscopy and imaging; in the organization of medical schools, hospitals, and research centres; in the entry of women into medicine; in changes in surgery and childbirth practices; in the movement to professionalize nursing; in the ways in which race and class have affected medicine; in war and medicine, and colonization; in the commodification of medicine; and in public opinion and the media. Clearly, the Western medical tradition has many strands, for it has never existed as anything but the cumulative effect of the efforts of countless people. The past points to no fixed future, and promises nothing certain. It does, however, provide an important legacy on which we and our successors will be able to draw as we feel our way onward.

Harold J. Cook
Professor of the History of Medicine and
Director of the Wellcome Trust Centre
for the History of Medicine,
University College London

Chronological table for chapter 1: 1800–1849

Year	Medical events	Contemporary events
1800	Xavier Bichat studies post mortem changes in human organs; chlorine used to purify water; Benjamin Waterhouse is first U.S. physician to use smallpox vaccine; College of Surgeons of London founded	Electric battery introduced by A. Volta
1801	Philippe Pinel advocates more humane treatment of the insane; Thomas Young discovers the cause of astigmatism	First census of population in England and Wales
1802		Peace of Amiens ends European war
1803	Percival publishes code of medical ethics	Louisiana Purchase
1804		Napoleon Bonaparte crowned Emperor of France; steam railway locomotive developed by R. Trevithick
1805	Morphine isolated from laudanum by Frederick Setürner	Resumption of Napoleonic Wars; Battle of Austerlitz; Battle of Trafalgar
1806		End of Holy Roman Empire
1807		Slave trade abolished within British Empire
1808		Start of the Peninsular War
1809	Franz Gall publishes the first volume of his treatise on the nervous system, *Recherches sur le système nerveux en général, et sur celui du cerveau en particulier*; first successful ovariotomy	
1810	Samuel Friedrich Hahnemann introduces homeopathy	
1811	Charles Bell's *New Anatomy of the Brain*	Luddite riots in Britain; George (later IV) becomes Prince Regent due to George III's insanity

Timeline for chapter 1: 1800–1849

Year	Medical events	Contemporary events
1812	Benjamin Rush's *Medical Inquiries and Observations upon the Diseases of the Mind*	
1813		Berzelius develops system of chemical symbols
1814		Treaty of Ghent ends War of 1812 between Britain and the United States; end of the Peninsular War
1815		Battle of Waterloo; German Confederation; giant eruption of Tanbora volcano in Indonesia
1816		
1817	Cholera pandemic spreads from India; James Parkinson publishes *Essay on the Shaking Palsy*	
1818		Mary Shelley's *Frankenstein*
1819	Laennec publishes *De l'auscultation médiate*	
1820		British and Russian expeditions explore Antarctic Peninsula; George III dies, George IV crowned
1821	Charles Bell describes facial paralysis	
1822		J-F Champollion deciphers hieroglyphic writing; Brazil declared independent of Portugal; first permanent photograph made
1823	William Prout discovers hydrochloric acid in stomach secretions; *the Lancet* first published	Monroe Doctrine
1824	Henry Hickman uses carbon dioxide as a general anaesthetic on animals; second cholera pandemic begins	Death of Louis XVIII of France, succeeded by Charles X. Carnot's second Law of Thermodynamics
1825	First successful tracheotomy performed by Pierre Bretonneau	First railway from Stockton to Darlington
1826	Bretonneau describes symptoms of diphtheria	
1827	Richard Bright describes disease of the kidney	
1828	Friedrich Wöhler synthesizes urea	
1829	Johann Schönlein describes haemophilia; Burke and Hare scandal	

Timeline for chapter 1: 1800–1849

Year	Medical events	Contemporary events
1830		
1831	Cholera epidemics spread across Europe from Asia; Samuel Guthrie discovers chloroform	Charles Darwin joins crew of HMS Beagle
1832	Thomas Hodgkin describes cancer of the lymph nodes; Pierre-Jean Robiquet isolates codeine; sale of bodies for dissection legalised by Warburton Anatomy Act	Reform Bill in England
1833		Abolition of Slavery Act
1834	Amalgam first used for filling teeth; Pierre Louis' *Essay on Clinical Instruction*	New Poor Law in England
1835		
1836	Heinrich Gottfried von Waldeyer-Hartz notes that the nervous system is built from separate cells; Influenza pandemic	
1837		Victoria accedes to British throne
1838		Registration Act (births, deaths, and marriages) in England
1839	Third cholera pandemic begins; Theodor Schwann defines the cell as the basic unit of animal structure	Photography introduced by Daguerre
1840	Elizabeth Fry founds Institute of Nursing in London	First Opium War between China and Britain; Penny post introduced in the United Kingdom
1841	F. G. J. Henle publishes treatise on microscopic anatomy	
1842	Edwin Chadwick's *Report on the Sanitary Conditions of the Labouring Population of Great Britain*; ether first used as an anaesthetic by C. W. Long	
1843	E. H. du Bois-Reymond shows electricity is used by the nervous system	
1844	Connection established between dirt and epidemic disease in England by the Commission for Enquiring into the State of Large Towns; first use of nitrous oxide as an anaesthetic in dentistry by H. Wells	

Timeline for chapter 1: 1800–1849

Year	Medical events	Contemporary events
1845	First description of Leukaemia by R. Virchow	Failure of Irish potato crop
1846	W. T. Morton uses ether as an anaesthetic at the Massachusetts General Hospital	Smithsonian Institution established in Washington, DC (opened in 1855)
1847	James Young Simpson uses chloroform to relieve pain of childbirth; Karl Ludwig invents kymograph; Ignaz Semmelweis discovers contagiousness of puerperal fever; American Medical Association founded	
1848	Semmelweis introduces antiseptic methods in Vienna; First Public Health Act in Britain sets up General Board of health; cholera epidemic and influenza pandemic	Republic restored in France; K. Marx and F. Engels write the *Communist Manifesto*
1849	In the United States, Elizabeth Blackwell becomes first woman to qualify as a doctor; Thomas Addison describes pernicious anaemia	Gold Rush in California