

THE  
BRITISH ENCYCLOPAEDIA  
OF  
MEDICAL PRACTICE  
—  
VOLUME I

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WITH ASSISTANCE OF

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THE  
BRITISH ENCYCLOPAEDIA  
OF MEDICAL PRACTICE

INCLUDING

MEDICINE SURGERY  
OBSTETRICS GYNAECOLOGY  
AND OTHER SPECIAL SUBJECTS

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# INTRODUCTION

BY SIR HUMPHRY ROLLESTON, BT., G.C.V.O., K.C.B.

A wide survey of the history of medicine shows that until comparatively recent years advances have not appeared in a steady and continuous stream but at intervals, sometimes of considerable duration. During these intervals not only has progress ceased, but there have been relapses into a state of somnolence; this was shown in the early development and the subsequent prolonged period of stagnation in Chinese medicine. Epoch-making events, such as Harvey's discovery of the circulation of the blood between 1618 and 1628 stand out, like mountain peaks in contrast to the surrounding level country, and divide up the field of medicine into periods, like territories, of some dominating influence. Of these, seven have been sketched by Dana: the pre-Hippocratic, the Hippocratic, the Alexandrian, the Galenic and post-Galenic, the Renaissance, the sixth of theories and speculations ending with Edward Jenner (1749-1823), and lastly the modern period. In the earliest times religion and medicine—the care of the soul and the cure of the body—were in the hands of the priesthood, so that the priest was half medical or medicine man. Disease was regarded as a supernatural manifestation and accordingly magic came to be employed as a remedial method.

Later, when the notion of disease as a divine punishment or the work of evil spirits faded, another superstition became dominant, namely, a greatly exaggerated, almost religious, respect for the authority and *obiter dicta* of the past fathers of medicine. Although admiration for the great men who begat us and enthusiastic efforts to follow their example in research and the unveiling of new knowledge is an admirable way of life, it is very different when authority in an extreme form creates an atmosphere which stifles freedom of thought, prevents investigation into the truth of traditional belief,

and makes such independence an act of *lèse-majesté* or infamous in a professional respect.

The effect of such an overwhelming obedience to authority, which it is now difficult to realize fully, was most prominently seen in the case of Galen (A.D. 131–201), after whose death European medicine ceased to progress, and began to degenerate, so that with the fall of Rome the darkness of the Middle Ages descended like a pall over knowledge of every kind. During this period his opinion was sacrosanct until the Renaissance. This accounted for the treatment meted out by those in authority to Servetus (1509–53), who was burnt at the stake, to Vesalius (1514–65) also in the sixteenth century when he corrected Galen's errors in anatomy, and in a lesser degree to William Harvey (1578–1657) in the following century.

The spirit of the Renaissance and the subsequent foundation of the Royal Society in 1662 constituted a revolt against scholasticism and theological authority; this was expressed by its motto, chosen by John Evelyn, *Nullius in Verba*, implying action rather than talk.

## WHAT IS MEDICINE ?

Whether considered in its relations to other forms of human activity or as regards its own construction and the growing number of its special subdivisions, medicine presents a complex mosaic. Apart from being a calling which may be followed merely as a means of earning a livelihood, medicine from the standpoint of science may be broadly regarded as a branch of biology—human biology, and the investigation of morbid phenomena, although allied to physiology, as sufficiently distinct to justify the recognition of a science of experimental medicine or clinical science.

Science has been explained briefly as 'measurement', and it has been pointed out that Ruskin's dictum is particularly applicable to medicine, namely, that 'the work of science is to substitute facts for appearances, and demonstrations for impressions'. Clinical science has been defined as a study of the phenomena of disease as a whole and of the means best suited for prevention and cure. Treatment, through the contributions of physiology and pharmacology, thus

shares the results of the experimental method, which in fact has confirmed or rejected the conclusions, sometimes rather disparagingly dubbed 'empirical', derived from observation and experience.

These two methods of observation and experiment are each of great value in medicine; observation always has been, and will be, employed in ordinary medical practice, but it has its defects, liability to fallacies and inherent difficulties. Experiments on animals, or within specially restricted limitations on man, have provided far more advances, especially in recent years, than has clinical observation. The history of the experimental method in medicine began in Alexandria (300 B.C.) in the hands of Erasistratus and Herophilus, and some experiments were carried out by Aristotle; Galen did so much that he is often regarded as the first experimental physiologist, but after his death fourteen hundred years passed until Harvey revived the experimental method.

Medicine is primarily an art but, like other arts and crafts, has benefited greatly from the help derived from science, and in the case of the healing art, those of physiology, biochemistry, pathology, chemistry and physics. For example, since the Great War three successful methods of treating diseases otherwise fatal—diabetes mellitus by insulin (1922), pernicious anaemia by liver and stomach extracts (1926), and Addison's disease by adrenal cortex preparations (1930)—have been the outcome of scientific research. Such important advances have led to the description of medicine as applied science, and thus to be a transition between the art of practice and the science of medical research.

More than a century ago Laennec (1781–1826) defined the aim of medicine as the cure of disease, a little later Émile Littré (1801–1881), who was a physician as well as a lexicographer, by describing medicine as 'an art with the object of preserving health and curing disease, based on pathology', anticipated what is now its primary ideal, namely, the prevention of disease. The need for curative treatment implies that attempts at prevention have either not been made or have failed. Preventive measures when applied to the individual are inseparable from ordinary medical practice, but when employed for the protection of the mass become part of the duties of Health Departments and Medical Officers of Health.

In order to improve the common health it is essential that the public should be educated in what have, rather grandiloquently perhaps, been called 'the laws of physiological righteousness'.

Medicine as a whole exerts a wide influence on human activities, such as the state, the well-being of man as a whole, the law and sciences; it includes a knowledge of man in every respect, so that psychology, formerly the preserve of philosophy and investigated almost exclusively by introspection, is now elucidated by psychopathology and the experimental method.

### THE NATURE OF DISEASE

To primitive man disease was the punishment decreed by an offended deity or the result of the machinations of an enemy. Disease thus came to be regarded as a definite invasion of the body by a demon or other harmful agency, and the cure therefore to be its expulsion by violent treatment of the unfortunate host or by the provision of an exit by trephining the skull, probably the oldest surgical operation known.

The question what is dis-ease? (dis = apart from, or absence of, -ease) has been the subject of much verbal debate. It is obviously the converse of health, which has been defined as the capacity of the organism to respond adequately to environmental influences. Although health and disease are mental abstractions and not concrete realities, many definitions of disease have been constructed; one of the earliest, at least in comparatively modern times, and certainly the most concise and best, is that of Claude Bernard (1813-78) in 1854 that it 'is physiological reaction in altered circumstances'; that of George Adami (1862-1926) in 1910 that 'Disease is a process or succession of disturbances induced by any agent which disturbs the normal activities of the organism as a whole or of its constituent parts', gives a good indication of the potential variability in the reaction which is called disease.

Into another definition, 'Disease is a failure of adaptation both to conditions without the organism and within' (W. A. White, 1926), may be read two additional points: (i) that the responsible cause may be endogenous, such as a congenital defect, either

structural or physiological, and (ii) that in the process of compensatory adaptation for any defect the reserve powers of the body may, for a varying time, stave off the onset of symptoms due to failure of the adaptation. The most recent definition, given by Parkes Weber in 1935, is exceeding broad and admittedly makes disease a matter of degree. It runs: 'Any deviation, whether obvious or latent, from what is believed to be the normal average condition in appearance, structure, or function, of sufficient degree to cause considerable pain, trouble, or hindrance in pursuing the ordinary objects of life.'

Disease is not a 'morbid entity', if by this commonly used expression is meant a rigid, unchanging sequence of characteristic events, and that diseases are not comparable to animal or botanical species is shown in many ways. Diseases change in a pronounced degree with circumstances, as was strikingly shown by the new forms of disease that appeared for the period of the War, such as trench fever, trench feet, trench nephritis. Further, in ordinary practice a large number of patients do not conform to any 'type' of disease described in the text-books, and no two cases of the same disease are, any more than two individuals, exactly alike. Disease has often been regarded as synonymous with its supposed cause, and indeed is often so spoken of now; for example, a patient may be said to have an infection such as tuberculosis, but this is to confuse the cause with the effect or reaction.

### CHANGE OF TYPE OF DISEASE

Apart from the comparatively rapid effects of the brutal influences of war, diseases have undergone changes in the course of time, and indeed this has occurred in the experience of those living. Thus during this century chlorosis, formerly extremely common, has practically disappeared; the reason for this is not clear, although it has been suggested that improved hygiene, better diet, or the absence of the corset and tight lacing may be responsible.

Again smallpox has become so much milder (para-smallpox, variola minor, alastrim) that doubt has been expressed about its identity with the ordinary form. Another change of character is



the diminished severity of scarlet fever, the place of which, as the most dangerous member of the exanthemata common in this country, has been largely taken by measles. In parts of the world where a disease, a good example being measles, does not occur, the inhabitants when exposed to infection suffer from the disease severely, because there is not any racial immunity.

The changes, although extremely slow, from the cave man to the club man, suggest that their diseases like their virtues would present different aspects. But alterations, such as virulence, in the lowly micro-organisms responsible for infective diseases occur with much greater rapidity and ease than in the higher animals, and hence it is obvious that corresponding modifications in the reactions they set up must be anticipated, even if the hosts have not undergone variations in susceptibility.

In considering the cause of disease attention should be, but is not always sufficiently, paid to both the (*a*) 'soil' or the constitution of the patient and (*b*) the 'seed', such as germs or worms. Until the second half of the last century the conceptions of diathesis (a persisting morbid tendency) and of constitution (the make-up of the body) with its hereditary and acquired liabilities to reaction, were the commonplaces of everyday practice. But when bacteriological investigation proved that many diseases were directly caused by, and could not develop in the absence of, specific germs, the somewhat intangible factors of diathesis and constitution, thus contrasted with visible micro-organisms, became overshadowed and until recently neglected.

## NOMENCLATURE

The names of diseases have various sources; some still retain the popular or folk names, such as mumps, influenza, malaria, and the name is a label only, the meaning and origin of which may become obscured and ultimately hidden in the dust of years. Diseases often receive names indicating their site or supposed nature, such as exophthalmic goitre, peritonitis, myositis and neuritis, the last three indicating inflammation of the peritoneum, muscle and nerve. It may, however, be mentioned that the termination *itis*, which, as