THE MEDICAL TRADITION.

BEING THE ANNUAL ORATION DELIVERED BEFORE THE
MEDICAL SOCIETY OF LONDON ON MAY 12TH.

BY

SIR JOHN TWEEDY, LL.D., F.R.C.S.,

PAST-PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND,
AND EMERITUS PROFESSOR OF OPHTHALMIC MEDICINE AND
SURGERY IN UNIVERSITY COLLEGE, LONDON.

MANY important and controversial matters are now being pressed upon the thoughts and attention of the members of the profession. The air is thick with projects of reconstruction and change. Some of these propose a recasting of the whole system of medical education; some seem to think that the one thing needed is a regimentation of medical practice; others look for the millennium through the advent of a Ministry of Health; and others hope for salvation in trade unionism, with its bargainings, its strikes, and its picketings. Without questioning the competency and good faith of the promoters of these various projects, or venturing to deny that some of the suggested changes would remove some defects and introduce some improvements, I am doubtful whether any of the proposed changes would effect all the good expected of them, and feel sure that some of them would do no good at all.

Experience has too often proved that even when some good has been effected by reforms, unexpected evils have not unfrequently followed in the train. Tares have been sown with the wheat. Reformers are always sanguine, and too apt to think that change, and especially their change, necessarily implies betterment, and that movement is always progress. Of the past we know a little; of the present, perhaps, somewhat more; but of the future we can and do know little, if anything. At any rate, I believe that any change, whether effected from within or imposed from without, that restrains the liberty or lessens the responsibility of a medical man, or hampers the free play of his intellectual activities, will be detrimental to the authority and usefulness of medicine, and prejudicial to the interests of public health and national welfare.

How important is the part that medicine plays in national welfare has been strikingly shown in the recent war. Whatever may be the verdict of history on the diplomatic, political, naval, military, and economic phases of the war, there will be no hesitation about the brilliant triumphs of curative and preventive medicine. These triumphs have been partly the result of the labours of our predecessors, partly the outcome of the researches and investigations of contemporary workers, not only in the science and art of medicine but also in the allied sciences of chemistry and physics and biology; but the victory was eventually ensured by the thousands of trained workers who knew how to make full use of all the resources which these sciences had placed at their disposal. Medical men of different nationalities, sometimes of different races, reared under different educational and social systems, were able to co-operate in the common endeavour, because they had all alike inherited the same traditions of rational medicine.

Great as has been the part played by medicine in war, it is probably destined to play a greater part in peace. Even now medicine has within itself the promise, if not the actual potency, of preventing all preventable diseases and curing all curable ones. Whether medicine ever becomes, in the popular jargon of the day, nationalized, or whether it continues to preserve its autonomy, its influence and authority will be determined by the intellectual ability, the personal character, and the moral endowments of individual practitioners. It is to the personal qualities of the medical man rather than to schemes of professional reorganization that I venture to invite your attention this evening. The subject may seem trite and commonplace, but it is not negligible on that account. Besides, it is well at times to go back to first principles.

What, then, is medicine when reduced to its simplest terms, as an intellectual discipline and a practical art—what are its methods, aims, objects, ethics, and traditions?

Notwithstanding the lapse of more than two thousand

years, notwithstanding the continuous growth of medical knowledge from century to century, we may, I believe, find all that is essential for our purpose in the writings of the ancient Greek physicians, and especially in those of Hippocrates. I use the term Hippocrates in a generic sense, and not as exclusively applied to one particular individual. It is rather an eponymous title, given to the assumed author of the Hippocratic Collection. Of the individual Hippocrates we know little, but of the personality which the famous Aristotle called the "Great Hippocrates," a celebrated medico-philosophical cycle has been formed which is known to us as Hippocrates.

Although it is impossible to determine with precision and certainty the philosophical and medical ideas of Hippocrates in an historic sense, it is easy to determine them in a traditional sense. Critics have for many centuries discussed the works which make up the Corpus Hippocraticum, and have differed as to which of these writings are the work of Hippocrates himself and which belong to different members of his family or school. But there is little difference of opinion as to which of the writings bear and which do not bear the Hippocratic mark.

We have other names and other forms of disease than the ancients; other means of healing, other ideas, other ways of explaining them, but medicine is always the same. Nature does not change, and to become a great physician the same qualities are necessary to-day as formerly. Medicine is concerned about the conservation of health, the cure of disease, and the relief of pain and suffering. It comprises not only the remedial and curative medicine, but also preventive medicine. In Hippocrates's day preventive medicine had not the range and complexity and precision that it has in ours, but the underlying principles are the same and so also with therapeutical medicine.

In Hippocrates's time there were unfriendly and even unscrupulous critics of medicine, and the race is not yet extinct. In the beginning of the treatise of "The Art," Hippocrates remarks that there are some persons who make it an art to vilify the arts, not that they really expect to destroy them, but rather because they desire to show off their own cleverness. In "The Ancient Medicine" he observes that medicine has for a long time been in possession of a principle and a method. Guided by these, many useful discoveries have been made and further discoveries will inevitably be made if capable men, instructed by former discoveries, take them as a starting-point for their own researches; or, in the words of more recent philosophy, seek from the known to discover the unknown.

The principle and the method of medicine are Observation and Reasoning. Medicine, it is true, is primarily based on observation, on facts, on reality; but observation is not enough. It must be supplemented by reasoning on these observed facts. In "The Precepts" it is pointed out that observation establishes the facts which fall under the senses, leaving in thought a clear representation of them. Reasoning is a kind of synthetic memory of that which is known through the senses, and, with the help of memory, it brings the facts together, compares them, and sums them up into a generalization. If reasoning is not preceded by observation, it is likely to lose its way; while observation which is not followed by reasoning is not enough. The intelligence should supplement the senses, and reason should supplement observation.

Pre-Hippocratic medicine was mostly observational and experiential, but with Hippocrates it became ratiocinative. In commenting on the Cnidian sentences, he remarks that the writers have well described the symptoms of each particular malady and its termination; but any one could do the same without being a physician by asking the patient what he suffered. It is those things which the patient cannot tell that the physician ought to know in order to find out the true nature of the disease and its suitable remedy. The manifestations of diseases are of two kinds: those which are apparent and those which are not. External diseases may easily be made out by sight and touch and the other senses; hidden diseases are more difficult to discover. But, although they are hidden, they do not completely baffle the physician. The possibility of mastering them depends partly on the condition of the patient for examination and partly on the talent of the investigator. More pains and more time are needed for

make out hidden diseases than those which can be seen and handled. The physician, unable to discover the disease by direct vision or by what is told to him by the patient, searches for it by reasoning. The mind's eye perceives what is invisible to the bodily eye.

The critics with whom Hippocrates deals denied the reality of the Art of Medicine, alleging that whilst some of those who were treated by physicians got well, others did not, and that those who did recover owed their deliverance to fortune rather than to Art. The number of patients who died in the hands of physicians, they said, proved the impotency and vanity of medicine as a practical art; and that medicine stands self-condemned when physicians undertake the treatment of cases which would get well of themselves, but refuse to take in hand desperate cases. If medicine were a valid art it would, they maintained, cure all alike, or at least attempt to do so. Hippocrates's reply to these criticisms is well reasoned and complete. There are bad physicians, he says, but there are also good ones. If medicine were not a valid art, there would be no difference between them; they would all be equally ignorant, and chance alone would determine the fate of all sick persons. Medicine rightly refuses to undertake the treatment of incurable cases, because although medicine is an art, it is not infallible and not omnipotent; it cannot go beyond nature. It cannot repair the irreparable; it cannot perform miracles. Medicine is a contest between the power of the disease and the efficacy of the therapeutical resources at the disposal of the physician. If the disease is stronger than the means at the disposal of the physician he is necessarily disarmed and helpless. It is the nature of things, and not medicine, which is to blame. But the advice not to undertake hopeless cases was perhaps, after all, prudential rather than absolute. Over and over again Hippocrates remarks that it is the duty of the physician to do good to the sick person, and at least not to do harm; and in one place at least the practitioner is advised that if he does undertake the treatment of a desperate case, he should always take care to commit no fault. Four hundred years later Celsus wrote:

Now the principal object to be attended to by a physician is to know what cases are incurable, what are difficult, and what more easy, for it is the duty of a prudent man not to undertake a case which he cannot cure, nor to subject himself to the imputation of having destroyed a patient who was destined to die of his disease.

Nearly two centuries later Galen gave similar counsel. Avicenna, the famous Mohammedan physician of the eleventh century, struck a note which is more in harmony with modern sentiment:

We should bear in mind the infinite resources of nature, and we should never seem to abandon a patient, although we cannot really do anything efficaciously. Up to the last moment we should endeavour to soothe, but we must not gamble with a life by powerful remedies or big operations where there is no well grounded hope, otherwise we render ourselves voluntary homicides.

Modern medicine is on a surer and more positive foundation than it was in the days of Hippocrates, but the classification which he gives of the causation of disease and of the nature and significance of symptoms still holds good. The causes of disease, he says, are twofold—those which come from without and those which originate within; and the manifestations of disease are also twofold—namely, the *indisposition* and the *reaction* of the organism in the struggle of the natural forces to overcome, destroy, neutralize, or expel the morbid agent. The natural powers, says Hippocrates, are the healers of disease and the physician is the servant or minister of nature. Nature is all-sufficient in and for everything. Without instruction and without conscious guide, it always does what is fitting. The physician should observe closely the operations of Nature and follow their indications. When Nature is sufficient, the physician should be content to be an observer of what is taking place without attempting to modify the action of the natural powers. When Nature is feeble or insufficient, he should arouse it, fortify it, and sustain it. When it is too active or disorderly, or tumultuous, he should moderate its direction and endeavour to control and regulate its operation. Abandon a treatment, he says, which does not succeed for one which does. If a disease gets worse, adopt another method. But, on the other

hand, do not cut off anything which tends to improve; relax nothing, and still more add nothing. At all times the practitioner should keep in view a double purpose: to be useful to the sick person and avoid doing harm. Hippocrates compares ignorant physicians to unskilled pilots. In calm weather the false manoeuvres of the unskilled pilot are not apparent, but when a storm arises and the winds rage his boat is lost, and then every one recognizes that disaster is due to the pilot's want of skill. And so it is with unskilled physicians, who constitute, he parenthetically remarks, the greater number. So long as they treat diseases of little gravity, where their faults do not produce any serious mishap, their blunders are not obvious to ordinary folk; but when they encounter a serious and grave disease, their faults are soon apparent, their want of skill soon manifest.

There is not and cannot be absolute certitude in medicine. Like the arts of agriculture and of politics, the military art and the art of navigation, the certitude is only approximate and amounts only to a greater or less degree of probability. The most experienced farmer cannot be sure that he will gather the harvest of what he has sown; the wisest politician can never be certain that his plans may not miscarry; the ablest general can never be certain of victory; and the most experienced sailor can never be sure that his ship will reach the harbour in safety. And in like manner, the most skilful physician can never be sure of curing his patient, but he can be sure of employing all his knowledge and all his skill according to established rules of his art.

Hippocrates names six conditions necessary to become a skilled physician: natural talent, instruction by a competent master, a place favourable to study, education begun in youth, love of work, and long application. The first of these conditions is the most important, for where there is not a natural disposition it is useless to attempt to force nature. Theory should be combined with practice. Want of experience begets either timidity or rashness. Timidity discloses impotence and rashness ignorance. The training of the medical student in the fifth century B.C. was varied and, according to the measure of the time, complete. It comprised the study of medical writings, listening to set lectures, or to the personal instruction of the master, and practical experience in the consulting room and at the bedside. Practical experience is of very great importance, but literary study must be cultivated. The skill to form a just judgement upon what has been written is, says Hippocrates, an important part of the medical art. Whosoever has knowledge of medical writings and knows how to use it will not in practice be guilty of any grave omission or fault.

The personal character and habits of the physician are only second in importance to intellectual ability and professional training. The physician should be well mannered, discreet, and of good repute; wise in judgement, temperate, and self-controlled. Honourable in all his dealings, he should unite firmness with gentleness and should avoid luxury and display, frivolity and levity. He should not be greedy of gain, but should accommodate his fees to the circumstances of his patient, and, if necessary, render his services gratuitously. He should think more of his honour than of profit, and rather run the risk of incurring the ingratitude of a patient he has treated than add to the distress of a sick person by bargaining about fees during illness. In the case of a poor stranger particularly, he remarks, it is especially becoming to give gratuitous help, for where there is love of mankind there is love of art. Galen has some similar remarks on professional remuneration:

He who esteems riches more than distinction and who learns his art in order to amass wealth will never attain the end which medicine proposes to itself. It is impossible to covet riches and at the same time to cultivate worthily the noble art of medicine. If one is pursued with ardour, the other is neglected.

Hippocrates also inculcates friendly and confidential relations between members of the profession. There is no disgrace, he says, if a physician in doubt about a case calls in the help of other practitioners with whom he may consult on the case, and who are willing to associate with him in order to afford mutual help. The physicians in consultation should of course never quarrel or abuse each other, for the reasoning of one physician ought never to envy that of another.

Medical ethics were settled once for all by Hippocrates. According to the well known Oath, youths were initiated into the profession by a solemn ceremony in which they swore to help the sick according to the best of their power and judgement, to abstain from every evil, never to administer poison or to give it to a third person, and never to give an abortive pessary; to be pure and chaste in their relations with patients and with the members of the patient's household, and always to observe the strictest silence respecting the secrets learned in the exercise of their calling and even outside it.

There are two kinds of secrets referred to in the Hippocratic writings: one which may be called "trade secrets," the other "secrets of trust," acquired in the professional intercourse with patients. These "trade secrets" were regarded as sacred, never to be revealed except to those who had been initiated into the mysteries of the science. Xenophon, in the *Oeconomicus*, points out the difference between the candour of agriculture and the mystery of some other callings. The other artisans, he says, make some secret of the important parts of the art which each plies, while the farmer is delighted if anyone watches him. Whatever piece of good work you ask the agriculturist about, he will not hide from you how he does any single thing. Trade secrets were insisted on by members of the craft guilds in the Middle Ages and down to the end of the eighteenth century. They constituted much of what was called the "mystery" of the craft. Nowadays they have practically ceased to exist in medicine. There is nothing in the mode of conducting modern practice that any layman may not know. Professional secrets, "secrets of trust," which are more particularly referred to in the Oath, stand in a different category. They are and should be inviolable except under the compulsion of a court of law. Even the courts of law have recognized a distinction between the ethical and legal aspects of these secrets. In the year 1776 Lord Mansfield, in the House of Lords, in the case of the Duchess of Kingston, laid down that

if a surgeon was voluntarily to reveal those secrets, to be sure he would be guilty of a breach of honour and of a grave indiscretion, but to give that information in a court of justice which by the law of the land he is bound to do, would never be imputed to him as any indiscretion whatever.

Of late years there has been a tendency on the part of the Legislature and administrative authorities to encroach upon the principle of professional secrecy. The notification of disease, for instance, is in a sense such an encroachment. No harm is done in the case of many diseases, but much harm may be done, and great personal and domestic misery may be caused, if the notification be extended to diseases of a strictly personal and private character, especially if any stigma or immoral imputation be rightly or wrongly implied.

There is one other matter mentioned in the Oath to which I would refer very briefly—namely, the vow never to give anything to produce abortion. On this question Hippocrates was ethically far in advance of the prevailing opinion of his day. Both Plato and Aristotle sanctioned the practice of abortion in certain circumstances. Aristotle divided the period of married life into two epochs—the child-bearing period and that in which no children were to be brought into the world. He definitely states that after seventeen years of married life, when the husband would be about 54 years of age and the wife 35 years, the married couple should cease to become parents, and he also insists that a limit should be set to the begetting of children even during that period of seventeen years. He hints that infractions of this rule will occur, and that it may be thought that the only possible remedy will be exposure of surplus children. But he regards exposure of living children as "unholy," and suggests in preference abortion at the early stage of pregnancy, before sense and life have begun. Both Plato and Aristotle were influenced mainly by social, political, and economic considerations. The aim was to preserve the household as the nursery of a healthy race, vigorous in mind and body, and to prevent over-population and pauperism. The City-State, it was held, should be wholly independent of others, wholly self-sufficing. It must be able to maintain its character as a state by itself, without aid or stimulus from without. In the diminutive city, men tended constantly to increase faster than food. It was, says Zimmern, in his interesting work on the Greek Common-

wealth, more than a difficulty: it was a terror, looming closer every year. With their primitive economy, there was little margin to draw on. There was a natural limit to the numbers of a self-contained City-State. Patch after patch of bare hillside was drawn into the area of cultivation, terraced and ploughed and picked over in order that it might yield its wretched pittance. But the time came when the pressure of population upon subsistence became too strong to be withstood, and Greek statesmen were forced to seek an outlet for the people elsewhere. It was to avoid this necessity that both Plato and Aristotle sanctioned and even recommended abortion. Hippocrates took a higher view, based on an ethic of universal validity.

And we too should never forget that medical philosophy is essentially and apart from other studies an ethical study, and is intimately concerned about the ways by which it seeks to attain its moral aims; and that he who in the right spirit devotes himself to the practice of medicine seeketh not his own, but engages in the service of humanity.

A COMMUNICATION ON A "FILTER-PASSING" VIRUS IN CERTAIN DISEASES,

WITH ESPECIAL REFERENCE TO POLYNEURITIS, ENCEPHALITIS, TRENCH FEVER, INFLUENZA, AND NEPHRITIS.*

BY

MAJOR-GENERAL SIR JOHN ROSE BRADFORD,
K.C.M.G., C.B., F.R.S., A.M.S.

I do not propose to detain the Section very long, because, of course, the members will be much more interested in the actual detailed observations and effects on which this work is based, and which will be brought forward by Captain Wilson and Captain Bashford. But I think it necessary that some introductory statement should be made with reference to the way in which this work has originated and the various stages of its progress. This work—which, if it be soundly based, is capable of wide development and of many applications—had its origin in the investigation of a rare and unimportant malady, polyneuritis; the investigation was taken up purely from the point of view of the clinical interest of the malady in question. That work was completed last August, and I do not propose to say anything about polyneuritis, because we have already published a full statement of it in the *Quarterly Journal of Medicine*, but I do want to emphasize the fact that the whole of the subsequent development of the work had its origin simply and solely in the study of this rare, obscure, and unimportant disease, and that the investigation primarily did not start with a gross, material, practical object in view. As regards polyneuritis, after we had proved that it was an infection capable of transmission by the same methods that had been successful in rabies, Captain Wilson succeeded in growing an organism of a somewhat similar character to that found in poliomyelitis, and the disease was reproduced with the pure culture of the organism, and the organism was recovered. In the light of this work, and in view of the fact that this organism was of the nature of a "filter-passers," it was natural to think that possibly the same method might be successful in other diseases, either of unknown etiology or known to be due to "filter-passers." Trench fever and rabies were those that were first investigated, and—to pass on rapidly—organisms were grown from either the blood of patients or, in the case of rabies, from the brains of rabid animals, in these two maladies and also in influenza, nephritis, and lethargic encephalitis—this last from material obtained from England, because at that time we had no lethargic encephalitis in the army in France. In these five diseases organisms were grown from the blood as long ago as last October. No publication was made with reference to these facts, for the extremely simple reason that I did not think any man brought up in scientific method and having worked in laboratories would be inclined to publish that he or those associated with him had found organisms

*In the Section of Preventive Medicine and Pathology at the Clinical and Scientific Meeting of the British Medical Association, April 11th, 1919.