

Development of Medical Science.

by.

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The Development of Medical Science.

In treating this subject we propose to divide it into three main divisions which are more or less uniform throughout. The first of these will take us from earliest time to the decline of Roman literature. The second from the decline of Roman literature to the Revival of Learning. The third from the Revival of Learning to the present day.

The practice of medicine in its earliest form must have started very soon after man made his appearance upon the earth. He could not have existed long without becoming aware of the fact that he was subjected to certain ailments and that certain conditions and foods helped him back to health. Thus he would learn that certain pains were helped by an evacuation of the contents of the intestines and that these pains were caused by certain substances. He also he would soon learn to bind up a wound. However the mind of early man was so superstitious that he would naturally use very many things that were useless and even harmful.

The first nation to study medicine so far as we have any records was Egypt. Even here our knowledge is very limited and largely gathered from fragments. In so far as we

are able to ascertain the priests seem to have been the physicians also. They used very little of the real art of medicine but confined themselves to magic and incantations. They probably did some good but it was through the effect on the mind. They allowed the art to pass from Father to son, and this practice alone was enough to keep them undeveloped.

The Assyrians are claimed by some to have been in advance of the Egyptians. But they have left little or no means by which we can tell how far they had really advanced in the science of Medicine. We know, however, that they were very superstitious, and it is probable that they were not the equals of the Egyptians.

Medicine among the Jews as among the Egyptians was practiced by the priests. They prescribed cleanliness chiefly and probably did much good. It is hardly necessary to say that medical science was scarcely a science at all as yet. It was largely controlled by superstition and for this reason contained much that did not belong under the head of science.

Greece next presents herself, and here we shall find that medicine received considerable attention. The science was first introduced from Egypt. Men travelling from Greece to Egypt for

various purposes learned some of the things that were being done there and so introduced them into their own land. What they received, however, was chiefly in the line of magic and incantation. The first native Greek to study medicine was Chiron. He was a prince who lived about the time of the Trojan war. He studied medicine incidentally along with his other line of work. Asclepius, however, took up the study as a science. He gained great distinction during his lifetime, and after his death he was designated as a God of Physic. After his death his sons took up his work and attained some notoriety. Their practice was chiefly surgical. Medicine now remained for some time hereditary in the family of Asclepiades, which name became changed to Asclepiadae. Temples were built in various places which soon took on the form of hospitals. The treatments contained besides the various ceremonies, much that was conducive to general health. Three of these temples were of especial note: viz, the temple at Cos, the temple at Gnidos, and the temple at Rhodes. That at Cos and that at Gnidos seem to have taken different lines. The men of Cos emitted reason and fact, while those of Gnidos depended entirely on matters of

fact established by experience. Here then is the foundation of the Dogmatic and Empiric schools. All this time medicine had been largely in the hands of the priests and but little headway had been made. About the sixth century B. C. men began to study more systematically. Pythagoras seems to have dissected the bodies of animals and to have gained considerable knowledge therefrom. Thus he was starting out to dispell the superstitions against dissecting any animal. We shall find, however that it was a long time after this before anyone had the nerve and common sense to dissect the human subject. The next man of note whom we wish to take up is Hippocrates. He has received the title of 'Father of Medicine' and it is a name which he well deserved. He was brought up at Cos and studied under Herodicus. afterwards he travelled a great deal. He is the author of many works that have been preserved until the present day. It is said that he contributed more to the science than any other one man. His theory was that the fluids are the seat of disease thus declaring the great doctrine of Humoral Pathology. His method was to interfere as little as possible with nature and help her on as much as possible. There was, however, in his

theories very much of an erroneous character. In spite of this fact he was ahead of all of his contemporaries so far as to pay no attention to anything they said. It is safe to say that for some time after the death of Hippocrates no one of any special merit appeared on the field.

About this time, however, the Dogmatic school was started. They based their work upon certain fundamental principles and then made their observations with these in mind.

This often led them into the mistake of assuming too much and then making everything conform to their theory. Some time after the establishment of this school another sprung up called the Empirics. They depended entirely on experience. They were determined to do away with the evils which attached to the Dogmatic school. This great division has come down all through the history of medicine and traces of it may still be found.

Plato and Aristotle deserve mentioning next. They were men who studied science in general and took up medical science along with the rest. They did much to increase the accuracy of both reasoning and observation.

About 300 B. C. the Ptolemies established the Alexand-

rian school. Here medicine was given a special place. Here the human body was first dissected and as a consequence the men here very much increased our knowledge of the human frame. Up to this time such knowledge as we had of anatomy was obtained by dissecting the lower animals and suppositions about the human body drawn from this meagre knowledge. This method resulted necessarily in many erroneous conclusions some of which are cleared up at this time. Now, too, the science began to be divided into different parts. Surgery, Dietetics, and Pharmacy became separate and were practiced by different persons. This was a decided step in advance of anything which had preceded.

But we must now take up Rome. Here we find medicine like the rest of the arts and sciences very slow to develop. The Romans devoted themselves almost wholly to warfare and manual employments and had apparently no time for any such thing as mental exercise. They were very superstitious and were completely under the control of spells and incantations for sometime. Soon, however, men of genius began to rise who saw the need of scientific

study, and medicine was one of the first things to which they turned their attention. It was largely Greek, however, who had come over and settled in Rome who did the important work. Indeed all the works of note were written by Greeks. Among the most noted writers are Cato, Soranus, Themison, and Pliny. The medicines used at this time were principally of vegetable origin and were applied simply from experience without knowing anything definite about their mode of action. The first native Roman to come into eminence was Celsus. Curiously enough we know but little of his history. But we have several of his works among which is an eight volume treatise on medicine. He also wrote on surgery.

But we must now turn to the life of one of the most remarkable and brilliant men the profession has ever known. It is scarcely necessary to say that we refer to Galen. He was thoroughly educated and had travelled extensively. He finally made his home in Rome. His rank in medical science has been compared to that of Aristotle in philosophy. His opinion was for a long time considered sufficient to settle any point that might be disputed about.

like Hippocrates he thought the fluids were the seat of disease. His practice was often amiss for he often tried to make his theory stand in spite of facts. But in Physiology he was a master. The number of works he leaves behind him amounts up to something like two hundred.

after the death of this illustrious man, which took place a little before the decline of Rome, there seems to have been no one to carry on the work. Some literature began to decline and as it declined it carried science with it.

The next thing we notice is the appearance of the Arabian school after they had completed their conquests they turned their attention to learning and science. To them we are indebted for the discovery of Chemistry. The value of this discovery can hardly be overestimated. They also gave to medicine certain new additions to the Materia Medica and the description of certain diseases. Among these are small-pox and measles. During the period in which the Arabian school was at its height, from 800-1200, very little was being done in Italy or Greece. The only thing we need mention is that the school of Salerno gained some distinction. From the 13th to the 15th century there was but little done. Chemistry, however, continued to develop under the

impetus given by the Alchemists. By their experiments they incidentally made many valuable discoveries. In the 13th century the study of anatomy was made more perfect. Mondino is said to have dissected the body of a woman publicly. He is writing on anatomy and also of special merit. In this connection the name of Gilbert deserves to be mentioned as the first English physician of merit.

At this time great events were taking place which had permanent effects on the science. The Crusaders had been carrying eastern knowledge into the west. Constantinople fell into the hands of the Mohammodans. But the great event was the Reformation. The art of printing, too, was invented about this time. Medical science could not help feeling these great forces. The works of the old writers began to be read in their original language and as a consequence many mistakes that had arisen from translation were now corrected. Diseases began to be studied by having records of individual cases kept. At this time also a great many Universities began to be established. In these the chair of Medicine occupied a prominent place. Among these schools are Bologna, Vienna, Paris, Padua, Pavia, Milan, Rome, and Naples.

Paracelsus at this time claimed that he had found the Elixir of life. He was a leader of the physicians known as the chemicals. They claimed that the body was governed by certain chemical laws just as the inorganic world was. Several new diseases came into notice at this time, among which are the whooping cough, sea scurvy, the plague, etc. Leprosy also became more frequent.

From this time onward the science advanced with rapid strides. During the sixteenth century the works of Hippocrates became more widely read and appreciated. The contest still continued between the chemists and the Galenists, but now on a broader basis. The Galenists, who held fast to the teachings of Galen in general, were the better educated class, but the chemists were more simple and gained the confidence of the people. The dissecting of the human body also continued. Men were now beginning to subordinate their superstitions to their intellects, and to use every possible means of acquiring knowledge. Observations of disease continued to be made and with increasing accuracy.

During the seventeenth century Harvey discovered the circulatory absorbent system, and the office of the lungs. Anatomy began to make

to make itself very prominent and even to become the leading feature in medicine. Haffman, too, came in here. His great success depends largely upon his pathological work. He rejected the humoral theory and placed the seat of disease in the solids. This has been the theory held up to the present time and is now practically established. The practice of medicine was fast reaching a high state of development. Men were keeping accurate records and establishing specific treatment for each disease which has stood the test of repeated trial. Medical schools flourish today in every nation.

The sciences have undoubtedly reached a very high state of development, but it is not yet perfect by any means, and there is yet abundant opportunity for work in the medical field.

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