

ATKINSON, Donald T. (1956): *Magic, Myth and Medicine*, World Publishing Company, N.Y.

Donald Atkinson takes a particular delight in reminding us of the many extreme, shocking and occasionally enlightened episodes that have shaped the history of medicine. Although his historical scope is limited, he does great justice to those individuals and traditions to which he gives his attention.

In this brief but most enjoyable review of the history of medicine, Atkinson identifies the Hebraic tradition as the great carrier of the principles of hygiene and sanitation at a time when the Egyptians and Babylonians were creating a complex and highly organised caste of priest-physicians. He praises the Book of Leviticus as one of the finest expositions of sanitary laws ever produced.

Atkinson uncovers a little-known experience of European Jewry at the time of the Great Plague during the 14th Century. By following Levitical principles, the Jewish physician Balavignus enabled his fellow Jews in the Ghetto of Strasbourg to avoid the dismal fate visited upon their Gentile neighbours, most of whom were cut down by the bubonic plague. Rather than looking to the Jewish communities in order to learn how they had avoided infection, superstitious zealots instead scape-goated, persecuted and attacked them ruthlessly, believing that such protection could only come from the devil. Paradoxically, Paracelsus suffered a similar fate a century later when his own treatments proved to be more successful than was deemed to be acceptable by many within the communities to which he administered.

The simple principles of sanitation that had sustained the Jews of Strasbourg remained neglected and dormant in European consciousness until the hygienic and sanitary reforms inaugurated in the early 19th Century.

Atkinson also recalls to memory the callous execution of Michael Servetus by religious authorities in the mid-1500s. Servetus dared to suggest that blood moved from the heart, through the lungs before returning to the heart and thence circulating through the rest of the body. This "heresy" cost him his life. Calvin himself was present in the crowd that watched Servetus burn on the stake. When William Harvey spoke the same truth seventy-five years later, he too drew upon himself the wrath of both the anatomists and the churchmen of Europe. But he did live to see the truth of his observations accepted and acknowledged by the European medical community.

Atkinson completes his tale of medical folly by recounting how both the Church and the State conspired to deprive women of any relief from the pain of childbirth, as this was believed to be "contrary to divine laws."

The story of medicine is laden with as much pomp, excess and error as the worst examples present in the history of the Church and of political institutions. But despite the fact that both ignorance and arrogance have often thwarted the development of approaches to the practice of medicine based upon truth rather than superstition, the Spirit of Healing has perennially manifested in the lives and actions of the men and women of all cultures who have sought to alleviate the suffering of others.

Donald Atkinson offers an extraordinarily rich and colourful account of the neglects and the follies that have assailed the practice of European medicine over the centuries.

Geographical Relation in Early Medicine

The traditions of Egypt, Babylonia, and Jerusalem were much alike. Each had its doctrines relative to the creation of the world, of the fall of man, and of the flood, which are so similar as to seem to indicate a common source. During this early period Egypt and Babylonia are seen to have made much more progress in medicine than Jerusalem. Babylonia and Egypt had their physicians, but in Jerusalem the priests looked after the health of their people. They gave little medicine, depending for their success upon hygiene and sanitation. In these two arts they became so efficient that their laws governing health formed the basis of sanitation in the more advanced countries of the world for over two thousand years. p 22

For the principal sources of Hebrew medicine we have to refer to the Bible and to the Talmud. In both, disease was considered a result of the wrath of the Divine Being, and surcease from suffering was to be brought about only by prayers, fasting, and the observance of moral laws. p 30

In the Bible greater stress was placed upon the prevention of disease than was given to the treatment of bodily ailments, and in this no race of people, before or since, has left us such a wealth of laws relative to hygiene and sanitation as the Hebrews. These important laws, coming down through the ages, are still in use to a marked degree in every country in the world sufficiently enlightened to observe them. One has but to read the book of Leviticus carefully and thoughtfully to conclude that the admonitions of Moses contained therein are, in fact, the groundwork of most of today's sanitary laws. As one closes the book, he must, regardless of his spiritual learnings, feel that the wisdom therein expressed regarding the rules to protect health are superior to any which then existed in the world and that to this day they have been little improved upon. pp 30-31

Early Medicine in Greece

The earliest Greek practitioners of medicine of whom we have any direct knowledge were the Aesculapians or priest-physicians who endeavored to heal the sick by a fusion of superstitious rites and practical means suggested by a patient study of disease, which they believed to be the work of demons. This, no doubt, was what was most practiced on the island of Cos, where the great Father of Medicine, Hippocrates, was born. . . .

All physicians of the time had the same ideas in common, that physical conditions to a marked degree would respond to mental states. The function of the priest-healer then was to direct the patient's mind into wholesome channels. Next to this came the art of dietetics in treating the sick. All Greek schools of medicine taught the sick to select their food well, to eat less and thus to live longer. Third in the list as a help to the sick was that of drugs. There were few of these, chief among them being purgatives, and these were only seldom administered. But the patient was urged to eat deliberately, to chew his food well, and to seek repose after meals.

These three rules are still sheet anchors in the care of one's health. While now incorporated into modern medicine, they came first from what may be called the early

Greek school, and they are destined to remain a part of modern thought for which due credit should always be given to the Greeks. pp 35-36

Hippocrates describes many symptoms which indicate unmistakably what disease he is dealing with. He tells his students that they may be guided greatly by the appearance of the patient's face, which will indicate whether or not death is near. This suggestion has come down through the ages and is used by the modern doctor to apply to the Hippocratic facies which often precedes death. In this a sharpening of all the features of the patient, particularly of the nose, is seen along with deeply inserted eyes, thinned-out temples, and a turning outward of the lobes of the ears, which are cold to the touch. Before death the face is parched and the facial skin dry and yellow and "very dusky." Shakespeare, who appears to have known more than any man of his time of life and death, gives a Hippocratic description when he says of Falstaff on his death-bed that "his nose was sharp as a pen" and that he "babbled of green fields." pp 38-39

Pythagoras, c. 550 BC, besides being a philosopher, is thought to have been one of the first regular medical practitioners of Greece. What he knew and practiced appears to have been a direct transference of Egyptian medicine to Greece. He is known to have founded a Greek school at Crotona, and from here students of medicine flocking in from other parts of Greece and from Rome carried Egyptian medicine over a broad area. It is probable that Hippocrates had been a student of the writings of Pythagoras, since there is great similarity between the treatments used by these two great first physicians. pp 43-44

The Greeks were indoctrinated with the Aesculapian idea that great healing virtues rested in the touch of the sacred snakes of the temple. These were bulky but harmless creatures taught to nestle closely to the sufferers, their cool bodies, it was thought, bringing relief to the inflamed areas. The knowledge of the use of serpents as healing agents has come down to us through a great number of sculptured reliefs from the various temples of health in Greece, though a number of Egyptian steles still may be seen representing a single serpent, or two serpents, clinging to an upright staff. In the present day, as any discharged soldier knows, military medical authority in both Great Britain and America is represented by two serpents entwined about a central staff known as the caduceus. p 44

Nestor and Arabian Medicine

Most medical men the world over are grateful for the foresight of Bishop Nestor of Constantinople in saving from oblivion many of the scientific works of Egypt, Greece, and Rome, which were later to influence the medical thought of the Renaissance.

Very little is known of the early life of Nestor. It is supposed that he was born in Syria in about 380 A.D., but the exact date is not known. He died a natural death, however, in the land of his birth in about 450 A.D.

Many historians believe that Nestor had been trained as a physician, for when he fled to his native country after an accusation of heresy and excommunication by the

Church of Rome, he had in his possession practically all of the Greek, Roman, and Egyptian medical classics in existence.

The Nestorian sect, the first unitarians among the Christians, had at that time made great progress in medicine and had accumulated copies of a vast amount of Greek and Roman manuscripts, notable among which were the writings of Hippocrates, Galen, and Celsus. Fleeing before the anti-heretics, the Nestorians made their way gradually eastward by foot, mule, and camel, carrying their meager belongings with them and taking care to preserve their precious documents. Some of these Nestorian Christians continued their journey until they reached China, where a number of their descendants still have retained their identity. Some of them stopped in Palestine, where I have met and talked to their descendants, but the majority of them made their way into Arabia and gave origin to a renaissance among the natives, who eagerly studied and helped translate into Arabic all these ancient manuscripts. While the Arabians did not dissect human bodies, as this was forbidden by the Koran, they by virtue of these documents became the most enlightened people of the world of that time from the standpoint of former Greek, Egyptian, and Roman medicine. pp 53-54

Two of the greatest physicians of the Arabian Renaissance (c. 625 to c. 925 A.D.) were Rhazes and Avicenna, who translated all the then known Greek and Roman medical manuscripts and soon established themselves as teachers of medicine in both Asia and Africa. . . .

In 639 A.D. the Arabians forced their way into Egypt and later traversed North Africa and conquered Spain. Their Arabian scientists were now steeped in all the ancient lore of Greece and Rome, both philosophic and medical, and at Cordova, Spain, established what was one of the most enlightened medical schools of the time. To this center came many Europeans, who familiarized themselves with the ancient culture. p 55

Balavignus and the Rebirth of Sanitation

In medieval times the Jewish doctor of Europe was confined within the limits of a ghetto. This was an expedient to block his progress, instituted by gentile physicians who realized that they could not compete with him. Ghetto life was accepted by the Jew uncomplainingly. In many ways he believed that it was to his advantage. It preserved for him his racial ancestry, which he regarded as a priceless heritage.

In the early part of the fourteenth century at Thenon, near Strassburg, lived the Jewish physician Balavignus. Though he was distinguished among his people, his life was confined to narrow limits, and his services were not in demand except by his own race. In medieval Europe the Jew, unless he bore a concession, went beyond the limits of the ghetto at his peril. Occasionally the monotony of ghetto life was broken for the commercial Jew, whose financial aid and advice in matters of commerce were often sought. To the commercial Jew, however, was extended a prerogative which never fell to the Jewish physician, Gentiles were forbidden to employ a Jew as a medical practitioner, and severe penalties were imposed upon the Jewish physician who was found a party to the infringement of this law. pp 71-72

In 1346 the plague broke out in various places in Europe. In a year's time it had reached Strassburg, where it swept away the inhabitants by thousands. Many were struck as if by lightning and died in the streets. Others took flight and expired in the roads outside the city. Many walled themselves up in their homes and either died of the disease or starved to death. Grass grew everywhere in the streets. Great vats were dug, and to these corpses were hauled at night and thrown in. An ominous silence reigning everywhere was broken only by an occasional wail of distress or the rumbling of carts laden with corpses. p 73

By the Christians the plague was considered a visitation of Providence and was allowed to run its deadly course unchecked by sanitary measures. Sewerage at this time was a thing unknown among the gentiles. The people were crowded together, and refuse was thrown in the streets. The example of a great number of consecrated men, living in sackcloth and ashes, was emulated by the poorer classes whose dwellings were unspeakably filthy. Erasmus tells us that at this time the floors of gentile homes were made of rushes and were strewn with an ancient collection of "beer, grease, fragments, and everything nasty." The plague being carried by rats, no condition could have been more conducive to its spread than was afforded by this general uncleanness. p 74

Following the sanitary laws as set down in Leviticus, Balavignus had all refuse burned. Naturally the rats left the ghettos and gravitated to gentile quarters in search of food. The Jews consequently suffered less from the disease than did their Christian neighbours, the mortality in the ghettos being five percent of what it was among the Christians. This was so noticeable that the Jews at once fell under suspicion. It was observed that they covered their wells and took away their buckets. This led to the belief that they were not only escaping the plague themselves but were in a conspiracy to destroy the Christians by the disease. One day it was said that someone had seen a Jew deposit a bag containing poison in a well. This report so infuriated the people that a general massacre of the Jews was begun. A visitor to Strasburg today may see there a monument erected to commemorate the death of over two thousand Jews who fell victims at the hands of fanaticism during this terrible year.

Balavignus early fell under suspicion of being the one man of his race capable of producing the poison which was thought to be responsible for the disease. Dazed and driven insane by excruciating tortures, he made a confession implicating other Jews and a number of Christians. Thousands upon thousands during these dark ages made similar confessions, accusing themselves of the most absurd and impossible acts, simply as a means of bringing their torture to an end. . . . Soon in the smoking embers lay the mortal remains of this great man who, had his advice been heeded, would have proved to be one of the world's greatest benefactors. pp 75-76

It remained for a Bavarian Jew, John Peter Frank, to open wide the trail toward sanitation blazed by Balavignus. His great work on public hygiene, *A Complete System of Medical Polity*, which gave plans for correct sewerage and water supply, and a life spent in arduous study and teaching were means of greatly minimizing the epidemics of Europe. p 77

Agrippa and the Beginning of Psychiatry

In the treatment of the mentally deranged, as in all other things, we find the hand of evolution. By this process the execution of the insane gradually gave way to punishment without death. For centuries these unfortunates were starved, exorcised, and seared with hot irons, under the belief that the demons would find their bodies such an uncomfortable abode that they would vacate the premises for a more agreeable residence. Gradually several of these methods of punishment were supplanted by a therapeutic method with which medical history abounds for centuries. This remedial agent was the whip. So great was the belief in its merit that, until a century and half ago, it was dispensed to the great as well as the lowly. George III, during his attacks of dementia, it is said, was flogged on more than one occasion, and as late as 1810 we find Sir Thomas Moore of England advocating the public flogging of lunatics, and yet Moore was considered a humanitarian and even today is spoken of as one of the greatest philanthropists of his time. p 88

Whipping the insane was really meant for compassion and intended rather as a chastisement of the demon who dwelt within than as a punishment of the patient. Only through such harsh measures, it was thought, could the evil spirit be induced to vacate the bodies of the possessed. p 89

Michael Servetus

The following description of the circulation of blood through the lungs was offered by Michael Servetus seventy five years before William Harvey published his own monumental findings:

"The vital spirit is generated by the mixture in the lungs of the inspired air with subtly elaborated blood, which the right ventricle sends to the left. The communication between the ventricles, however, is not made through the midwall of the heart, but in a wonderful way the fluid blood is conducted by a long detour from the right ventricle through the lungs and when it is acted upon by the lungs and becomes red in color passes from the Arteria Venosa into the Vena Arteriosa, whence it is finally carried by the diastole into the left ventricle."

The work of Servetus containing this extract, with certain theological opinions, was construed as an attack upon established order. When published in Paris it awakened a series of denunciations against its author so virulent that he was forced to flee from Paris. On his way to Italy he passed through Geneva, then the stronghold of John Calvin and the Reformation, where he was arrested and charged with heresy. Calvin was then the central political figure of Geneva, but what part he had to do with the undoing of Servetus is controversial; there cannot, however, be any controversy regarding the following verdict of the court at Geneva: "We condemn thee, Michael Servetus, to be bound and to be led to the place of Shampell, there to be fastened to a stake and burned alive, together with thy heretical book, as well written by hand as printed, even until they be reduced to ashes, then thus wilt thou finish thy days to furnish an example to others who might wish to commit the like." In July 1553 I stood on what is thought to have been the exact spot where Servetus was burned. Calvin was present at the burning of Michael Servetus, which indicates the fanatical spirit of the age. pp 154-155

William Harvey

Shortly after taking his medical degree in Padua, Harvey received an appointment as Lumleian lecturer on anatomy and surgery in the College of Physicians in London. This course prescribed two lectures a week on anatomy which were to continue throughout the year, together with the dissection of a human body for five continuous days, and longer if the bodies were still not sufficiently decomposed to prevent further study. At this same College of Physicians Harvey continued to give these lectures and to make these dissections for the next forty years, and in the British Museum may be seen the notes which comprised the first year of his lecture work. Anatomists poring over these notes have concluded that it was at the College of Physicians of London during this first year that Harvey hit upon his discovery, though it took many years of further study and experiments before he was ready to give to the world his conclusions relative to the circulation of the blood. p 158

It has been claimed that the important conclusions of Michael Servetus in reference to the pulmonary circulation of the blood had much to do with Harvey's great discovery of the total circulation of the blood. Those who advance this claim fail to take note that the conclusions of Servetus were purely theological, and Harvey, being absorbed in scientific anatomy and medicine, devoted no time to theological discussions. The following note from Servetus' book indicates what he was attempting to prove:

"'The soul,' says Holy Writ, 'is in the blood.' More than this the soul is the blood. Then if the soul is the blood one must know how the blood is formed before arriving at any conclusion as to how the soul is formed, and in order to understand how the blood is formed we must first know how it moves."

Even with this confusion in his mind Servetus was able to demonstrate how the blood circulates from the heart through the lungs. p 160

While the discovery of Harvey may be considered as the most momentous single achievement in the history of medicine, it brought him a storm of abuse. Invective was hurled at him by anatomists from all quarters of the globe, but he never wavered in his decisions and had sufficient courage to stick by what his senses demonstrated, even at a time when to disagree with Galen was considered to be heretical. It is gratifying to realize, however, that his discovery was universally accepted during his lifetime. Harvey at no time advanced any reason for the circular motion of the blood. This was found only after development of the microscope, which enabled the anatomist to see the capillaries between the terminals of the veins and arteries. p 162

Birthing in Medieval Europe

For hundreds of years superstition distorted the sentiment which is now associated with the function of motherhood. Labour during this period was but the primeval curse resting upon woman with a heavy hand. The prospective mother, it was believed, was about to give the world a new creature cursed with original sin, and to afford her relief from pain at such a time would be to thwart the designs of Providence itself.

Looking down on the now beautiful Princes Street of Edinburgh, Scotland, is Castle Hill. Here in 1591 a crime was committed which illustrates the old-time psychology. Up this hill, one bleak morning, was forcibly dragged Eufame MacLayne, a lady of rank and refinement. A few minutes before, she had clung desperately to her twin babies, but these had been torn from her by the crown bailiff. At the summit a stake had been driven in the ground and around it wood had been piled. As she knelt, chains were wrapped around her body and in less than an hour ashes was all that remained of Eufame MacLayne. This execution was not the result of mob violence, for the victim had been tried by due process of law and had been convicted. Evidence was advanced which proved that she had employed a midwife, "one Agnes Sampson to administer unto her a certain medicine for the relief of pain in childbirth contrary to divine law and in contempt of the crown."

Eufame MacLayne's fate had been sealed by precedent. Convention had made it an insult to the Deity to assist a woman in labor. This was a crime which always drew the extreme penalty in medieval Europe. In 1521 Viethes, a Hamburg physician, was arrested for attempting to mitigate the pains of labour. By nature Viethes was generous and kind, and his patient, a frail woman, begged for relief. Her entreaties reached the heart of this good man and he complied with her request. Immediately the wheels of the law began to turn and a conviction was soon obtained for the crown. A few weeks later an unusual light shone one night over Hamburg. They were burning Dr. Viethes.

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