

Medicine in Stamps

Paracelsus (1493-1541): The Man Who Dared

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The first two thousand years of medical history began with Hippocrates in 460 B.C., and ended with the Renaissance in the 16th century. Hippocrates and Galen laid the ethical foundations for the profession, discarded curse as causation of disease, and proffered the rudiments of physiology and therapeutics. But much of what was taught – and perpetuated – was erroneous, and it was not until the Renaissance, that European period of revolutionary social, cultural, and intellectual ferment, that science-based medicine began to take root.

To bridge the transition from two millennia of doctrinaire medicine to a more open and questioning new world is to expose and repudiate deficiencies of ancient medical wisdom. At the dawn of the 16th century, a heretic with the unlikely name of Bombastus Paracelsus took on this perilous role. His single-minded courage and brash confidence shook free the shackles of medicine's rich but oft-misguided Greek heritage, and thereby earned him a place as one of medicine's greatest heroes.

The Early Years: Paracelsus was born Phillipus Aureolus Theophrastus Bombastus von Hohenheim in 1493 in Einseideln, a small town near Zurich, Switzerland. He was the son of a physician, but was a weak child afflicted with rickets. His childhood was an unhappy one. His mother, in a fit of depression, committed suicide by jumping off a bridge. At age 14, Paracelsus left home and wandered from university to university to study under famous teachers. In 1513, he came to Ferrara, Italy, where the Renaissance was in full swing. When war broke out between Germany and

France, Paracelsus interrupted his studies to join the army where he gained additional surgical and medical experience.

The Basel Fiasco: The itinerant Paracelsus treated the sick wherever he went, but he also managed to serve in various armies and work in the mines. In Salzburg, for example, he participated in the Peasant's Revolt, where he sided with the peasants. When the revolt was suppressed in 1527, Paracelsus was forced to move to Strasbourg. He was then summoned to Basel by two well-placed public figures, Erasmus, a philosopher, and Johannes Frobenius, a humanist printer. Frobenius was about to have his foot amputated, and Paracelsus was able to save the man from surgery, for which he was rewarded with the appointment as Town Physician. He had assumed this came with a professorship at the University, and therefore began lecturing to medical students and the public on his novel concepts of medicine and his quarrels with Galen.

At the time, the teachings of Galen still held sway and although postmortem dissections were allowed, the results were doctored to fit in with the anatomy that Galen taught. Imagine the shock and controversy when Paracelsus handed out the following flyer advertising his lectures: "...we will deliver it (medicine) from the gross errors. Not by following the teachings of the ancients, but by our own observations of nature... We all know too well that most doctors today make grave errors... because they anxiously cling to the words of Hippocrates, Galen, Avicenna, and others... I explain publicly for two hours every day with great assiduity and for the greatest benefit of my



audience books on practical and theoretical medicine... I have not copied out these books from Hippocrates or Galen, as others have done, but I have created them by ceaseless efforts, based on my own experience, which is the most authoritative teacher of all. And if I prove anything, it will not be by quoting the authorities, but by experiments and reasoning... I do not believe in the teachings of complexions and humours of the ancients, who erroneously use them to explain all diseases... Basel 5 June 1527."

History records Paracelsus as having thrown medical texts by Galen and Avicenna into a bonfire, and denounced them and their followers as "misbegotten crew of approved asses." His blunt words offended the citizens of Basel, and his forthrightness bred hostility among his peers at the University. Finally in 1528, after less than a year, he fled Basel following an apparent dispute over a defamation lawsuit.

His Contributions to Medicine: Underlying all of Paracelsus' teaching was a firm belief that knowledge was the result of one's observation of nature and one's experience in life. If something was unclear, then one had to devise an experiment to prove or disprove a hypothesis. He believed that "Medicine can only be learned from what which the eyes can see and the fingers touch... Practice should not be based on speculative theory; theory should be derived from practice."

For 1500 years, medicine had been grounded on Galen's humoral theory, which held that the four fundamental bodily "humours" – phlegm, blood, yellow bile, and black bile, corresponded to the four human types – phlegmatic, sanguine, choleric, and melancholic. Any imbalance in the four "humours" resulted in disease. Treatment to restore this balance consisted mainly of herbal concoctions called galenicals. Paracelsus, on the other hand, was steeped in alchemy ("It is not the task of alchemists to make gold, but to prepare medicines") and believed that the body was more like a chemical laboratory. He roundly rejected Galen's humoral theory, and attributed illness to chemical imbalances from within, to external causative agents such as epidemics, or to heredity. He advocated replacing galenicals with metallic chemicals such as lead, antimony, and mercury that had hitherto been used in random doses with toxic effects. Paracelsus used these substances in a more refined state, and in smaller, more specific dose, with the caution that, "In all things there is a poison, and there is nothing without a poison. It depends only upon the dose whether a poison is poison or not..."

Treatment of syphilis was an example of his approach. Columbus introduced the disease to Europe upon his return from the New World, and physicians employed guaiac preparations from trees found in the West Indies in the belief that "Indian" wood would treat an "Indian" disease. Paracelsus rejected this treatment, and instead recommended the use of small doses of mercury. In fact, mercury remained the chosen anti-syphilitic treatment until the 1940s, when clinical trials disproved its effectiveness, and the world ushered in the era of antibiotics.

An early pioneer in the field of mental illness, Paracelsus refuted the notion that mental disturbances were linked to demon possession. He recognised that mental illnesses can be hereditary, and that some patients were predisposed. He also understood the nature of psychosomatic disease. For such illnesses, Paracelsus said, "Therefore you should apply treatment not as in ordinary disease, but you should treat the spirit. For it is the spirit that here lies sick."

Among other important contributions was his recognition that the inhalation of silicon dust can cause silicosis. This observation probably was the result of his earlier experience working in the mines. Paracelsus also recognised the geographic variations of certain diseases, and correctly associated cretinism with endemic goiter. And he made one of the first attempts at artificial ventilation by inserting bellows into the patient's nostrils to inflate his lungs. Unfortunately, the bellows were apparently occluded with cinders, and his resuscitation failed. However, his technique led to later refinement by John Hunter, the inventor of artificial mechanical ventilation.

Paracelsus himself wrote little during his lifetime, but his adherents preserved much of his teachings. He recognised that medicine was a special calling and "the art of medicine is rooted in the heart. If your heart is false, you will also be a false physician; if your heart is just, you will also be a true physician." The unmarried Paracelsus is also credited with saying, "Four things you should avoid are strong flavoured wines, rich food, anger and women."

A Man Before His Time? The irreverent clinician of the Renaissance began one of his writings with the statement, "I am different, let this not upset you." He seemed to care little of how others viewed him, although he managed to respond in a 1537 article entitled, "Seven arguments, answering to several of the detractions of his envious critics." Among other things, he explained his discoveries,

his prescriptions, and his odd manner and scornful mien (“It is not the way in my country for men to achieve anything by spinning cocoons”).

Paracelsus would probably have been better accepted had he been less theatrical and dogmatic. He firmly believed what he taught, and the truth was not to be compromised. His almost megalomaniac character is reflected in his name, Bombastus, the likely originator of the word “bombastic.” His other name, “Paracelsus” literally means beyond, or superior to, Celsus, who was a great medical writer in first century Rome.

Arrogance, coupled with a volatile temper and penchant for not mincing his words resulted in Paracelsus outstaying his welcome at most of the places he travelled to. To this day, history is uncertain whether to judge him instrumental in heralding the age of modern medicine, or whether he was just a lot of noise. As recently as the 400th anniversary of his death, the Royal College of Medicine remained critical of the man: “It cannot be said that the abusive rantings of Paracelsus contributed to the general progress of science and medicine... For he was a rude, circuitous obscurantist, not a harbinger of light, knowledge and progress.”

But if courage is the first of all virtues, then Paracelsus was the premier virtuous Renaissance man. The 15th and 16th centuries were still firmly rooted in the teachings of Hippocrates, Galen, Avicenna and the other giants of medicine. A wind of change was coming, the Renaissance, and Paracelsus, along with thought leaders of his day – Columbus, Martin Luther, and Leonardo Da Vinci

among others, were the men who had the courage to challenge established concepts and attitudes. It is said that the human species rejects a new idea just as it rejects a foreign protein. Men of vision and courage through the ages have rarely found acceptance among their contemporaries. Instead they often faced rejection and vilification. In the world of medicine, Paracelsus ranks as one of its foremost pariahs. Vacillating between episodes of brilliance and drunkenness, he remained his entire life an unwanted wanderer without a home. On September 24, 1541, he died a pauper, from cirrhosis of the liver and nephritis. Buried in a small chapel in Salzburg, Paracelsus had managed to survive all of 48 years.

REFERENCES

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