

PARACELSUS

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IN JUNE, 1527, in Basel, Switzerland, the day before the Feast of St. John, which the students of the university were to celebrate by a large bonfire in the public square, the following notice in large letters appeared on the door of the city hall: "The famous Doctor Paracelsus, City Physician, will speak at High Noon tomorrow in the Town Square upon the New and Marvelous Light of Medicine. He will also touch upon the Ignorance, the Avarice and the Strutting Vanity of the Doctors of Basel." Exactly at noon Paracelsus appeared. He was dressed in a sweeping black silk robe trimmed with red. His hat was black and gold. He wore a long sword and carried an ebony staff. Behind him walked a page carrying two large books bound in leather. For a moment he faced the crowd in silence, then strutted up and down the platform, sweeping the flagstones with his robe, showing off his staff, his sword, and his regal stride. Then he stopped, tore off his hat and threw it savagely into the audience, slammed his sword on the pavement, broke his staff over his knee, stripped off his robe, rolled it into a crumpled ball and sent it after his hat. He advanced toward the crowd bareheaded, in a plain gray jacket, sleeves rolled up to the elbows. "Thus," he screamed in his shrill voice, "thus should a doctor appear before his patient—to cure by knowledge, not by fine clothes; by science, not by gold rings and jewels." He motioned to the page who handed him one of the books. With a furious gesture, Paracelsus tore it in two and threw it on the furnace. It blazed up in a burst of yellow flame and black smoke. "That was Galen," he shouted.

The second book followed, and a second burst of flame rose up. "That was Avicenna," shrieked the heretic doctor. "Old bloodless words. Vain mouthings of ignorance. Latin sounds meaning nothing. From these books your doctors get their Latin for diseases they know nothing about and their Greek for diseases they never heard of. Gray-bearded frauds, old wormy moth-eaten sophists, lousy pretenders with their fine clothes, their long steps, their Latin to hide their ignorance. They cling to the rich like leeches and let the poor die like flies. They make a disease out of nothing but a pain in the belly from too much eating. And when there is a real disease, they fly from it afraid for their reputations. Their cures are worse than the illness. They burn the flesh with hot irons, give black draughts which tear at the bowels. Their plasters raise blisters as thick as a hand. Then they go back to their snug studies, thumb over Hippocrates, that old Greek; and Galen, that old Roman, and count the golden coins they've stolen from your pockets."

PARACELSUS

Who was this man who made this dramatic appearance; what was he, and how, so to speak, did he get that way? Why did Robert Browning, at the age of twenty-two, write a poem about him many pages long, a poem on the general plan of Doctor Faustus, in which this tremendously successful physician, chemist and surgeon, devoted his life to the pursuit of knowledge, only to find out just before his death that he had made the fatal mistake of pursuing knowledge instead of beauty? Why does a book on the Crusaders of Chemistry give him place as one of the great contributors to that science? Why did he found a new school in medicine, the Mineralists, in contrast to the Galenists, so that after his time up to the present date apothecaries have had to be learned in the lore of both schools? Why did Ambroise Paré say that from him he had learned important principles in wound treatment, while the theosophical society publishes a biography of him which would have you to believe that his principal contribution to learning was connected with Astrology, Necromancy and the Black Arts in general? Why did his enemies picture him as a drunken vagabond, a charlatan, who rejected all the learning of the schools for his modern alchemism, mineral caustics and strong acid remedies? The answer to this may be that he had the most caustic and bitter tongue that was ever wielded by a medical controversialist. He showed up the doctors of the old school in their false colors. I have always thought that it was fitting that he should have burned the works of Galen, for Galen's works, too, are copiously interlarded with pages, nay volumes, of bitter and valueless controversial material. When we come to study Paracelsus as the product of the intellectual movements of his time, acting upon one of the most active, tireless, restless intellects that ever lived, we may find a partial answer to some of these questions, but surely a volume or two rather than a forty-minute paper would be required for any adequate answer. Europe, at the time of his birth, was in the throes of two of the greatest intellectual convulsions that have ever shaken the world, the Renaissance and the Reformation. Across the intellectual mirk and chaos of the dark ages, the light of science was beginning to gleam, first through the revival of Greek and Latin learning, which at that time was generally known through the Latin translations from the Arabic, which were in turn from the Syrian translations from the Greek. Considering the nonsense which translations, difficult at best, when made by hired scribes, without medical knowledge, must have made of them, is it any wonder that Roger Bacon had said that the works of Aristotle ought to be burned? A glance at the birth dates in the years surrounding the birth of Paracelsus will be of interest: in 1483 Luther, in 1493 Paracelsus, in 1510 Girolamo Cardano, in 1517 Erasmus and Vesalius. Machiavelli, Leonardo da Vinci, Ariosto, Rafael, Columbus, Copernicus, Thomas More, Arbroise Paré and Michelangelo were contemporaries. In the words of Stoddart: "It was all one birth, new religious expression, new thought, new science, new art. And these were only amongst the many voices of that

great human restlessness which desired what it could not formulate until they came."

Theophrastus Bombastus von Hohenheim was born at Einsiedeln, Switzerland, November 10, 1493, a date easily remembered as being one year after the discovery of America. His father was a physician of good family who married the matron of the pilgrim hospital in Einsiedeln. He was named Theophrastus after the great Greek botanist who followed Aristotle in the Peripatetic School. Bombastus, which one might think from his writings gave the name bombast to boastful writing and speaking, was a family name, formerly Bambast, and did not give the name bombast to the English language, as it has another derivation; von Hohenheim was probably the origin of the latinized name Paracelsus, by which he came to be known, so that the name was not derived from the old Latin encyclopedist, Celsus, with the meaning the second Celsus. He was a small, weak child, difficult to rear; he is said to have had a tendency to rickets. His father kept him in the open air and used to take him for long walks during which he became acquainted with the medicinal herbs in the locality. He said later in his writings: "I have to laugh when I think of the German doctors sending to Italy and across the Mediterranean to the Far East for medicinal plants, when God has given such an abundant supply right at home in Germany. The German doctors are Arabs, Greeks and Chaldeans, who prefer foreign medicines and know nothing about German medicines, prefer medicines from over seas when they have better remedies in the gardens in front of their houses." There is a story that he was castrated when he was a boy by some drunken soldiers who were billeted in his father's house; evidence has been adduced from his portraits in favor of this story. Considering the man's character and work, it is hard to believe. He was brought up in the fear of God and later wrote much on morals and religion. Probably from his father in his early youth he got his love for the study of nature, which later was to lead him so far afield during almost his entire life. Born, as has been said, in the times of the Renaissance and the Reformation, he imbibed from the one his impulses to the light of nature, to scientific induction and comparison, and from the other his religious tolerance. He probably remained always a Catholic, but what he says later about Luther is of great interest. He had been called by some of his enemies, in view of his attempted reforms in medicine, "the medical Luther," and this was his answer—"The enemies of Luther are composed to a great extent of fanatics, knaves, bigots and rogues. Why do you call me a medical Luther? You do not intend to honor me by this, because you despise Luther. I know of no other enemies of Luther than those whose kitchen prospects are interfered with by his reforms. Those whom he causes to suffer in their pockets are his enemies. I leave it to Luther to defend what he says, and I shall be responsible for what I say. Whoever is Luther's enemy deserves my contempt. That which you wish to Luther, you wish also to me, you wish us both to the fire."

PARACELSUS

In 1502 his father was appointed town physician at Villach in Karinthia. His father taught chemistry or alchemy in a school in Villach which was intended to train overseers and chemists to superintend and instruct the miners in the nearby lead mines at Bleiberg, and to analyze the metals and ores. He had a laboratory in his house. Here were laid the foundations of that knowledge of chemistry of which he made so much use that he was called the founder of the mineral therapy, as distinguished from the old Galenic, or vegetable, therapy.

He studied the occult arts with his father. Without such knowledge it was thought at that time that no one could become a physician, for positive science as such was unknown. In 1510 he was in Basel in a school which may be called perhaps a high school, which was in the hands of the scholiasts and pedants of the time. Disgusted with the barren lore of the schools, he went to Würzburg to gain instruction from the Abbot Trithemius, who had a great reputation for occult research. Trithemius believed in magnetism and telepathy. He was able to read the thoughts of others at a distance. He used a cryptic jargon in which he interpreted portions of the Bible and of cabalistic writings. He insisted upon reverent study of the scriptures, as did his pupil. These studies from Trithemius were probably what lead him to adopt the various cabalistic terms which have made his writings so difficult, nay sometimes impossible, to interpret. He believed in magic, he believed that if a wax image of an enemy were made and buried under stones, the enemy would be covered with bruises even as the wax image was, and that if you hung a picture of a thief who had stolen something on your wall and stuck a sword through it, the thief would be wounded in the same place. But he objected to necromancy and all magic designed to injure others, and never practiced it. He practiced magic only for the benefit of others, and especially for their healing under the direction of God.

He said regarding Alchemy: "Alchemy is to make neither gold nor silver; its use is to make the supreme essences and to direct them against diseases." All the same he did believe one metal could be transformed into another, at least if I read his writings correctly. He always had a laboratory, whenever in his wandering life he ever stayed for any length of time, and worked hard in it. A certain pupil named Oporinus followed him for many years in the hope of learning the secret of producing gold, which he (the pupil) thought he had. He was finally found to be unfaithful and was dismissed.

At the age of about twenty-two he worked in the silver mines and laboratories of the Fugers in Schwatz in the Tyrol. Paracelsus studied the mines and their veins of precious ore and worked hard in the laboratories among the chemists. Many of the analyses belonged to occult experiment, and the influence of the stars was frequently sought, with the observance of days and hours and cryptic measurements and weights. Paracelsus himself soon gave up "gold cooking," as he called it, for the study of the various metals and their salts. In his first book, the *Archidoxa*, which was

not published until seventy years after his death, he gave some of the results of his chemical investigations, including chapters on "The Mysteries of the Microcosm, The Mysteries of the Fifth Essence, (Quinta Essentia); The Mysteries of Extractions of Specifics; On Renovation and Restoration, *etc.*" He adopted as the elements the water, fire, earth and air of the old philosophy. He was the discoverer of zinc-oxide ointment. In fact, if not the discoverer of zinc, he was the first to use the word in literature. Of zinc and its compounds he gave a very good description. He introduced preparations of iron antimony, mercury and lead into pharmacology. He investigated amalgams of other metals with mercury, the uses of alum, and the gases arising from solutions and calcination. He considered the three basic principles necessary to all bodies to be sulphur, mercury and salt in his cipher terminology—sulphur standing for fire, mercury for water, salt for earth, otherwise for inflammability fluidity and solidity. Air he left out, considering it a product of fire and water. He adopted the platonic theory of the Macrocosmos and Microcosmos by which the body of man became an embodiment in little of the universe, and carried it to such ridiculous length as to give to the wind in the intestines in the various kinds of colic the same names as the winds of heaven, Boreas, Eurus, Auster and Notus. When they got blowing against each other or the wrong way, we had a belly ache.

Other results of his experimental research were the chloride and sulphate of mercury, calomel, flowers of sulphur, and many distillations. He guarded the use of all medicines in later treatises by earnest counsel to physicians to know well the diseases for which they were administered. "For," he said, "every experiment with medicine is like employing a weapon which must be used according to its kind: as a spear to thrust, a club to fell, so also each experiment. And as a club will not thrust and a spear will not fell, neither can a medicine be used otherwise than for its own disease. Therefore it is of the highest importance to know each thoroughly and its powers. To use experimental medicines requires an experienced man who discerns between the thrust and the blow, that is to say who has tried and mastered the nature of each kind.—The Physician must be exactly acquainted with the illness before he can know with what medicine to conquer it. A wood-carver must use many kinds of tools in order to work out his art. So, as the physician's work is also an art, he must be well practised in the means which he employs."

In his book called "The Book of the Three Principles" (Salt, Sulphur and Mercury), he says that, reduced to their lowest terms, there are only three diseases and three remedies, therefore why the endless nonsense about Avicenna, Mesne and Galen. Diseases should be called by the names of their cure, leprosy, gold disease, being cured by gold, and epilepsy, vitriol disease, because it is cured by vitriol.

After ten months' hard work at Schwatz he left Villach on his travels. He decided that his university experience was as barren of results as if he were in a garden where the trees were all stumps, and that he would trans-

PARACELSUS

plant himself into another garden, where the trees grew tall and bore all manner of fruits. "A doctor must be a traveller," said Paracelsus, "because he must inquire of the world. Experiment is not sufficient. Experience must verify what can be accepted or not accepted. Knowledge is experience."

In spite of his displeasure with universities, he went first to Vienna, then to Cologne, and then to Paris and Montpellier, then to Italy to Bologna, Padua, and Ferrara; then to Spain and Granada, and Lisbon; then to England, where, we are told, he visited Oxford, and also the lead mines in Cumberland and the tin mines in Cornwall. In England he heard of the fighting in the Low Countries. He went there and secured a place as barber surgeon to the Dutch Army. As he had found in the book of nature his authority in scientific research, he made use of the wounded for his study of surgery. "The sick should be the doctor's books," said he, as Hippocrates had said before him. He found in war his opportunity for enlarging his knowledge of wound surgery, as did his successor Ambroise Paré, and we shall see how often he found employment as an army surgeon during his years of travel. Probably during this service he picked up the long sword which was painted in all his later portraits, and in the handle of which he is supposed to have carried a supply of "labdanum," which was probably his term for laudanum.

In 1518 he took service with King Christian of Denmark in his war against the Swedes. He worked among the wounded of both sides. He took note of the methods of treatment practiced by the soldiers, and the medicines administered by the country people to their wounded. Of course he visited the mines in Sweden, as he later did in all the countries where his travels took him. Later he wrote a book on the Diseases of Miners. Then he travelled on horseback through Brandenburg to Prussia; then to Bohemia, Moravia, Lithuania and Poland; then to Wallachia, Transsylvania, Carniola, Croatia, Dalmatia and along the coast to Fiume. He travelled on hired horses, joined trains of merchants on their way to market, travelled with pilgrims, friars, gypsies and vagabonds. His reputation went with him, and he was called to the houses of the wealthy to practice his profession. He collected enough to pay his travelling expenses, which were not much. He picked up all the information he could as he went on from soothsayers, wise women barbers—anybody who practiced cures of any sort.

In the fourth Book of Defences he says:

"The universities do not teach all things, so a doctor must seek out old wives, gypsies, sorcerers, wandering tribes, old robbers, and such outlaws, and take lessons from them. We must seek ourselves, travel through the countries, and experience much, and when we have experienced all sorts of things, we must hold fast that which is good."

Again, in the Fourth Defence he reiterates:

"My travels have developed me: no man becomes a master at home, nor finds his teacher behind the stove. For knowledge is not all locked up, but

is distributed throughout the whole world. It must be sought for and captured wherever it is.

“Sicknesses wander here and there the whole length of the world, and do not remain in one place. If a man wishes to understand them, he must wander too. Does not travel give more understanding than sitting behind the stove? A doctor must be an alchemist. He must therefore see the mother-earth where the minerals grow, and as the mountains won't come to him he must go to the mountains. How can an alchemist get to the working of nature unless he seeks it where the minerals lie? Is it a reproach that I have sought the minerals and found their mind and heart and kept the knowledge of them fast, so as to know how to separate the clean from the ore, to do which I have come through many hardships?

“Why did the Queen of Sheba come from the ends of the earth to hear the wisdom of Solomon? Because wisdom is a gift of God, which He gives in such a manner that men must seek it. It is true that those who do not seek it have more wealth than those who do. The doctors who sit by the stove wear chains and silk, those who travel can barely afford a smock. Those who sit by the stove eat partridges and those who follow after knowledge eat milk-soup. Although they have nothing, they know that as Juvenal says: ‘He only travels happily who has nothing.’ I think it is to my praise and not to my shame that I have accomplished my travelling at little cost. And I testify that this is true concerning Nature: whoever wishes to know her must tread her books on their feet. Writing is understood by its letters, Nature by land after land, for every land is a book. Such is the Codex Naturæ and so must a man turn over her pages.”

From France he took ship for Venice, where he spent some time as army surgeon to the Venetians who were engaged in a war with Charles V. One of their wars was for the defence of the Island of Rhodes against Suleiman II, the Magnificent. He mentions a disease which he found among “Saracens, Turks, Tartars, Germans and Wallachians.” Here he made observations on arrow wounds, the bow and arrow being used no longer in western wars.

He then visited the Tartars in the Balkan Peninsula and Southern Russia, and went as far north as Moscow. Here among the herds of cattle he learned about the treatment of horses, cattle, sheep and goats. He journeyed from Moscow to Constantinople with a Tartar prince. He learned from Saracens and Turks the lore of their saints and from Jewish physicians and astrologers the secrets of their dread Kabbala.

From Constantinople he returned to Venice in 1522, and again took service with the Venetians in the war between the Emperor Charles V and Francis I, King of France, for the possession of Naples. Wherever he went he practiced his new medicine and surgery, reviled and abused the physicians of the old school, is said to have successfully treated many patients given up by his colleagues, at least he says he did. He remarks: “I pleased no one except the sick whom I healed.”

PARACELSUS

After his army service he settled in Tübingen to practice as a physician, but soon had to leave on account of the opposition of the regular profession. While he was at Würtemberg he visited a number of mineral springs, including Nieder Baden, now Baden-Baden. Later he wrote a copious treatise on mineral springs, medical baths, *etc.* He tried practice in Freiburg for a while, and then went to Strassburg, where he purchased a citizenship and settled down.

From Strassburg in 1525 he was sent for to come to Basel to attend the famous publisher Johann Froben who had as his guest the distinguished Dutch humanist, Erasmus, who lived there as Froben's guest eight years. Paracelsus cured Froben of an old injury of the foot for which amputation had been suggested. He became a friend of Erasmus and treated him by letter for gout and kidney trouble; two most interesting letters, one from Paracelsus to Erasmus, and the other, his reply, are preserved.

Through the influence of Oecolampadius and Froben, Paracelsus was appointed town physician at Basel, which included a lectureship in Medicine in the University and the superintendence of the town apothecaries. He lectured in German, a grave offence to the old school, and is said to have been the first university lecturer to speak in the vernacular. What was worse, he invited not only medical students, but barbers, bath-men, tradesmen and all the citizens to attend his lectures. He offered his own experience and his own experiments in the place of comments on the Galenic lore. He thought little of the gorgeously attired Basel doctors and praised the simplicity of dress which he noticed among the doctors of Spain. He tried to reform the city apothecaries, who were both careless and extortionate, and made up his own medicines. He used his tincture of opium, which he called labdanum, and his mineral remedies. These circumstances are what led up to the scene described at the beginning of this paper. One can imagine how all these things endeared him to the physicians of Basel. He gave demonstrations as well as lectures. He lectured at Basel on the Degrees and Components of Recipes, on Natural Substances, Diagnosis by the Pulse and Face, Disease Arising out of Acidity, Diseases of the Skin, Open Wounds and Ulcers, Surgical Lectures on Wounds Received in War, on Pharmacy, on Blood-letting, on the Preparation of Medicines, and many other subjects.

"I wish you to learn," he would urge, "so that if your neighbor requires your help, you will know how to give it, not to stop up your nose, like the scribe, the priest, and the Levite, from whom there was no help to be got, but to be like the good Samaritan, who was the man experienced in nature, with whom lay knowledge and help. There is no one from whom greater love is sought than from the doctor."

In a lecture on the doctor's own character, he said:

"1. He shall not consider himself competent to cure in all cases.

"2. He shall study daily and learn experience from others.

"3. He shall treat each case with assured knowledge and shall not desert nor give it up.

"4. He shall at all times be temperate, serious, chaste, living rightly, and not a boaster.

"5. He shall consider the necessity of the sick rather than his own: his art rather than his fee.

"6. He shall take all the precautions which experience and knowledge suggest not to be attacked by illness.

"7. He shall not keep a house of ill fame, nor be an executioner nor be an apostate, nor belong to the priestcraft in any form."

The enmity toward him of the regular profession grew worse and worse. Doctors, apothecaries, barbers and bath-men banded together against him. They called him a "Luther in Medicine," a "liar," a "fool," a "suborner," a "necromancer," and other equally uncomplimentary epithets. He replied as follows: "The doctors take more trouble to screen their movements than to maintain what concerns the sick, and the apothecaries cheat the people with their exorbitant prices and demand a gulden for messes not worth a penny."

He accepted an invitation in Zürich where his students there gave a banquet in the course of which he addressed them as "combibones optimi," and they in return addressed him as "our own Theophrastus." Such apparently was the sole foundation for the charge of habitual drunkenness which was made upon him by his medical colleagues, and was so emphasized and insisted upon that it has lasted to this day.

Troubles accumulated for him in Basel. His friend and patient Frobenius died. He was threatened with assassination. They published a lampoon in excellent Latin entitled: "The Shade of Galen against Theophrastus, or rather Cacophrastus." It purported to be a letter from Galen postmarked "Hades"; a spiteful and scurrilous fabrication it has been called. It was nailed to the door of the cathedral, where all might see it. Stirred to the depths, he made an indignant appeal to the Town Council. He kept quiet in public, but in private invented nicknames for his foes, among the mildest of which were "Doctor Blockhead" for the doctors, and "scullery-cooks" for the apothecaries.

He treated at this time a wealthy canon of the cathedral, Leichtenfels by name, who had offered a hundred gulden to any one who should cure him, and only sent for the so-called heretic after the failure of many others. Hohenheim got him over his pain and sleeplessness, but he refused to pay more than six gulden. Hohenheim sued for his fee and lost his case. He was to be outlawed and exiled to an island in Lake Lucerne. His friends warned him, and he fled, never to return to Basel. Here is part of what he wrote afterward about these colleagues who had treated him so basely in the preface to his book "Paramirum": "I am not afraid of them, but I am afraid of the discredit which they will thrust upon me and of the out-of-date Law, Custom, and Order which they calle Jurisprudence."

He went to Alsace and to Colmar, where he visited in the house of Dr. Lorenz Fries, who, though a Galenist, was broadminded enough to be-

PARACELSUS

friend him, who appreciated his good qualities, and who believed that the teaching at the universities should be carried on in German instead of Latin.

At Colmar, Paracelsus sent for his pupil Oporinus to come from Basel with his luggage, and proceeded to hire a lodging and set up a laboratory in the cellar. He also treated many sick who resorted to him and made friends among the learned men of the better class. The two best friends Paracelsus made in Colmar, Hieronymus Boner and Konrad Wickram, were devout Catholics, and though Paracelsus sympathized in many points with the reformers, he never left the Catholic church. He wrote several books in Colmar, one dedicated to Boner, dealing with French Malady, Paralysis, Boils, Perforations and the like, and also a part of his great work on surgery, the "Chirurgia Magna."

It seems ridiculous to ascribe the sin of habitual drunkenness to a man who worked so hard and wrote so much.

He was now barely thirty-five years of age, but as a result of his hard work, travels and persecution, looked nearer fifty. Oporinus was his secretary and chemical assistant, but was disloyal to him and had really followed him in order to worm out of him the supposed secret of the transmutation of metals into gold.

From Colmar he went to Esslingen in Switzerland. Here also he fitted up a laboratory in a cellar. He did not remain long there. In 1529 he was in St. Gallen, where his friend, Bartholomew Schobinger, a man of intelligence and means, fitted him up a laboratory at Castle Horn. Late in 1529 he travelled through the mountains to Franconia and Nüremburg. He carried with him his "Prognostications" and his completed work on the "French Malady," of which he recognized the contagious quality. He discussed the differences between the primary lesion in the male and female, recognized contagion apart from coitus, and distinguished between syphilitic and what he called surgical lesions by the effectiveness or failure of mercurial treatment.

No book could be published in Nüremburg without passing the Censor (familiar sound). He got these books by the Censor, but while he was in the country at a place called Beratzhausen, waiting for their publication, he got word that no more books by him could be published there. This was due to the fact that the Medical Faculty at Leipzig had taken cognizance of his abuse of their class and requested the Council of Nüremberg to publish no more books by Theophrastus. They naturally did not like being called "imposters." As Stoddart says: "another stroke from 'Galen in Hell.'"

He worked in Beratzhausen for seven or eight months on the Paramirum. Here he travelled for miles to visit an important patient, made his diagnosis, and was proceeding successfully with the treatment when the patient's brother-in-law, a Doctor Bürtzli, broke into his room, stole his medicines, and announced that he would carry on the cure himself. From Beratzhausen he set out on his travels again.

In 1531 he was again at St. Gallen. He lived at the house of the

Burgomaster Christian Studer, who had put himself under his treatment, and continued his work called the "Opus Paramirum." Leaving St. Gallen at the end of 1531, he wandered about for many years. At St. Gallen he completed the four books of the Paramirum. This remarkable book deals with the Five Entia or causes of disease: I. The "Ens Astrale" is the action not so much of the stars as of the climate, the sun and moon, and the weather in general, as influencing the health. II. The "Ens Veneni" diseases coming from the poisons arising from the excreted portions of food and drink. (By the way, we have an "alchemist" in the stomach whose duty is to separate the poisons which are to be excreted from the portions of food which are to be absorbed. If he is not on duty, the "Ens Veneni" gets us.) III. The "Ens Naturale," diseases arising from Nature, including the natural humors, of which there are many more than the four of Hippocrates and Galen. IV. The "Ens Spirituale," diseases which come from the spirits of men. The spirits have hand-to-hand conflicts, so to speak, outside the bodies of their possessors, and the winning spirit can inflict all sort of trouble on the body possessing the loser. "He is a fool who denies the power of the mind over the body," says our author. Last, there is the "Ens Dei," a class of diseases produced by the direct influence of God in his infinite wisdom. A most interesting treatise. In this book, superstition, religious reverence, and occult learning struggle with exact observation, experiment and common sense; now one wins, now the other. All his works that I have attempted repay reading in the original. The old German is not too hard, the periphrastic and picturesque style, and the evident downright earnestness of the man come out much better in the original than in the translation, even if at times one realizes that one does not get all of his meaning.

It seems that the physician must know all about these entia, because a disease which comes from one ens may seem to come from another, and the right treatment can only be given if we recognize the causal ens, for the ens spirituale, something like the Coué treatment or Christian Science, might be the right thing.

Some people think (Stoddart) that Hohenheim had a prevision of the decomposition of light by the prism, but from the passages quoted, that seems to me rather doubtful.

The "Opus Paramirum" closes with a second address to Joachim von Watt, echoing Hohenheim's bitter cry: "Who hath believed my report? Strange, new, amazing, unheard of, they say are my physics, my meteorics, my theory, my practice. And how should I be otherwise than strange to men who have never wandered in the sun? I am not afraid of the Aristotelian crowd, nor of the Ptolemaic, nor that of Avicenna; but I fear the insults ever thrown in my way and the untimely judgment, custom, order, which they call jurisprudence. Unto whom the gift is given he receives it: who is not called I need not call. But may God be with us our Defender and our Shield, to all eternity. Vale."

After finishing the Paramirum, Hohenheim lived for some years in

PARACELSUS

Switzerland, notably in Appenzel. Here he was busy ministering to the sick poor, in whose spiritual as well as corporeal needs he became so interested that he as well as those to whom he showed hospitality were persecuted by the priests. He was reduced to poverty and in 1534 fled in utter want to Innsbrück, where he returned to the profession of medicine. The burgomaster would not give him permission to practice because of his ragged appearance. He took the road again, this time by the Brenner Pass to Stertzing, where the Plague had broken out. He wrote a book on the Plague, which he had encountered previously in his travels. He made enough from his profession while there to purchase clothes, food and lodging. From there he went to Meran. About this time his father died, but he did not learn of it for four years during which time he was continually travelling. He then went mountaineering and ended up at St. Moritz, where he analyzed the water of the famous spring, an account of whose qualities he published in his book on natural waters.

In September, 1535, he left the monastery of Pfäfers, where he had been visiting and analyzing the waters, and took the mountain road toward Württemberg. In 1535 he had finished the most important of his works, "The Greater Surgery." The preface to the first volume follows:

"Concerning The Geater Surgery, the first volume, by the instructed and attested doctor in both medicines, Paracelsus: Of all wounds by stabbing, shooting, burning, biting, bonebreaking, and all that surgery includes, with the cure and understanding of all accidents present or to come, pointed out without errors. Concerning the discoveries of both the old and the new science, nothing omitted.

"Concerning The Greater Surgery, the second volume, by the instructed and attested doctor of both medicines, Paracelsus: Of sores and hurts, their cause and cure, according to proved experience without error and further experiment." In this work there is a most interesting discussion on the suture of wounds. He says any wound, no matter to what tissue, muscle, tendon or blood-vessel, will heal well if left open without sutures and properly protected. If one puts in sutures, the wound becomes inflamed and you have to take them out in a short time, leaving the wound worse than it was before, and you have more than wasted your time and the patient's. "My opponents tell me that the suture of wounds came down to us from the days of antiquity, but I answer them that there were fools in ancient days, just as there are now."

This was published in Augsburg. Before the close of the sixteenth century, nineteen editions of this had been published in German, Dutch, French and Latin. It was from a Latin edition that Ambroise Paré learned Hohenheim's treatment of wounds received in battle. He was detained in Augsburg on matters connected with the publication of his book till 1537. During these years he treated several distinguished patients and became more prosperous, but he was always writing, and wrote among many other books his "Defensionis" and "Labyrinthus Medicorum Errantium." He went

to Vienna, where he was entertained at a banquet in his honor by the City Recorder, Blasius Beham. In Vienna he again incurred the enmity of the physicians to such an extent that no one would receive his manuscripts for publication.

In 1537 he returned to Villach, received the inheritance left him by his father, and accepted a temporary position as metallurgist of the Fuggers. He studied the mineral resources of the Carinthian Mountains and wrote another book about it. Meantime, he had written a book on Stone, Gravel, Chiragra and Pellagra, which he calls the Tartaric Diseases. He tells his patients that if they will follow his treatment. They will avoid "the bloody and uncertain hands of the cutter for stone." This was not published till twenty-two years after his death. He practiced at St. Veit, and there treated the physician to the King of Poland, Albert Basa. His professional foes again bothered him, and once filled the courtyard of the church in order to insult and hustle him as he passed in and out. He travelled for two years longer. Worn out by constant labor and travel, he became ill of some insidious disease; both poisoning and violence were suggested, but not proved.

Sensing the approach of his death he hired a room in an inn in Salzburg and made his will. He left all his medical books, implements and medicines, with the exception of some small money bequests, "to his heirs, the poor, miserable, needy people, those who have neither money nor provision, without favour or disfavour; poverty and want are the only qualifications."

He was buried in the churchyard in the burial place of the poor. He was engaged in religious writings during the last days before his death. Fifty years later his body was removed to a new resting place against the wall of St. Sebastian's Church. This is the inscription on his grave: "Here lies buried Philip Theophrastus, the famous doctor of medicine, who cured wounds, leprosy, gout, dropsy and other incurable maladies of the body with wonderful knowledge, and gave his goods to be divided and distributed to the poor. In the year 1541 on the 24th day of September he exchanged life for death."

Within the forty-eight years of his turbulent life were crowded enough laboratory work, experiment, study, travel, practice and trouble to make a dozen ordinary lives. He loved his God, loved the poor and loved his profession. His superstition, credulity and turbulent spirit were a part of his time. He had much to arouse his just indignation. He believed, however, from the beginning to the end, in observation and experiment and the study of nature and disease as the basis of practice. For these principles he worked, fought and wrote with irrepressible zeal. Many of his contributions to medicine have been mentioned above. He has been called the father of homeopathy, and of many other things. He was surely the first to insist upon the importance of travel and observation in many parts of the world for the equipment of the physician and surgeon. In this sense he may be considered the father of all the societies for medical pilgrimage which have done so much for their members in our time. Many have not yet learned

PARACELSUS

that lesson from him even up to the present. When we travel in our visits to medical clinics in various parts of the world, let us think of Paracelsus in his ragged cloak, on his hired horse, going from country to country and epidemic to epidemic, studying the book of nature, whose pages are mountains, towns and rivers. We have to go over these pages on our own feet, studying, "with our eyes on the ground like a modest maiden," to use his own words, what is written thereon.

The writer wishes to acknowledge his indebtedness in particular to the writings of Stoddart, Stillman, Sudhoff and the others given in the references which follow. He regrets that the necessary short limits of the paper have prevented a careful estimate of the contributions of our author to Medicine and Chemistry. Perhaps the most judicial account of his life and work is that given by John Maxon Stillman, Professor of Chemistry in Columbia College, New York, in the work cited below.

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