

# The Tragic Fate of Ignaz Philipp Semmelweis

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IT IS GENERALLY BELIEVED that the mental breakdown of Ignaz Philipp Semmelweis was due to continuous emotional strain and frustration during his long struggle for recognition of the fundamental discovery he had made. A study of his disease history and of the autopsy report from Rokitansky's Institute of Pathology at the University of Vienna, however, makes a revision of this scientifically questionable belief necessary.

The scientific achievements of the "conqueror of childbed fever" are well known. Semmelweis probably was the first to use a statistical method to prove his point, and he drew the practical conclusions of his concept energetically and successfully. The mortality of childbed fever in some large lying-in hospitals of Vienna and the rest of the world had been sometimes as high as 18 per cent. By the use of preventive measures recommended by Semmelweis, the rate was reduced to 2 per cent and sometimes less. This was long before the actual offender, the *Streptococcus*, was discovered by Louis Pasteur.

It is likewise known how many difficulties Semmelweis encountered, how many barriers he had to break and what strong resistance to overcome in order to be recognized as savior of thousands of mothers-to-be—the recognition that came long after his death. The reactionary, ultraconservative trend of the Austrian government under Metternich changed only slightly after the revolution and Metternich's downfall in 1848, and its influence on the medical faculty of the University of Vienna remained stronger than the liberal and enlightened "stars" of contemporary medicine in Vienna: Karl von Rokitansky, the pathologist; Joseph Skoda, the internist, and Ferdinand von Hebra, the father of dermatology as a specialty. They were friends and enthusiastic supporters of Semmelweis.

Johann Klein, however (the professor of obstetrics who had been declared by Boer, his teacher and predecessor, to be the poorest candidate for this job) had a more powerful influence on the ministry of education. And he antagonized his brilliant assistant, Semmelweis, whenever and however he could. Klein was a conservative authoritar-

ian bureaucrat, opposed to anything new, adherent to tradition and trammled in red tape. Also opposed to Semmelweis' teaching, at least at first, were Virchow, Scanzoni, Sir James Simpson, the leading obstetricians of Paris and Prague, and many of the Germans. They all were internationally respected authorities at that time. Resisting the urgings of his friends, Semmelweis waited far too long to write his book, *The Etiology, Concept, and Prophylaxis of Puerperal Fever*, which was published in 1861. He had always disliked public appearance, lectures and publications of his work. His friends, von Hebra as editor of the Vienna medical weekly, and Markusovszky of *Orvos Hetilap* in Budapest, had done these things in his stead several times.

The reviews of his book when at last it came were generally unfavorable. In Vienna's University Lying-in Hospital the mortality of puerperal fever had risen to an unprecedented high. In the autumn of 1860 35 out of 100 women had died of it. Semmelweis, who had by that time taken a professorship in Budapest had not even been considered as Klein's successor upon the death of the latter in 1856. One of his adversaries, Karl Braun, had been appointed to the coveted professorship of obstetrics in Vienna.

Semmelweis could not get rid of the compulsive idea that countless women and babies could have been saved if his doctrine had been accepted. He became preoccupied with resentment and aggressive tendencies, was gloomy, depressed and even suspicious of his friends. He was irascible and his behavior erratic. In "open letters" to professors of obstetrics who ignored his teaching, he accused them of murder and inexcusable irresponsibility.

The numerous biographers of Semmelweis concur in the opinion that the tragic life experience of this remarkable man destroyed his mind and made him a "martyr to the world's stupidity." One of Semmelweis' followers, citing the legend that Pythagoras had sacrificed a hecatomb of oxen when he discovered his theorem, noted with some bitterness that ever since that time oxen are instinctively frightened when a new truth has been discovered. The American biographer Frank G. Slaughter, writing in 1950, summarized the current concept of Semmelweis' mental breakdown as follows: "But the long years of controversy, the bitter disappointments he had suffered, the memory of the women he had

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seen die, first because he could not discover the cause of their dying, and later because others could not understand the simple principles he evolved to prevent their dying—all these things were burdens which would have broken down the barriers of a sanity greater than his. His ordinary tendency to moodiness became accentuated. There were days when he hardly spoke to his colleagues, lecturing in an almost unintelligible monotone to the students, and breaking out every now and then into a passionate harangue for no apparent reason."

Tormenting though Semmelweis' experiences must have been to him, were they enough to cause his insanity which brought him to the end of life in the lunatic asylum of Vienna? Several obstetricians before him had found the same preventive remedy for puerperal fever. In 1795 Alexander Gordon of Aberdeen recognizing the "epidemic" character of puerperal fever, recommended the burning of the bedclothes and apparel of infected persons and insisted on thorough washing of doctors' and nurses' hands and fumigation of their apparel. Robert Collins, chief of the famous Rotunda Hospital in Dublin, fought the raging childbed fever in 1829 by filling all the wards of Rotunda with nascent chlorine gas for 48 hours. Walls and floors were wiped with chloride of lime. Blankets and linen were exposed to dry heat in a stove at 120 to 130° F. He achieved a full success. In the United States it was Oliver Wendell Holmes who wrote an article on "The Contagiousness of Puerperal Fever" in 1843. He recognized the danger of transmission of the "miasma" by those physicians who had performed postmortem examinations before working in the delivery room and emphasized the importance of the preventive measures taken by Collins in Dublin. He brought upon himself a storm of abuse from American obstetricians and his observations were not accepted in his own country.

These men, too, must have been greatly disappointed and frustrated in their endeavors. Yet they did not break down. The unhealthy influence of politics in Austria upon the affairs of medical science and its vessel, the University of Vienna, did not stop after Semmelweis. Nor did the egotism and envy of some influential professors. And as to world stupidity, certainly it has its votaries still.

What, then, brought about the insanity of Semmelweis? How did his mental disease progress after 1864 when his strange personality changes had become obvious? He became increasingly restless and distracted, visited his private patients in Budapest only at night, and one day as a guest at the house of his friend Markusovszky, suddenly became abusive and thundered countless accusations at his faithful adherent. His less loyal friends watched the show with sarcastic smiles while Markusovszky pa-

tiently endured the attack in silence. At a faculty meeting in Budapest in 1865 the agenda was the selection of an assistant in the obstetrical department of Semmelweis. Semmelweis stood up and, instead of speaking about the candidates, he read from a piece of paper the whole oath which midwives had to recite when sworn in. Several similar episodes made it clear that Semmelweis was insane and needed psychiatric help.

Members of his family, upon conferring with Dr. Markusovszky and Dr. Hirschler, decided to transport the patient to Vienna and to place him under the care of the famous psychiatrist Dr. Riedel. In Vienna Semmelweis was met at the station by his old friend von Hebra, who took him first to his home, then suggested a visit to the new sanatorium, and they drove on. There the patient was engaged in a talk with the psychiatrist so that Hebra and Dr. Bathory, Semmelweis' assistant who accompanied his chief to Vienna, could depart unnoticed. Semmelweis tried to leave, saying that he had to see his patients. When he was forcibly restrained he struggled so violently that it took six attendants to put him into a straitjacket and then into a dark room. This happened in July 1865. Dr. Riedel did not permit Mrs. Semmelweis to see her husband and she had to return home heartbroken.

At the sanatorium an infected wound on one of Semmelweis' fingers was ascribed to an injury received in a gynecological operation, although one may surmise that it could have been incurred in the fight with the attendants. The wound became gangrenous, multiple abscesses developed and Semmelweis died on the 13th of August 1865, of pyemia, the disease that had killed thousands upon thousands of women and infants in the postpartum and neonatal period. His body was taken to the Pathological Institute of the University where two of Rokitsky's assistants performed an autopsy.

We shall see that the findings at autopsy supported a clinical diagnosis which we can make today but that could not have been made in 1865 because the nature of this disease was then unknown.

The behavior of Semmelweis in the last years and months cannot be attributed to simple depressions, to melancholy or to the persecution complex of a paranoiac. There is ample evidence of progressive deterioration of his intellect—that is, of dementia. We can hardly assume that arteriosclerotic disintegration of the brain could have brought about so rapid a breakdown of a man of 47 years. It must have been general paresis of the insane that had destroyed his mind. This conjecture is given some support in the facts that Semmelweis did not marry until the relatively advanced age of 38, and his first two children (the first of whom had hydrocephalus) died early.

A complete authentic copy of the autopsy report from the Pathological Institute of the University of Vienna has been published by the surgeon Schönbauer in his book *Das medizinische Wien*.

The clinical diagnosis was "Gehirnlähmung" (paralysis of the brain). The pathological-anatomic diagnosis summarized in Latin, as was customary in Vienna, may be translated as follows: "Hyperemia of the meninges and brain. Grey degeneration of the spinal cord. Gangrene of the middle finger of the right hand. Metastatic abscesses on the metacarpus of the left index finger and on the right lower extremity; furthermore on the left chest perforating through the third intercostal muscle into the costal pleura. Multiple abscesses in the left kidney. Putrid stench of all the large abscesses."

The death from pyemia is therefore obvious. It is unnecessary to quote the very detailed description of these findings. I quote only those passages of the long report pertaining to the condition of the central nervous system:

The pupils were narrow, the dura adherent to the skull, the meninges hyperemic with serous infiltration along the dilated and tortuous blood vessels, partially adherent to the cerebral cortex. The frontal gyri were narrowed. The spinal cord was moist, its surface protruding from the cross-section and the posterior tracts showing greyish stripes, especially in the cervical region, up to the grey substance.

These findings are consistent with the clinical impression of general paralysis of the insane with tabes dorsalis. A microscopic examination of the brain was not done.

Full recognition of Semmelweis' brilliant work came but 14 years after his death. In a discussion on puerperal fever at the Académie des Sciences in Paris in 1879 a speaker elaborated on the causes of epidemics in lying-in hospitals. Louis Pasteur interrupted him: "None of those things cause the epidemic; it is the nursing and medical staff who carry the microbe from an infected woman to a healthy one." And when the speaker replied that he feared the microbe would never be found, Pasteur went to the blackboard and drew a diagram of the chain-like organism, saying, "There: This is what it looks like."

The fact that Semmelweis' mind succumbed to the consequences of an old infection with *Spirochaeta pallida* (discovered years later by Schaudinn, and still later in the brain by Noguchi) does not detract from the memorial honors due the man who first proved the nature and the way to successful prevention of puerperal fever.

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