

IGNAZ PHILIP SEMMELWEISS.

A BIOGRAPHICAL SKETCH.

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WHERE did he pick up this name? Doubtless many well-read physicians will ask this question, though I am sure that they will be, one and all, firm believers in the facts first brought to light and established by the man whose name excites their wonder.

Sometimes an invention is greater than the inventor, the

one being lauded, the other forgotten ; or, not even forgotten, his name having never been mentioned. So it happened to **IGNAZ PHILIP SEMMELWEISS**, the first to discover and the first to demonstrate a thing so simple that one is inclined to say, That was nothing ; that is too clear. Yet centuries passed, and thousands died before Semmelweiss showed that puerperal fever was a septic disease, that the prime etiological factor was decomposing organic matter introduced into the circulation ; that obstetricians and surgeons carried the poison on their persons, their clothes, their instruments, and that disinfection was the great preventive.

Semmelweiss' name has been mentioned here and there in the text-books on midwifery, but his life, his merit, and his unhappy fate have not been known as they deserved.

Hegar, in a paper entitled "*Ignaz Philip Semmelweiss, his life and doctrine,*"¹ pays him a noble literary tribute. He states in the clearest and most thorough way, going back to the very sources of history, that the priority of all our modern views on infection is due to Semmelweiss and to obstetrics. It was high time for obstetrics to prove its right to the honor of this priority ; for surgery, marching at the head of our profession, and always inclined to look down on obstetrics, claimed that glory for its own ranks.

In the whole of the recent series of discussions on puerperal fever, inaugurated by that at the New York Academy of Medicine, Dec. 6th, 1883, the name of Semmelweiss is mentioned only in the carefully elaborated annual address, delivered in Chicago by Dr. A. H. Smith, President of the American Gynecological Society, at the last meeting of that association.

To make his name known among the countrymen of Marion Sims as his merits deserve is the reason and aim of this paper. To get a clear and comprehensive history we must consider, as does his biographer Hegar, the man, his work, and his fate as one ; we must follow him through his life in connection with the development of his doctrine and its relations to his tragic end.

Ignaz Philip Semmelweiss, born in the year 1818, at Ofen,

¹ "*Ignaz Philip Semmelweiss. Sein Leben und seine Lehre.*" *Zugleich ein Beitrag zur Lehre der fieberhaften Wundkrankheiten*, von Alfred Hegar. Mit einer Abbildung in Lichtdruck. Freiburg, 1882.

² *AM. JOURNAL OF OBST.*, 1884, p. 1,075, ff.

the capital of Hungary, began, after the preparatory training required in Europe for university life, at the age of nineteen, the study of medicine at the University of Vienna. Skoda and Rokitansky we find among his teachers. Following his particular inclination for obstetrics, after the termination of his studies in 1846, he became assistant physician at one of the large Vienna maternities. The great mortality, about fifteen per cent, of the lying-in women under his care, produced a deep impression on the young doctor's mind. In his careful researches made to find the cause of this mortality he developed the following facts :

The mortality in the part of the maternity reserved for physicians only, was very much greater than in the part attended solely by midwives.

Most of the fatal cases occurred in strong, healthy primiparæ, with a protracted first stage ; many of their children also dying, and showing the same post-mortem changes that were found in the mothers.

In women who had been surprised by labor on their way to the hospital there happened but seldom a case of sickness, notwithstanding the many injuries and the exposure of a confinement in the street, in oftentimes stormy winter nights.

There was seldom sickness among the cases of premature confinement, in which there were few or no vaginal examinations made.

On the physicians' side of the hospital the patients frequently fell sick bed by bed in series. This did not occur on the side attended by midwives, though there were frequently patients with puerperal fever lying among the healthy parturients.

These observations did not agree with the factors then considered as leading to puerperal fever ; such as common miasmatic influence, predisposition caused by hyperinosis of the blood, by protracted labor, by want of proper uterine contraction, by disturbance of the function of lactation, by suppression of the lochia. All these factors would have been the same for all wards of the hospital and for the city itself, in which, outside of the hospitals, the mortality among lying-in women was not particularly high.

During these investigations of Semmelweiss in 1847, a profes-

sor of pathological anatomy at Vienna died of a poisoned wound received at an autopsy. The post-mortem showed double pleuritis, pericarditis, peritonitis, meningitis, an embolism of the eye—in one word, the changes but too well known in puerperal fever.

This event was a revelation to Semmelweiss. The same poisons which made the anatomist's knife so deadly, the physicians carried on their fingers when making vaginal examinations. Opportunity for contamination in this way was given by their frequent occupation in the department of pathological anatomy. The ordinary cleansing with soap and water was not enough to take away all contamination, as the odor clinging persistently to the fingers showed. Let a remedy be used to destroy these putrid matters; wash the hands with chlorine water or with chloride of lime!

Semmelweiss immediately ordered such ablutions for the hands before examination, and at once the mortality fell off greatly, so that it became even less in the physicians' than in the midwives' wards.

Further observations and experiments soon gave to Semmelweiss the idea of the identity of puerperal fever with the affection then termed pyemia.

So, in 1849, the theory had reached a satisfactory degree of development, and was kindly received by Rokitsansky, Skoda, and Hebra. The latter compared it to Jenner's discovery, and asked the chiefs of maternities for observations concerning it. The Academy appointed Brücke and Semmelweiss to make further experiments on animals.

A martyr to the new doctrine was found in Michaelis, the Professor of Obstetrics at the University of Kiel, and one of the first obstetricians of all time, whose work on "The Contracted Pelvis" is now considered classical, all our modern views on the mechanism of parturition being based upon it. A near relation of his, confined by him, died of puerperal fever. Convinced of the correctness of Semmelweiss' idea, and certain that it was he who had brought her death instead of help, he being at that time much occupied with autopsies on patients dead of puerperal fever, he laid himself on the railway track and was crushed by the train.

In England the new doctrine, propagated by Routh, who,

in Vienna, had gained his knowledge of it from Semmelweiss himself, was favorably received. Simpson, of Edinburgh, passed a very unkind judgment on Semmelweiss' theory. Together with many other obstetricians, he had been asked by letters from Semmelweiss to make observations on this point, but replied by invective against German midwifery, especially as practised in Vienna. He said they had long known in England what they stated as new in Vienna. It is true that an English physician, Denman, had stated that puerperal fever could be carried from one patient to another by doctors and midwives, and had identified its poison with that giving rise to the acute exanthemata, believing also that there were many other etiological factors capable of producing it. But in England at this time they did not even suspect the importance of Denman's suggestion. Later, Simpson agreed with Semmelweiss, calling puerperal and surgical fever identical.

In Germany, also, many of the first authorities, Scanzoni, Seyffert, Kiwisch, were against Semmelweiss. Kiwisch said that he had never seen a case of infectious puerperal fever, and this at a time when, in his Würzburg Maternity, he lost twenty-six out of one hundred lying-in women by this very disease!

That the experiments on animals, made by Brücke and Semmelweiss for the Vienna Academy of Medicine, failed, was a misfortune, the cause of which we cannot now discover.

Semmelweiss' time as assistant physician at the Maternity having expired, he was unable to have it prolonged, and was compelled, much against his wishes, to retire to his birth-place, Ofen-Pesth. Here we meet him again in 1855 as Professor of Obstetrics and Director of the Maternity of the University of that city.

Of the events of the next few years of his life there is little to say. Its dark point was the failure of his doctrine. To discuss it made melancholy the man whom few things could discourage. He considered his theory a profound question of humanity and science which could not easily be thrown aside. The prospects of the acceptance of his doctrine were growing worse and worse. The Paris Academy of Medicine had decided unfavorably upon it, and, even in Germany, there were more voices against than for him.

Urged by his friends, Semmelweiss overcame his dislike for literary work, all that he had accomplished at this time having been done by private letters and personal communications, and published, in 1858 to 1860, a series of articles in a Hungarian medical journal. His larger work, "The Etiology, Nature, and Prophylaxis of Puerperal Fever," appeared in 1861. Many pages of this book, printed twenty years ago, might appear in the most modern work on infected wounds. What Semmelweiss demonstrates there with the crushing force of his statistics, is now known to all, not in Semmelweiss' words, but as the theory of puerperal fever as it stands to-day accepted by all.

The reader will notice as he advances further in Semmelweiss' book an increasing irritability of the author. The second part of it, consisting mostly of polemics, is tedious and uninteresting, and the work did not achieve the success which Semmelweiss and his friends had hoped for. In 1864 Virchow, before the Berlin Obstetrical Society, declared himself positively against Semmelweiss' theory of infection from outside, as regarding the epidemic propagation of puerperal fever. Just as well, he says, as an anthrax may originate spontaneously in an animal, may puerperal fever do the same in the deep cellular tissue of the female pelvis. Thus argued this great genius as late as 1864.

At this time discussions on puerperal fever had passed from the medical journals to the columns of the daily papers, and so odious had the maternities grown in Germany that the expediency of their closure was seriously considered. The statistics brought before the public showed all too clearly that, in the very best conducted lying-in houses, there had been times in which, to use the expression of Fritsch,¹ "To be laid on the confinement bed was the same as to be delivered to the hangman."

The opposition against Semmelweiss' theory had now passed its culmination. I am happy to state that among the men who helped it to victory, there stands among the first my beloved teacher Winckel, now professor at Munich, then at

¹ Fritsch, "Grundzüge der Pathologie und Therapie des Wochenbetts," 1884, p. 84.

Rostock, who, in his "Pathology und Therapy of Childbed,"¹ published first in 1866, had fully adopted the new doctrine.

This was the beginning of the purification of the German maternities. Formerly the average mortality in them had been from 15 to 20 per cent, now it is very exceptional to have it exceed from 1 to 2 per cent.

In the German surgical clinics, the doctrine of Semmelweis, a German himself, had no influence. Before German surgeons conformed to antiseptic ideas, Pasteur, the Frenchman, had to make his discoveries; Lister, the Scotchman, to show us how to dress wounds. Why obstetricians did not draw the logical inference of *infection and disinfection*, that is, local disinfectant treatment of cases infected with puerperal fever, we, who found the egg of Columbus standing on its end, are unable to understand. This logical conclusion had to be shown obstetricians by surgeons, when, had Semmelweis' reasoning been followed, it should have been otherwise, and obstetrics could have claimed the honor of the greatest progress ever made in medicine.

Semmelweis was not destined to see the victory of his doctrine; for some time a slowly increasing irritability had taken possession of him, manifesting itself chiefly in a mania for writing articles, among which his open letters to all professors of midwifery became famous. Sometimes his excitement gave place to periods of deep melancholy. The progress of the malady, slow at first, all at once became rapid, so that in 1865 he had to be removed to an asylum at Vienna—up to this time he had been able to go on in his profession at Pesth—where he died August 13th, 1865, in his forty-seventh year. The cause of death was not his brain disease, but pyemia. While attending the autopsy of a child he had injured his finger, the injury resulting in a felon with a metastatic abscess between the pectoral muscles, perforating into the pleural cavity, and causing death from pyo-pneumothorax.

Like many a noble son of our profession, he died on the field of battle. And that, always a tragical end, is doubly so when one has to die from a disease to the investigation of which he has

¹ Winckel, "Pathologie und Therapie des Wochenbetts," III. Auflage, 1878.

consecrated the best years of his life. If ever a man devoted his life fully and entirely to a noble object, Semmelweiss did so in the truest sense of the word. There was no blind aiming after truth, which sometimes helps men to great discoveries; he followed a distinct purpose in all his investigations. Not caring for the weight of authority, nor retreating from obstacles, he fought for what he had recognized to be the truth. That he did not live to see the victorious end of the struggle brings before us once more the fact, met with but too often in the records of human experience, that the simpler a truth the longer is its recognition deferred.

Regarding the scientific position of Semmelweiss, I refer once more to Fritsch, who, in his latest work on the pathology and therapy of childbed,¹ states that the particular species of micro-organism causing puerperal fever is to this day unknown.

Now, thirty years after the announcement of Semmelweiss' theory, quite an epoch in this progressive age, we will not be much amiss if, in speaking of the causes of puerperal fever, we make use of his own words, that "decomposing organic matter" is the infecting factor in puerperal fever.

As for his services rendered to mankind, we must all agree with Schroeder's² beautiful words: "Whenever we speak of the benefactors of humanity, we must mention among the foremost the name of Ignaz Philip Semmelweiss."

276 FIFTH STREET, Dec. 1st, 1884.
