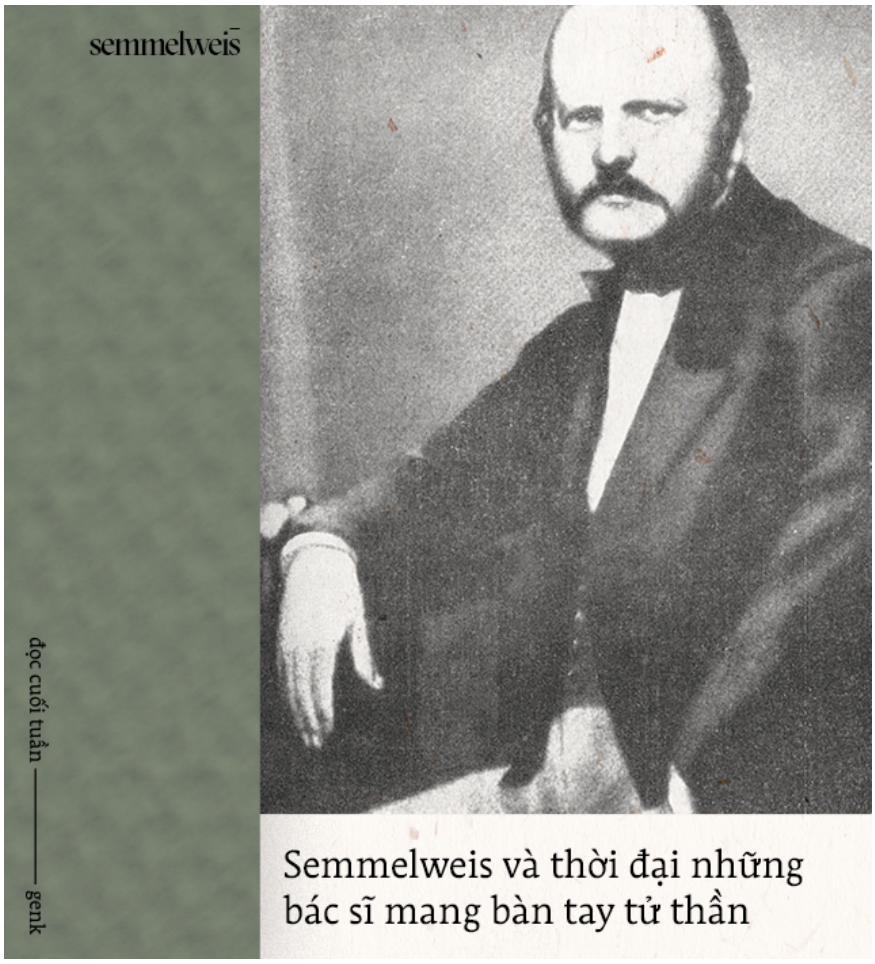
Read the weekend: Semmelweis and the age of the doctors with dead hands

Austrian doctor, The tragic story of the doctor who should have saved the most lives in human history.

We are all very lucky, to be here today to read this story. Its protagonist, an **Austrian doctor**, was beaten to death in a madhouse as punishment for courage, dared to stand up and go against the crowd, a Don Quixote against the windmill.

But in the end, what did the doctor do? He was only trying to convince his colleagues to wash their hands thoroughly. In hospitals in the 19th century, people were told he was crazy, this was an insult to the cleanliness and nobility of the doctor.

And so, the arrogant continue to cause thousands of deaths from a mysterious disease at the time: postpartum fever.



Before we begin the story, the first thing you need to remember is that it happened in the 1840s. It was about 40 years before the great biologist Louis Pasteur introduced the pathogen theory, confirming the the existence of bacteria that spread from person to person, 100 years before Alexander Fleming discovered antibiotics, opened medicine to a golden era and saved millions of lives of infections.

That was the 1840s, and doctors working in the middle of the cradle of Western medicine still believed in autism. This means that when a woman has a postpartum fever, it is caused by a pathogen born in her, like maggots that have spawned themselves in stagnant ponds and on dead bodies.

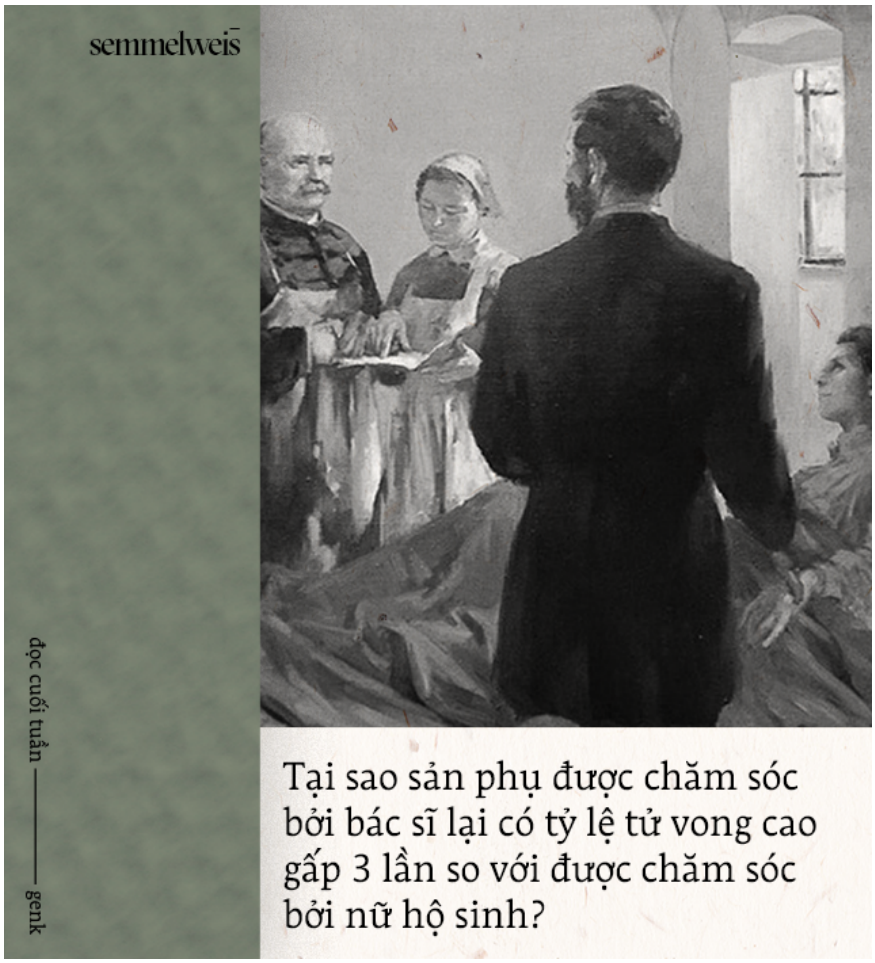
Nobody knows that maggots are born from tiny eggs, and no one believes that super tiny bacteria can be so dangerous that it kills an adult body billions of times more than their body.

Những cái chết bí ẩn của thai phụ

In 1846, at the Vienna General Hospital in the Austrian capital, Ignaz Philipp Semmelweis was an obstetric inpatient, when he was 28 years old. It was a period when a strange disease called postpartum fever spread throughout Europe.

The birth in the hospital is still something extremely risky, some mothers after birth will have a fever. And one in 10 people will die.

No doctor knows what the true cause of this mysterious disease, despite the careful investigations. They drew up to 30 hypotheses that cause fever, including errors during pregnancy, urea imbalance, uterine pressure on internal organs . Some male doctors also believe that their examination for women who are shy and have a fever.



The Vienna General Hospital where Semmelweis was working at the time had two free obstetric divisions. In turn, poor patients who come here must cooperate during the examination, so that doctors can use them as examples to teach medical students and midwives.

The first subdivision is only used to train prospective students, while the second subdivision only trains midwives, not doctors.

The irony that Semmelweis statistics show is that the number of patients dying of postpartum fever in the doctor training section is up to 3 times higher than the midwife training area, up to 9%. That resulted in a quarter of all women who came to the clinic within a few months.

Semmelweis was heartbroken to see the women kneeling on their own to be asked to enter the second ward. Some people know that they have to go to the first section and deliberately push on the way to the hospital to be returned to home care.

And in the hospital, almost every day a woman dies. Every morning starting his workday, Semmelweis had to do a worse job, autopsy the women who died the day before.

He was so familiar with these corpses that he had just looked at who realized who died of postpartum fever. " *The work made me feel so miserable that life no longer meant anything,* " Semmelweis had to say. He gave up his position at the hospital in October 1946.

Có thứ gì đó trên bàn tay các bác sĩ

In March 1847, the responsibility of urging Semmelweis to return to the hospital, the first thing he received was a revelation: Professor Jakob Kollerschka, a forensic pathologist and his good friend died.

In the midst of that feeling of pain, what most surprised Semmelweis was that when he examined Kollerschka, his body had the same characteristics as the women who died of postpartum fever. Dr. Semmelweis concluded that Kollerschka also died of a fever . but because he was a man, it could not be called postpartum fever.

The story goes back to Kollerschka's earlier days, when he was instructing a student to do an autopsy. This student, while clumsy, accidentally accidentally cut Kollerschka's finger.

Experienced research, Dr. Semmelweis think that is the cause of disease for his friend. When humanity did not know that tiny bacteria could cause disease, Dr. Semmelweis could only guess a small kind of " *particle* " from the corpse that had passed through the knife cut into Kollerschka's blood, then caused he had a fever that led to death.

And that is also the reason why women have postpartum fever. Semmelweis suspected that it was the doctors and medical students who brought the deaths to them.

At the Vienna General Hospital at that time, like all other hospitals, autopsies could only be done manually. Doctors do not wear gloves and they only wash their hands with soap and water before using the same hands to examine women.

The stench left in the hands of the doctors confirmed the backlog of tiny " *particles* " from the corpses, which Semmelweis surmised.

This also explains why the obstetric section training medical students always has higher maternal mortality rates than the midwife training section. This is because only the future doctors can practice an autopsy, while the midwives do not, they do not become an intermediary of infection.

Rửa tay: Ranh giới giữa một bác sĩ với tử thần

The theory was pursued by Semmelweis, and he tested a range of compounds in order to create a more effective hand-washing liquid than soap. In the process, he found that calcium hypochlorite, a chlorine solution, was able to eliminate odors from the hands of doctors after an autopsy. Semmelweis believed that it was a sign that it had removed the pathogenic " *particles* " he had predicted.

Immediately, he set up a procedure that requires obstetricians and trainees to wash their hands with chlorine solution before examining patients. It immediately proved effective.

In April 1847, the maternal mortality rate in the first obstetric section remained at 18.3%. But after the handwashing process was applied in mid-May, the percentage immediately dropped to only 2.2% in June, to 1.2% in July and for the first time in 2 months. after that, there were no more mothers died from the postpartum

fever.

This seemed to be a convincing evidence for Semmelweis's hypothesis of " *particles* ". Unfortunately, the rate of pregnant women increased again, the reason is that right in the room at that time there were a number of pregnant women with purulent infection.

Semmelweis believes that not only the corpses of the dead, but any source of decaying organic material, including wounds on living bodies, can become a source of disease transmission.

He placed pots of chlorine solution in front of each maternity bed and asked doctors to wash their hands between each visit. Thanks to that practice, the Vienna General Hospital finally reduced the rate of maternal deaths in the first obstetric ward to the second subdivision, at 1.27% during 1848.

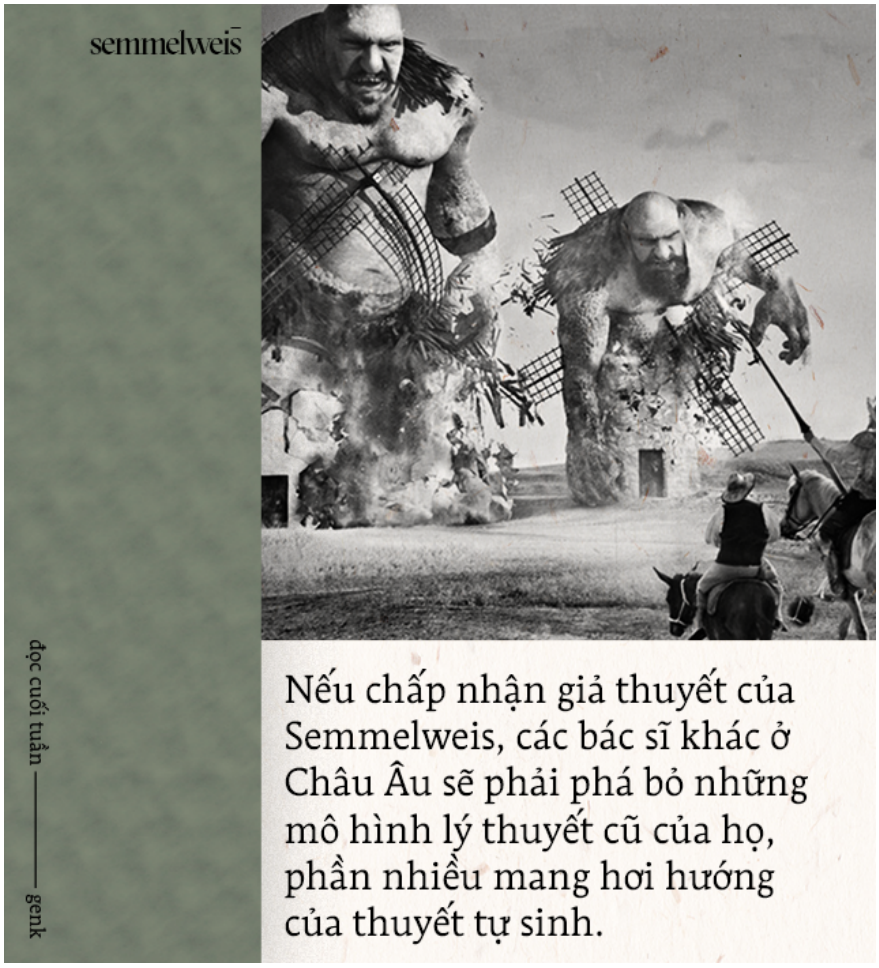
Chiến đấu với cối xay gió...

Semmelweis and his students have published a number of preliminary publications in the Journal of the Vienna Medical Association, saying that hand-washing practices are effective in preventing postpartum fever from spreading through the hands of doctors. doctor.

He also sent letters to all the chief obstetricians in Europe asking them to comment on his hypothesis of the " *particles* " that cause disease. However, most of the feedback made Semmelweis disappointed and even angry.

There are doctors who reject Semmelweis's figures, considering them to be a coincidence of statistics. Some say that asking doctors to wash their hands makes them insulting, that the position of doctors in society is so noble, their hands cannot be so polluted.

Covering all the reasons was the inherent thinking of the medical community in Europe at that time. If they accept Semmelweis's hypothesis, they will have to tear down their old theoretical models, much to the direction of autism.



Carl Braun, Semmelweis's rival in the Maternity Department of Vienna General Hospital is a trendy person. He was the one who had built up the theory to give up to 30 causes of puerperal fever so that it got the consent of all other doctors.

The reasons Braun cited include: errors during pregnancy, urea imbalance, uterine pressure on internal organs, trauma, diet, colds. . The hypothesis that a woman with a fever due to a bacterial infection is only ranked 28th.

In 1849, Braun stood up to compete with Semmelweis in the position he was in obstetrics, as a head doctor. And he won.

Semmelweis was obliged to leave the obstetric clinic at the end of his term in March 1849. He tried to apply to remain in the faculty as an independent lecturer, raising hopes of continuing to study corpses and post-fever. production. But his superior professor, Johann Klein, an extremely conservative Austrian, did not allow it.

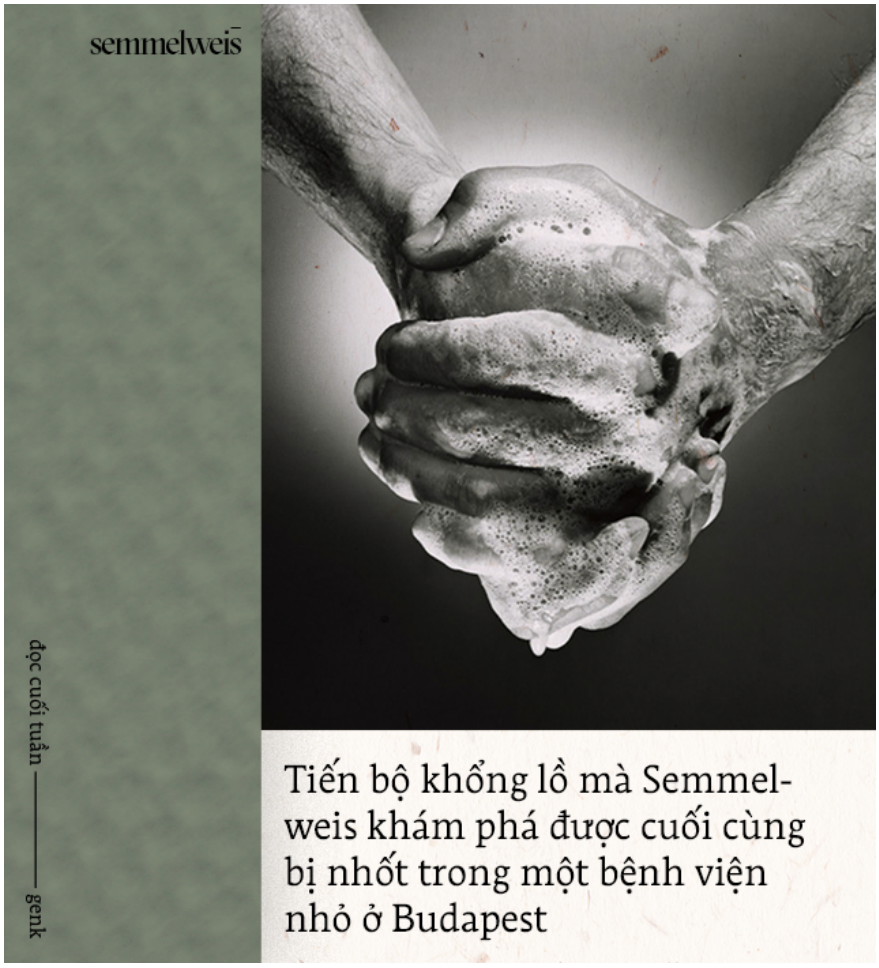
During 18 months of fighting for his right to research, Semmelweis was finally allowed to remain as a professor, and only taught on mannequins instead of real corpses. Feeling extremely frustrated and dissatisfied, Semmelweis suddenly left Vienna without greeting any of his fellow colleagues, an action that continued to cause the doctors to believe that Semmelweis intentionally insulted them.

The destination Semmelweis chose was his hometown Budapest in Hungary. Since 1851, he has agreed to work unpaid in obstetrics in a small hospital here. The enormous medical advances discovered by Semmelweis were eventually locked up in a small hospital in Budapest.

He brought his hand-washing process back here, and once again, it proved to be very effective. Postpartum fever mortality in the hospital where Semmelweis works is controlled at extremely low levels, below 1%. Of the 933 births here during the period 1851-1855, only 8 died from postpartum fever.

However, the success of Semmelweis continued to be unrecognized. Ede Flórián Birly, a professor of obstetrics at the University of Budapest, never used Semmelweis's hand-washing method. He believes that puerperal fever is caused by unclean patient intestines. Therefore, purifying the body is the preferred treatment.

In 1856, an assistant of Semmelweis tried to publish a scientific report in the Vienna Medical Week, presenting the effectiveness of hand washing practices at the local hospital. Although the article was published, the editor of the newspaper remarked sarcastically that it was time for people to stop misunderstandings about the theory of handwashing with chlorine, because no one believed in it anymore.



Indeed, Semmelweis was battered and pushed down the slope of his career, leaving the scientific works he wrote later to be ignored. From 1858 to 1861, he wrote two essays and a long book on postpartum fever analysis, but they received very little attention.

At a gathering of German doctors and scientists, most speakers rejected his theory, including Rudolf Virchow, a famous scientist and the most prominent of his time.

Rudolf Virchow was the first to discover cancer, was dubbed the *"father of modern pathology* ". Despite his numerous contributions to medicine, Virchow is very conservative. He rejected Darwin's theory of evolution and Semmelweis's hand-washing practice.

Virchow's turn once again poured cold water on Semmelweis and his theory. Semmelweis wrote helplessly: " *Most of the medical lecture halls still give lectures and discourse on the postpartum fever against my theory. The medical lecturers in Wurzburg even awarded an award to a specialist. written test in 1859, in which my lessons were rejected* . "

05. ...và chết

In 1861, after fighting helplessly, Semmelweis fell into a state of severe depression and encountered the first neurological problems. He was obsessed and paranoid by the topic of postpartum fever. Regardless of who he talked to and about what, Semmelweis drove the story of the postpartum fever.

He frantically sent letters to all the doctors and scientists who had opposed him, with angry, desperate and bitter words. Semmelweis curses them as " *irresponsible killers* ".

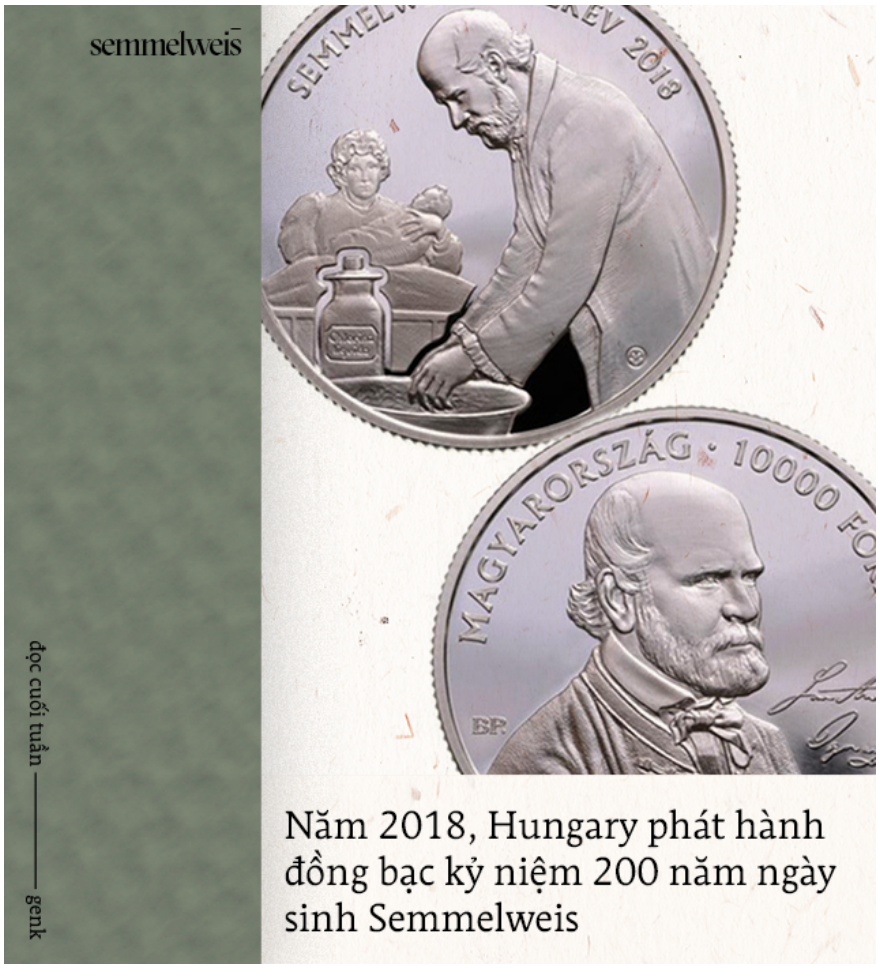
By 1865, Semmelweis's condition had become really serious. He became addicted to alcohol and rarely went home. Semmelweis's behavior made even the colleagues and family themselves feel ashamed.

In July 1865, they set up a perfect plan to take him to the asylum. Ferdinand Ritter von Hebra, a doctor and former colleague who once supported Semmelweis's handwashing theory, pretended to invite him to visit a new medical facility.

The trip included an uncle behind Semmelweis's wife. But in fact, the two men took him to a madhouse in Vienna.

In Budapest, Semmelweis's uncle somehow managed to get a certificate stating that Semmelweis was mentally ill. Three doctors signed on it, but no one was a psychiatrist, one of whom was the former rival and rival of Semmelweis before.

When the poor doctor realized it was too late, he tried to escape but was knocked out by the guards at the hospital. Shortly thereafter, Semmelweis' wounds became infected and he died of the disease " *particles* " he had predicted.



Năm 2018, Hungary phát hành đồng bạc kỷ niệm 200 năm ngày sinh Semmelweis

After his death, Semmelweis's body was buried in Vienna in August 1865. The funeral was attended by only a few people. The brief notice of his death appears in several medical journals in Vienna and Budapest.

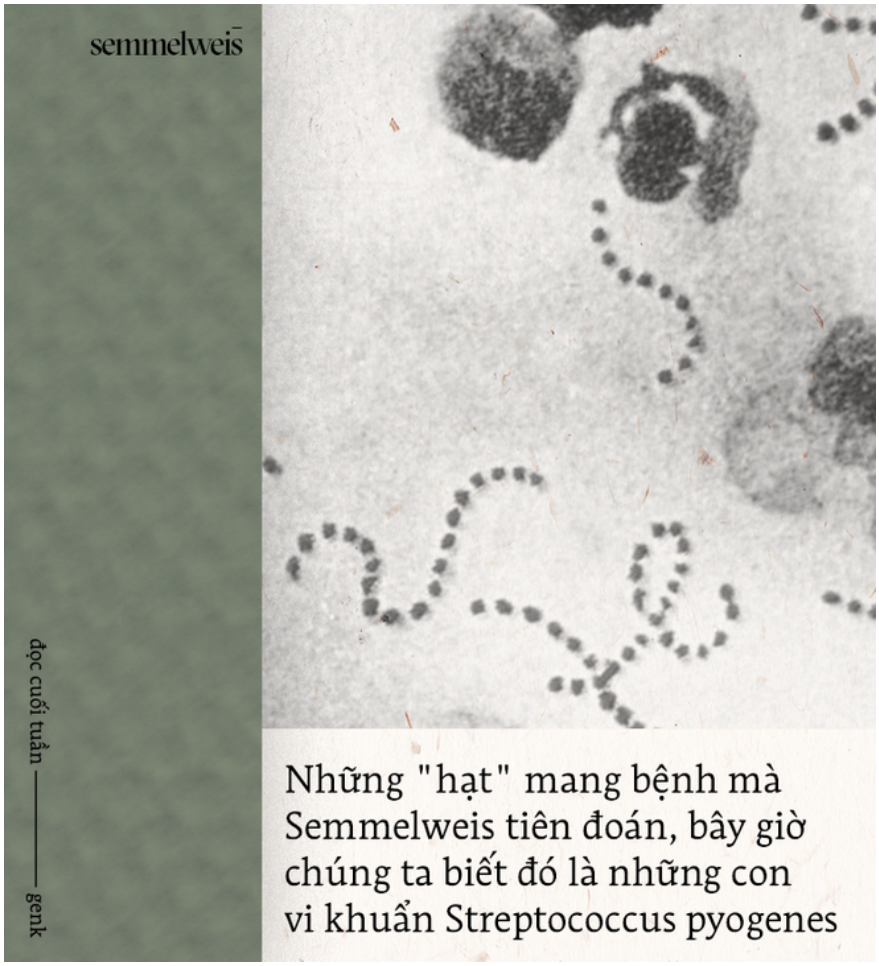
Although the Hungarian Association of Doctors and Scientists had a tradition that when a member died, they had to be honored with a speech, that time alone, there was no speech for Semmelweis. His death was never even mentioned.

Người đàn ông cứu sống nhiều sinh mạng nhất lịch sử nhân loại

Semmelweis did not live until the day when his wish came true. It was not until 1880, 15 years after the death of Semmelweis, that the great French biologist Louis Pasteur perfected the " *germ theory* ", offering convincing evidence to prove the " *particles* " carrying the disease from corpses. which Semmelweis predicts are bacteria.

The pathogen theory pushed the great windmill that Rudolf Virchow and other scientists built. The windmill says pathogens spontaneously build themselves in the body, that bacteria only go to infected bodies like fish to return to water, not to cause or spread disease.

But the final truth remains the truth, as we now know it is the *Streptococcus pyogenes that* have caused the postpartum fever, the infection from the corpses examined by the doctor, from the infected foci of this patient. , through the doctors visiting them, to other patients.



If only doctors in the 19th century had listened to Semmelweis, they could simply prevent postpartum fever and all other hospital infections by simply washing their hands frequently.

Today, a doctor in the United States wash his or her hands on average more than 50 times in a 12-hour shift. But that's only half the recommended amount for them. The World Health Organization stipulates the " *five times* " that a physician or health worker should wash their hands:

1/ Trước khi chăm sóc bệnh nhân

2/ Trước mỗi nhiệm vụ yêu cầu môi trường vô trùng

3/ Sau khi tiếp xúc với máu/dịch cơ thể

4/ Sau khi chăm sóc bệnh nhân.

5/ Sau khi tiếp xúc với môi trường xung quanh bệnh nhân

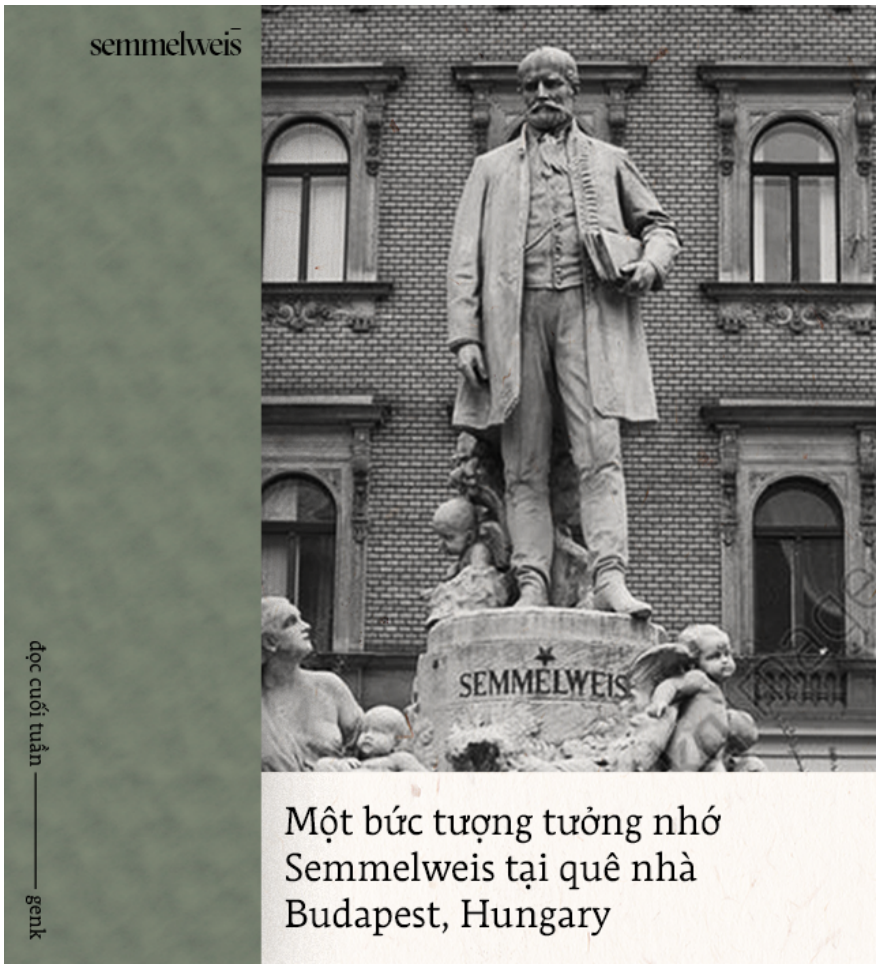
Today, the World Health Organization stipulates the "five times" that a physician or health worker needs to wash their hands.

If this practice is prescribed, a doctor needs to wash his hands 100 times a day. But they will only take 15-25 seconds for each handwash, for a total of 25 minutes a day. In return, about 5 million lives will be protected each year from washing hands alone.

Semmelweis should have become the man who saved the most lives in human history. But his life put him in a desperate battle, his tragic death and his noble spirit only sympathetic and recognized from the beginning of the 20th century, decades after his death.

Semmelweis is recognized as a pioneer for sterilization policy. In his hometown of Budapest in Hungary, a medical university was named and named after him. The house Semmelweis once lived was rebuilt into a Museum of Medical History.

In Vienna, the Austrian capital and Miskoic, a city in northeastern Hungary, have two hospitals named after Semmelweis. The story of his arduous and cruel life is retold in numerous works of literature and film.



The name of Semmelweis was even given a sociological behavior called the " *Semmelweis reflex* ". It is what happens when society, a community or an individual cannot accept, reject or even oppose new evidence or knowledge that contradicts inherent norms, beliefs or patterns.

Semmelweis's reflexes and the tragic life of the Hungarian doctor are a testament, and also the answer to: Why reforms, new things are often opposed and overwhelmed. As Albert Einstein once said: " *A great spirit always faces intense opposition from mediocre minds* ."