

Nanna Svartz, a giant of internal medicine

by Renée Norberg*

Nanna Svartz, Sweden's first female professor at a Swedish university, was born in Västerås in 1890 as the fifth and youngest child to Anselm and Anna Svartz. Her father was a doctor of philosophy and teacher in Latin at the town's secondary school for boys. He is described by his daughter-in-law Gunvor Svartz Malmberg as "a perfectionist, honest but lacking in the degree of self-confidence". The mother was a priest's daughter from Roslagen. According to her daughter's daughter, she had "an enigmatic and charismatic charm". Nanna Svartz's three brothers all died at a young age. Her sister Lisa reached adulthood but died like her brothers in tuberculosis, when Nanna was 14 years old. Lisa was a loved big sister and in her memoirs Nanna Svartz quotes what she wrote in a school essay about the sister: "I should have her as an example, I should not waste my life. Instead I should try to do something about it. «

After the turn of the century, not many professions were open to women who had gone through eight classes of girls' school. A family friend, Ann Margret Holmgren talked about female suffrage and Nanna, probably after much hesitation by her father, was allowed to listen to the lecture. Mrs. Holmgren, who was married to an Uppsala professor and had eight children, spoke of the fact that women must make an effort in the community outside their homes. They have to shape their future activities themselves and for this, political voting rights were indispensable.

Nanna was successful in her studies and passed a bachelor's degree with very good grades in 1910. At her graduation ceremony, she heard her proud father say to one of the female teachers: "Yes. Nanna almost has the talent of a man. " It was probably the highest credit he could give her.

After completing chemistry and physics, Nanna started studies at the Karolinska Institutet in 1911, she was the only woman among 16 men. Nanna soon became engaged to Nils Malmberg.

The propaedeutic course in Uppsala started in the autumn of 1914. Much of what was taught during this course was forever stuck in her memory, including the importance of carefully reviewing the patient's medical history. Nanna Svartz was focused on internal medicine and was offered an assistant service. The salary was SEK 40 (USD 8) a month and the same amount in cost allowance, if she did not take her meals at the hospital. But before that, Nanna and Nils Malmberg were married. Nils Malmberg was a physician at the children's clinic at Norrtull's hospital and had a salary of SEK 200 per month. They had figured out that, if they lived frugally, the combined wages would also suffice for a helper in the home.

Not until January 1921 the so-called Competence Committee was put to investigate women's "appointment to civil service". The question of the eligibility of married women was still relevant. In their remarks, Karolinska Institutet and Lund University were clearly positive about women's full eligibility for all services. Uppsala University and the Swedish Medicines Agency, on the other hand, were very negative in expanding the opportunities for female doctors. These agencies were also concerned that the female doctors' children would not be breastfed but raised with a bottle!

In March 1922, a proposal was set for a law on women's rights to hold public service and other general assignments. However, some services that were considered distinctly "male" were excluded. The Competence Act was adopted in 1923 and came into force in the summer of 1925.

After several years of medical service, Nanna Svartz received a regular position. After a while, her superior Israel Holmgren considered that she should devote herself to "greater scientific work". This resulted in May 1927 in her dissertation on iodophilic gut bacteria, written in French. Shortly after the defense, she was appointed associate professor.

Nanna Svartz was appointed to the laboratory at the Serafimer Hospital. During this time she published more than 20 mainly bacteriological works. In her continued studies of the intestinal bacterial flora, she often found similarities between patients with ulcerative colitis and rheumatoid arthritis. Similarly, she found microscopic connective tissue changes of the same appearance in both diseases. Her continued research later focused on rheumatoid arthritis and - from the mid-1930s – her studies focused on attempts to clarify the etiology of the disease.

In a lecture in February 1936 she says:

»There is an infection behind the rheumatic polyarthritis, both the acute and the chronic. With strains of polymorphic diplococci, which I have grown from polyarthritis patients, I have sought to induce joint infection in animals. It has proved remarkably easy. "

On December 17, 1937, Nanna was appointed professor. In her memoirs, she wrote: "All night I made plans for the future, I should not divide myself but concentrate on what is necessary." After deciding that Nanna Svartz's clinic be transferred to the soon-to-be-completed Karolinska Hospital, she was given a variety of additional duties, including being elected to the Karolinska Hospital's Executive Board. On February 5, 1940, she holds her first lecture in the hall at the Karolinska Hospital which today is called Nanna Svartz Auditorium.

It would take until 1963 before the next woman got a professorship at a Swedish medical faculty. Then Nanna Svartz was retired for almost five years!

When Nanna Svartz took up her professorship, she was well prepared. She had more than 20 years of experience in internal medicine. She was an excellent teacher for both hospital staff and students. Her major rounds were effective, and she expected students to give well-prepared presentations too. No time was wasted on small talk. Nanna Svartz's authority was self-evident.

Nanna Svartz's workload was enormous during her entire professorship period. In addition to research and lectures, she was a member of the Swedish Medicines Agency's scientific council and of the Karolinska Hospital's Executive Board. She also served as an expert for the Nobel Prize assembly. The International Society for Internal Medicine (ISIM) was formed in 1949. Nanna Svartz was first vice president, president 1952–1956 and then honorary president of the association.

When the first sulphate preparation became available in 1936, Nanna Svartz tries to treat both patients with rheumatological disease and with ulcerative colitis, but without success. However, a later preparation, Sulfapyridine, had some effect on ulcerative colitis "sometimes a therapeutic effect superior to any previously known treatment". After discussions with

Gerhard Domagk, who was later awarded the 1939 Nobel Prize for discovering the "antibacterial action" of prontosil, she concluded that "if sulfa has a stimulating effect on some cells in the granulation tissue, it should be advantageous to combine sulfa with other preparations.

In June 1940, Nanna Svartz was visited by a Pharmacia representative. She then asked if the company could help produce compounds containing sulfa and salicylic acid. Already after two days, a reassuring response came and two weeks later she received four preparations, of which she chose "salicylazosulfapyridine", which was later named Salazopyrin.

Registration documents for Salazopyrin were filed on February 4, 1941 and were already approved on May 16 of the same year. Already at the end of 1941, Nanna Svartz describes successful treatment of a large number of patients with ulcerative colitis. After a number of years, Salazopyrin became a world product and, after nearly 70 years, is still a prime agent for the treatment of ulcerative colitis. The Pharmacia company has honoured Nanna Svartz, among other things, by organizing symposia, lectures and research grants in her name. At the age of 92, Nanna participated in a short introductory speech at the symposium organized by Pharmacia as a result of Salazopyrin being on the market for 40 years.

Nanna Svartz worked up to a high age. She had over 60 publications after the age of 80 and was an invited speaker at a number of international congresses and symposia. In her reference list there are also two lectures on rheumatic disease, which she held in Karlstad and Gothenburg at the age of 92. Nanna Svartz died in April 1996. At one point she had said she did not want to "fight the barricades". Despite this she became a role model for generations of medical practitioners.

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Renée Norberg-Stenbeck 1928 - 2018. Renée Norberg was a rheumatologist and is one of the pioneers of clinical immunology in Sweden. She studied distribution of serum proteins and the sarcoidosis disease, and developed diagnostic assays. During thirty years she was associated to the Department of Immunology at Statens Bakteriologiska Laboratorium later to become the Swedish Institute for Infectious Disease Control. Here she was a close collaborator of profs. Astrid Fagraeus and Gunnel Biberfeld.