

THE TERMINATION OF LEPROSY IN NORWAY
AN IMPORTANT CHAPTER IN NORWEGIAN MEDICAL HISTORY;
TOGETHER WITH
A PORTRAIT OF ARMAUER HANSEN CIRCA 1873

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Leprosy is a very old disease in Norway, probably imported by the Vikings returning home from their raids of Great Britain and Ireland. In the Middle Ages it was common, but during the fourteenth and the fifteenth centuries it declined rapidly, as in the other countries of Europe.

In the sixteenth century leprosy almost disappeared in the southern and eastern areas of Norway. The disease was therefore less feared than it had been, and there then resulted a new increase in those parts of the country where it had not become totally eradicated.

The best known of the Norwegian leprosaria is the St. Jørgen hospital in Bergen, which was established about the year 1400 A.D. From the seventeenth century on it was repeatedly stated that there was a shortage of beds in this hospital, and that the living conditions were poor. In a report by the hospital chaplain as recent as 1816 it is said that reforms were needed if the hospital were not to continue to be a "cemetery for the living lepers."

In 1817 a physician was attached to the hospital but it was only after 1840, when Daniel Cornelius Danielssen (1815-1894) started his studies in this hospital, that the situation improved. He collaborated with Carl Wilhelm Boeck (1808-1875), and in 1847 these two authors published their classical monograph "Om Spedalskhed" (On Leprosy).¹ This work marked an epoch in the literature and the modern investigation of leprosy, and made Bergen for many years the center of leprosy studies. The book presented the first clear descriptions of the clinical and pathologic features of the disease.

In the first decades of the last century leprosy again increased, and spread over large areas in the western and northern districts of Norway, reaching its peak in the 1850's. A registration in 1856 showed that there were not far from 3,000 cases out of a population of about 1,300,000 inhabitants, i.e., that more than 2 per mille of the population had the disease. This increase caused the health authorities to adopt special measures for the prevention of its spread. Several new leprosaria were founded, of which two were built in Bergen. In the latter hospitals Ger-

¹ A French edition, "Traité de la Spédalskhed, ou Elephantiasis des Grecs," was published in Paris in 1848.

hard Hinrich Armauer Hansen (1841-1912) became resident physician in 1868. In 1854 there was appointed a medical officer for leprosy for the whole country. Hansen filled this office for 37 years, from 1875 to 1912.

Leprosy at that time, about the middle of the nineteenth century, was generally believed to be a hereditary disease, and Danielssen and Boeck in their work maintained the view of hereditary transmissibility, or a hereditary dyscrasia. Hansen, however, became convinced at an early stage of his career that leprosy is a contagious disease which must necessarily have a specific cause, and he started investigations to prove his theory. By means of very simple staining methods he succeeded in 1873 in finding rod-shaped bodies in leprosy nodules, and he published his results in 1874.

It is Armauer Hansen's great merit that he conceived the idea, before anybody else, that a chronic disease may be caused by a microorganism, and to have worked with this problem until the existence of what is now called *Mycobacterium leprae* was established. He observed the bacillus in 1873 and had it distinctly stained for a simple demonstration in 1879, whereas the tubercle bacillus was not discovered until 1882, the typhoid bacillus in 1883, the diphtheria bacillus and the comma bacillus in 1884, and the tetanus bacillus in 1886.

Armauer Hansen's discovery necessarily brought about changes of concept, not only regarding the cause of leprosy, but also regarding the manner in which the disease could be brought under effective control. The Norwegian leprosy act of 1877 and the amended act of 1885 are the fruits of his indefatigable endeavors. According to the latter act, persons with leprosy may be ordered by the health authorities to live in precautionary isolation away from their families and immediate surroundings. Exceptions were made for married couples who desired to live together. Thus the law of optional compulsory isolation permitted the patient to live at home provided he observed the specified precautionary regulations.

In spite of this leniency the law aroused violent opposition, and it was even hinted that the leprosy act placed the persons who had the disease in a class with criminal convicts. However, in view of the excellent results derived from these precautionary health regulations the opposition to the law gradually ceased. The Norwegian leprosy act has served as a model for leprosy legislation in many other countries. Its influence can be traced wherever attempts have been made at suppressing the disease.

As will be seen from Table 1, leprosy in Norway has declined steadily in the last century so that there are now, in 1957, only seven known cases left in the whole country, and in none of these at present is the disease active. Leprosy may therefore be regarded as practically stamped out in Norway.

TABLE 1.—Decrease of the total known cases of leprosy in Norway at intervals during the last 100 years.

Year	Number	Year	Number
1856	2,858	1930	60
1875	1,752	1935	47
1895	688	1940	28
1900	577	1945	22
1910	326	1950	11
1920	160	1957	7

The last medical officer for leprosy, Reidar Schøyen Melsom, decided that the present situation makes that office superfluous and he resigned. He was therefore honorably discharged as of February 28, 1957. By this event a very long and important chapter in Norwegian medical history was brought to an end. Even if there should still occur some new cases of leprosy, contracted within the kingdom or brought from overseas, there is no reason to believe that under the improved hygienic conditions existent in the country today a new spread of the disease in Norway is within the bounds of possibility.

A YOUNGER PORTRAIT OF HANSEN

The world at large knows only one portrait of Armauer Hansen, one taken in advanced maturity which portrays him practically hairless above the eyebrows, and with his beard quite white. That picture, an excellent one for his age, appeared in 1910—as a frontispiece of the second volume of the transactions of the Second International Leprosy Conference held in Bergen August 16-19, 1909, which appeared as Volume X of *Leprosy, Bibliotheca Internationalis*.

In September 1954, when attending the International Congress of Clinical Pathology, in Washington, D.C., I was interested in an exhibit on leprosy which had been prepared by Drs. Chapman H. Binford and Lawrence L. Swan, of the U.S. Public Health Service. I objected, however, to the use of that portrait of Hansen as an elderly man because there existed a portrait of him taken much earlier, at about the time he discovered the leprosy bacillus. After my return to Bergen I sent a copy of that earlier picture to Binford, and it was used in place of the older one when the exhibit was shown at subsequent meetings in 1955 and 1956.

From members of Hansen's family, especially two nieces, I have tried to obtain a definite idea as to when this picture was taken. Some family history is involved. On January 7, 1873—the year he first observed the leprosy bacillus—he was married to Fanny Danielssen, a daughter of his

chief. That marriage was of short duration, however, for she died on October 25th of the same year—of tuberculosis, which disease killed all four of Danielssen's children. Hansen married a second time on August 27, 1875; and of that marriage he had his only child, a son whom he named Daniel Cornelius after his chief.

The family members with whom I have talked do not know if the photograph was taken during his first or his second engagement. It is known that baldness occurred very early in Hansen's family, not only in Hansen himself and all of his five brothers, but also in the next generation. In 1873 Hansen was 32 years old, and I think that in the photograph he looks very young. I would therefore venture the suggestion that this picture was taken in 1872, when he was engaged to Fanny Danielssen.

SUMMARY

Leprosy was introduced into Norway at an early date, was common in the Middle Ages, but declined later. Subsequently, however, it revived again so that in 1856 there were 2,858 registered cases.

The first leprosy hospital was established in Bergen about 1400 A.D. and certain others were built later, but conditions in these institutions were poor until after Danielssen began his work in 1840.

Hansen was appointed resident of the Bergen leprosaria, under Danielssen, in 1868. Beginning in 1875 he served as medical officer for leprosy for the whole country for 37 years, until his death in 1912.

Hansen's discovery of the leprosy bacillus, years before other important pathogenic bacteria were discovered, led to changes in the concepts of the disease and its control. Since before 1930 there were less than 100 known cases, and with their reduction to 7 in 1957 Melsom, the last leprosy officer, for Norway, resigned.

The only portrait of Hansen that is generally known, published in 1910, shows him as a bald-headed, white-bearded man of rather advanced age. With this article there is one, hitherto not generally known, which portrays him as he was at about the time he discovered the leprosy bacillus in 1873, possibly taken the previous year during his engagement to Danielssen's daughter, who became his first wife.

RESUMEN

La lepra fué introducida en Noruega en fecha muy antigua y fué común en la Edad Media, pero declinó después. Sin embargo, revivió de nuevo más tarde, de modo que en 1856 había 2,858 casos inscritos.

El primer hospital para leprosos fué establecido en Bergen hacia 1400 A.D., construyéndose ciertos otros más adelante, pero las condiciones en estos establecimientos fueron defectuosas hasta después de comenzar Danielssen su labor en 1840.

Hansen fué designado médico residente de las leproserías de Bergen, bajo Danielssen, 1868. A partir de 1875 sirvió como funcionario médico para lepra para todo el país durante 37 años, hasta su fallecimiento en 1912.

El descubrimiento por Hansen del bacilo de la lepra, año antes de descubrirse otras importantes bacterias patógenas, condujo a modificaciones en los conceptos de la en-

fermedad y de su dominio. Desde antes de 1930 había menos de 100 casos conocidos, y con su disminución a 7 en 1957, Melsom, el último funcionario para lepra en Noruega, renunció su cargo.

El único retrato de Hansen que se conoce generalmente, publicado en 1910, muestra a un sujeto calvo y barbicano, de edad algo provectora. Acompaña a este trabajo otro retrato, que no se conocía generalmente hasta ahora, y que lo presenta como era hacia la fecha en que descubrió el bacilo leproso en 1873, tomado posiblemente el año anterior durante su noviazgo con la hija de Danielssen, que fué su primera esposa.

DESCRIPTION OF PLATE

PLATE 25

FIG. 1. Portrait of Gerhard Hinrich Armauer Hansen, circa 1873, about the time he discovered the bacillus of leprosy.



PLATE 25