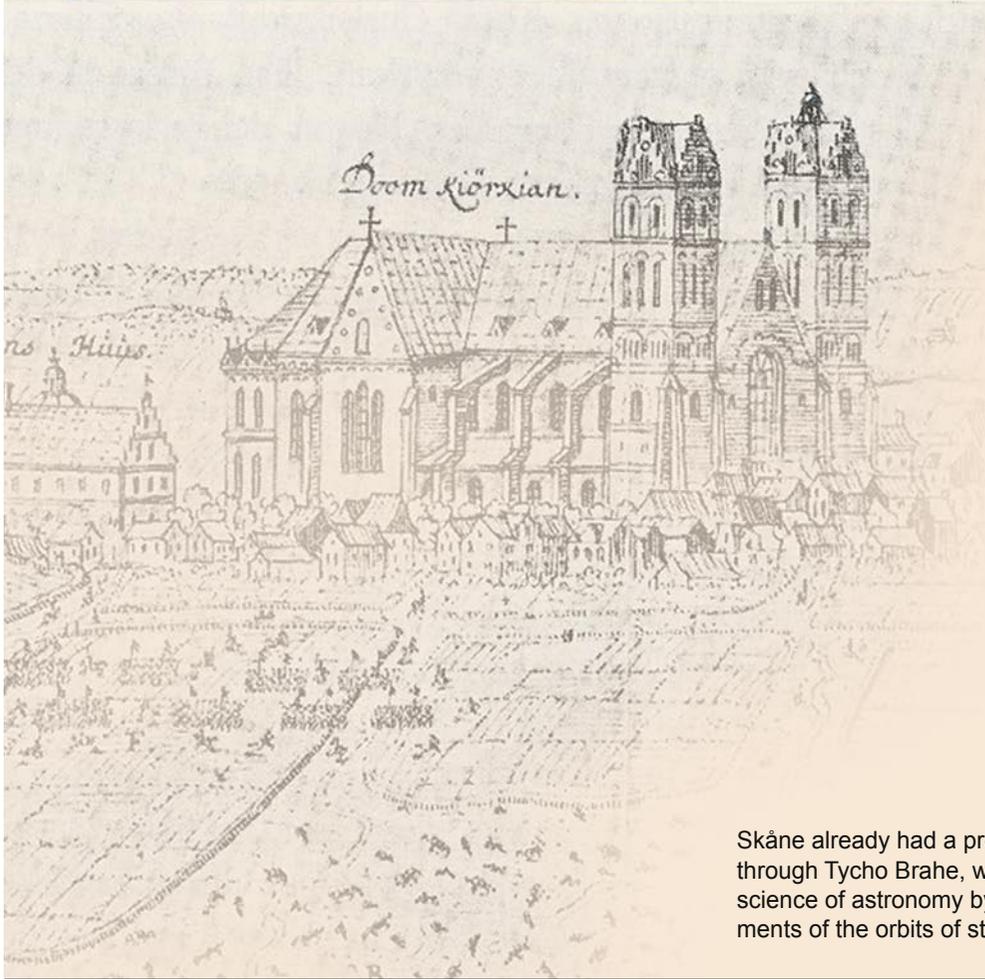


## **From fencing hall to nano church**

How the Department of Physics grew from one room in Kungshuset to today's large department.

# Physics in the Cathedral



When Lund University was founded in 1666, there was no specific chair in physics as we understand it today. It was first and foremost the two professors of mathematics who taught physics.

The University's teaching took place in three places: in the choir of the cathedral, in Peter Lykke's chapel in the south-western part of the Cathedral and in the fencing hall in the medieval Liberiet.



Tycho Brahe 1546 - 1601

Skåne already had a proud tradition of astronomy through Tycho Brahe, who had revolutionised the science of astronomy by making careful measurements of the orbits of stars, planets and comets.

## Triewald's instrument collection

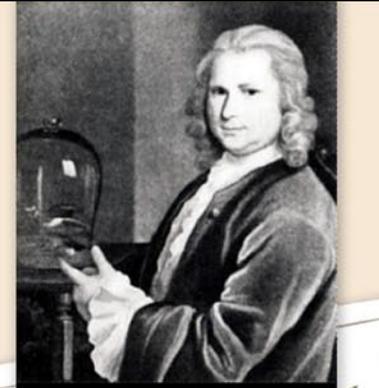
Lund's first chair in experimental physics was established in 1728 and was held by Kilian Stobæus. However, Daniel Menlös was to have a greater impact on the physics in Lund.

In the years 1728–1729, the Swedish merchant, engineer and amateur physicist Mårten Triewald held lectures at the Swedish House of Nobility in Stockholm on *the new natural science*.

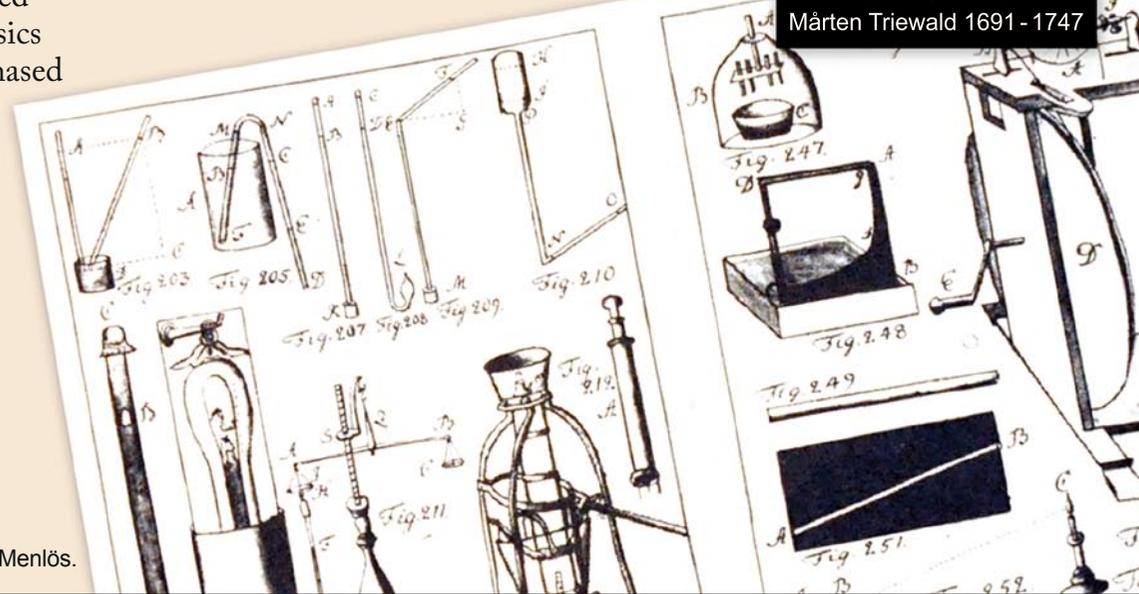
At the lectures he demonstrated an advanced collection of physics instruments that he had purchased in England, assisted by Daniel Menlös.

Large parts of Triewald's collection are now stored at the Science and Maritime House in Malmö.

The instrument collection illustrated by Niclas Schenmark, a pupil of Professor Menlös.



Mårten Triewald 1691 - 1747



## Menlös becomes professor in Lund

Through an agreement with Triewald, Menlös used the instrument collection as a lure when he applied for the chair in mathematics in Lund, promising to donate the collection to the University if he was given the chair.

Menlös was not highly qualified for the post, but thanks to the promise of the instrument collection, he was appointed professor in 1732.

He became the first to introduce Newtonian physics to Lund University.

Otto von Guericke's air pump, which belongs to the Department of Physics, was used in the famous experiment with the Magdenburg hemispheres in 1650.



Daniel Menlös 1699 - 1743

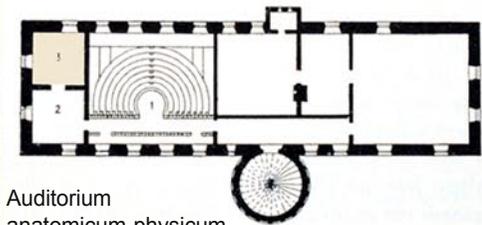


## First department premises 1735



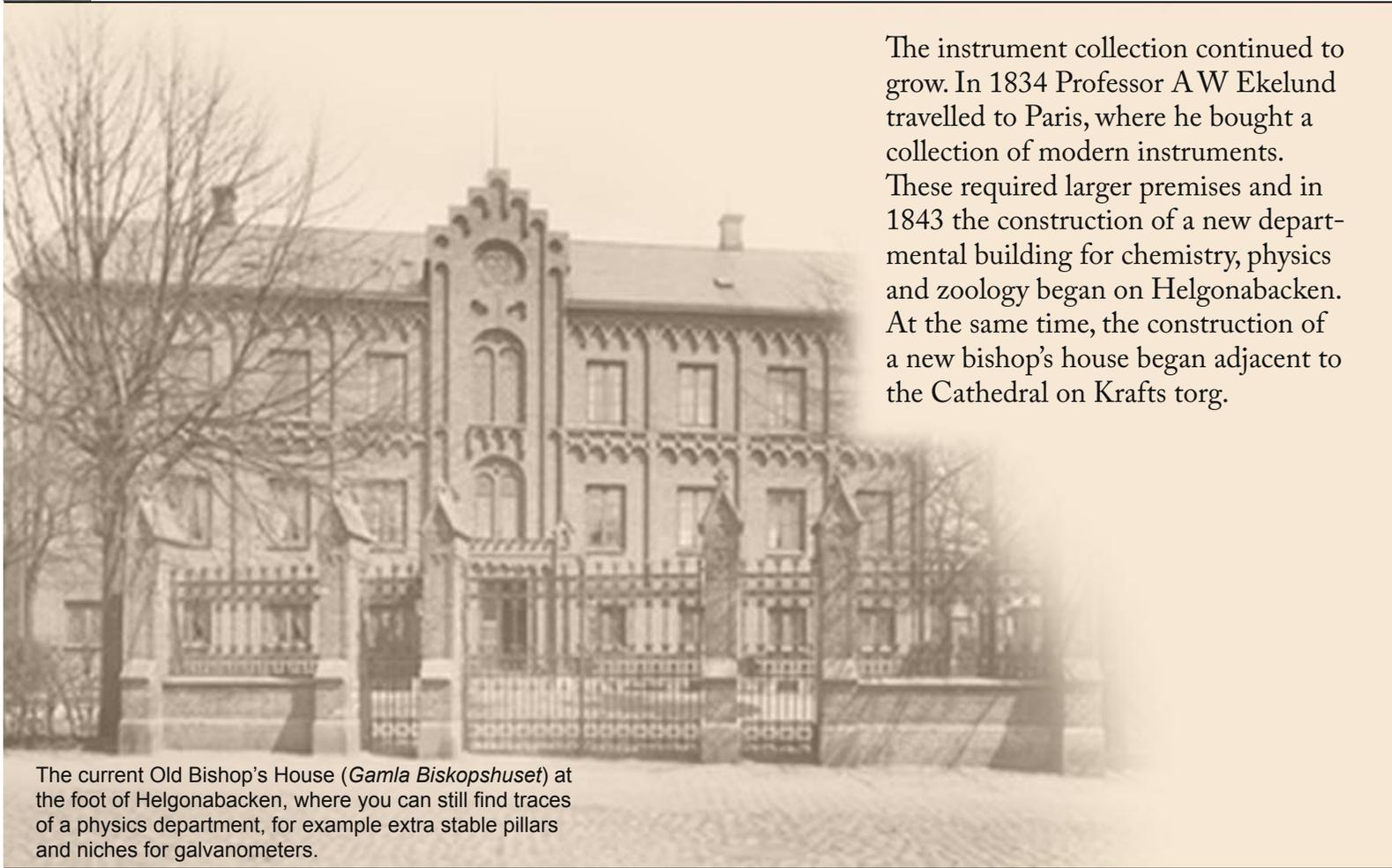
A monetary gift of 6 000 daler from Queen Ulrika Eleonora was used to rebuild Kungshuset. On the first floor, a lecture theatre was furnished as an amphitheatre (*auditorium anatomicum-physicum*) and a room was prepared for the Triewald collection. In 1735, the alterations were complete and the collection could be installed.

It is correct to say that the Department of Physics now had its own premises, even if it was only one room.



Auditorium  
anatomicum-physicum

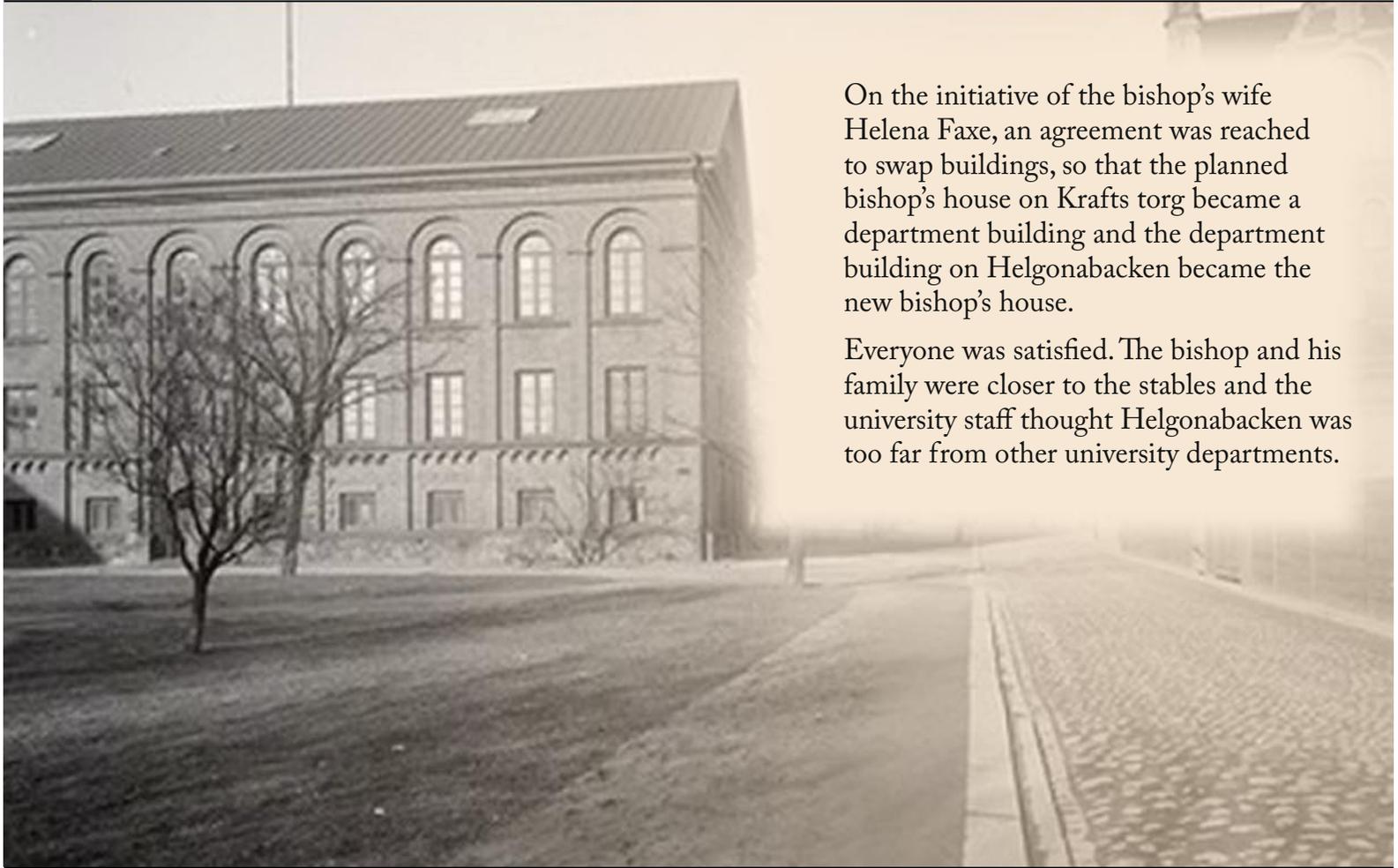
## Four years on Helgonabacken



The instrument collection continued to grow. In 1834 Professor A W Ekelund travelled to Paris, where he bought a collection of modern instruments. These required larger premises and in 1843 the construction of a new departmental building for chemistry, physics and zoology began on Helgonabacken. At the same time, the construction of a new bishop's house began adjacent to the Cathedral on Krafts torg.

The current Old Bishop's House (*Gamla Biskopshuset*) at the foot of Helgonabacken, where you can still find traces of a physics department, for example extra stable pillars and niches for galvanometers.

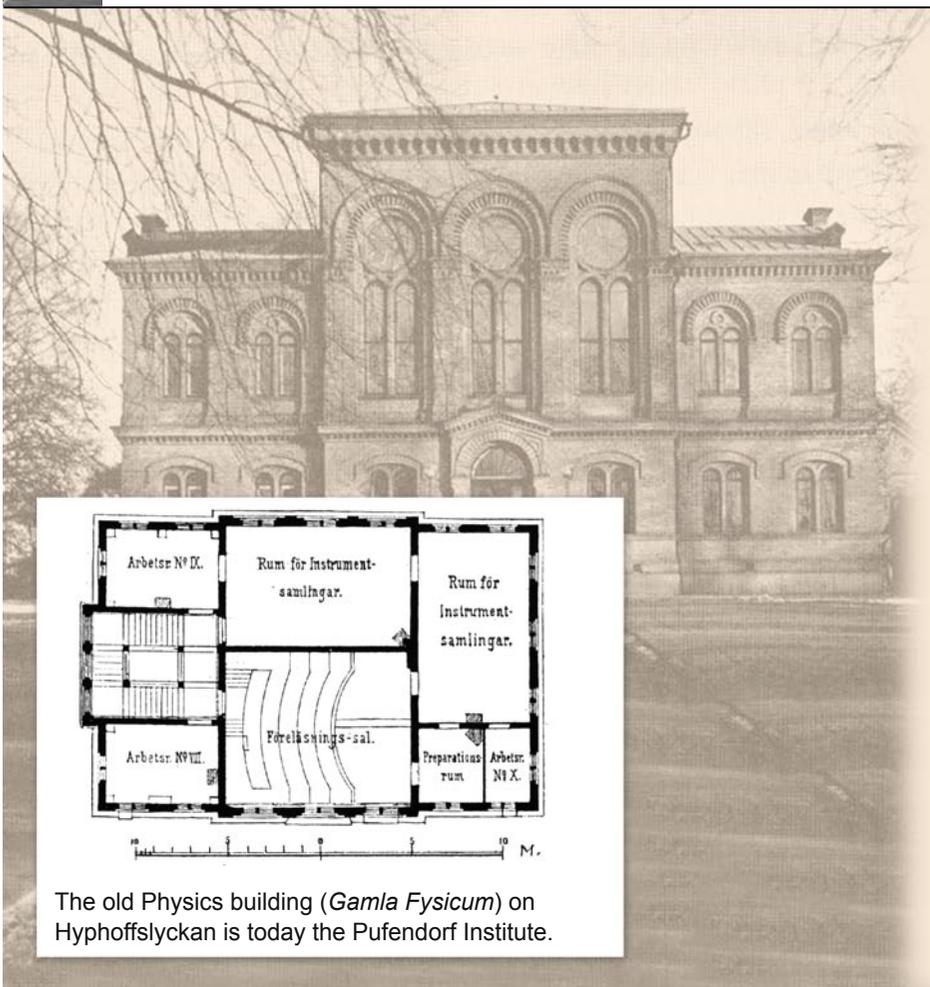
## Krafts torg 1850–1886



On the initiative of the bishop's wife Helena Faxe, an agreement was reached to swap buildings, so that the planned bishop's house on Krafts torg became a department building and the department building on Helgonabacken became the new bishop's house.

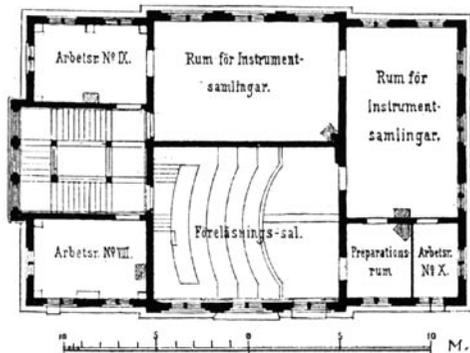
Everyone was satisfied. The bishop and his family were closer to the stables and the university staff thought Helgonabacken was too far from other university departments.

## Own building 1885



During the latter part of the 19<sup>th</sup> century, it became overcrowded once again. In order to manage the situation, Professor Holmgren rented a two-bedroom flat in the city and arranged for it to be furnished as a makeshift laboratory for research students' use.

In 1882 the Swedish Parliament awarded a grant of SEK 105 000 for a new Physics Department in Lund. The building was completed in autumn 1885 and housed two instrument rooms, an auditorium, 11–12 offices, a library, an assistants' room, a workshop, and a storeroom. There was still no designated area for laboratory exercises for undergraduate students.



The old Physics building (*Gamla Fysicum*) on Hyphoffslyckan is today the Pufendorf Institute.



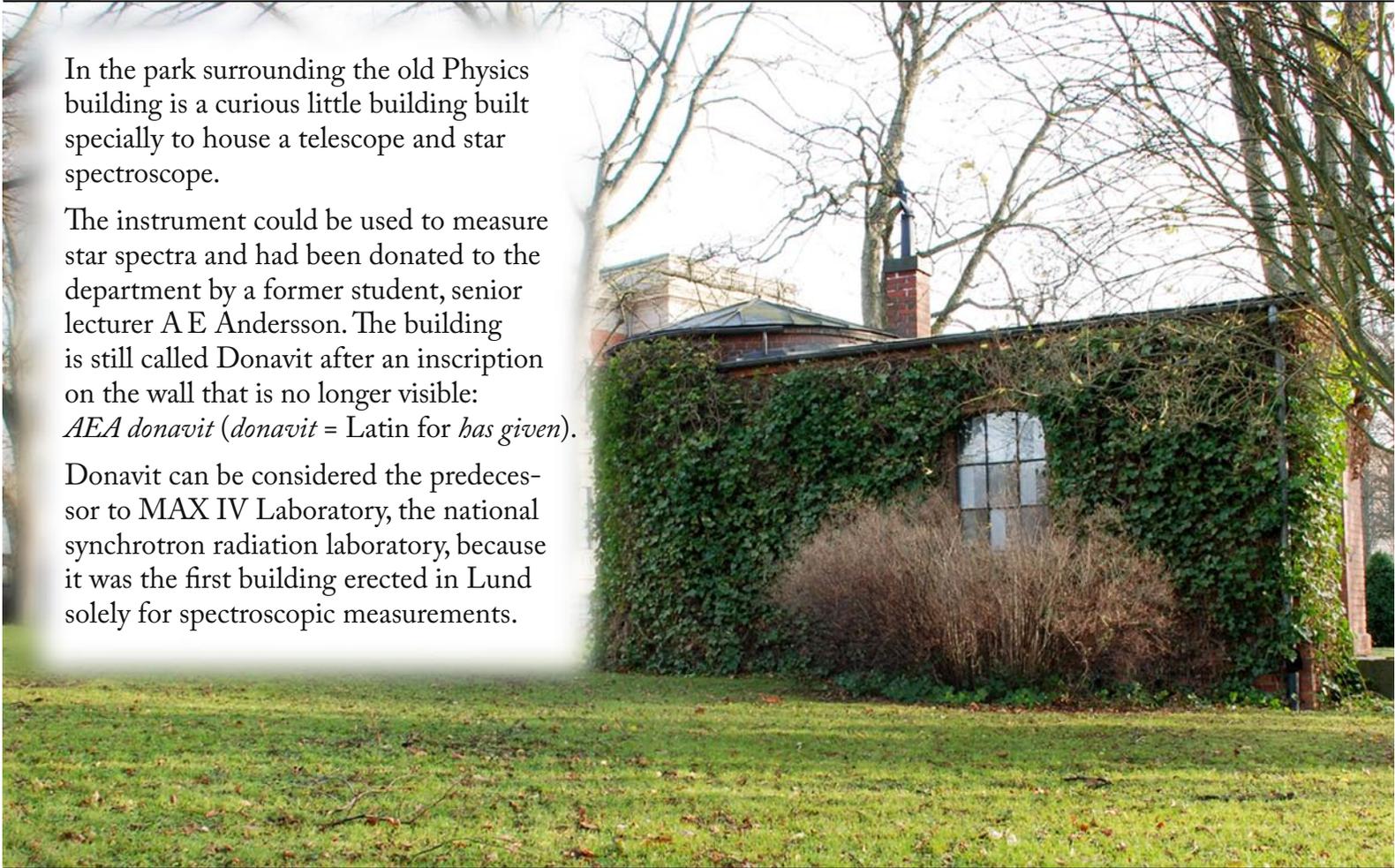
Karl Albert Victor Holmgren  
1824 - 1905

## 19<sup>th</sup> century MAX-lab

In the park surrounding the old Physics building is a curious little building built specially to house a telescope and star spectroscope.

The instrument could be used to measure star spectra and had been donated to the department by a former student, senior lecturer A E Andersson. The building is still called Donavit after an inscription on the wall that is no longer visible: *AEA donavit* (*donavit* = Latin for *has given*).

Donavit can be considered the predecessor to MAX IV Laboratory, the national synchrotron radiation laboratory, because it was the first building erected in Lund solely for spectroscopic measurements.



## Sölvegatan 1950–

John Koch, who succeeded Manne Siegbahn as professor in 1924, worked tirelessly to acquire further premises. However, the Second World War supervened. It was therefore Koch's successor, Bengt Edlén, who took over the responsibility for finding a solution when he was appointed to the chair in 1943.

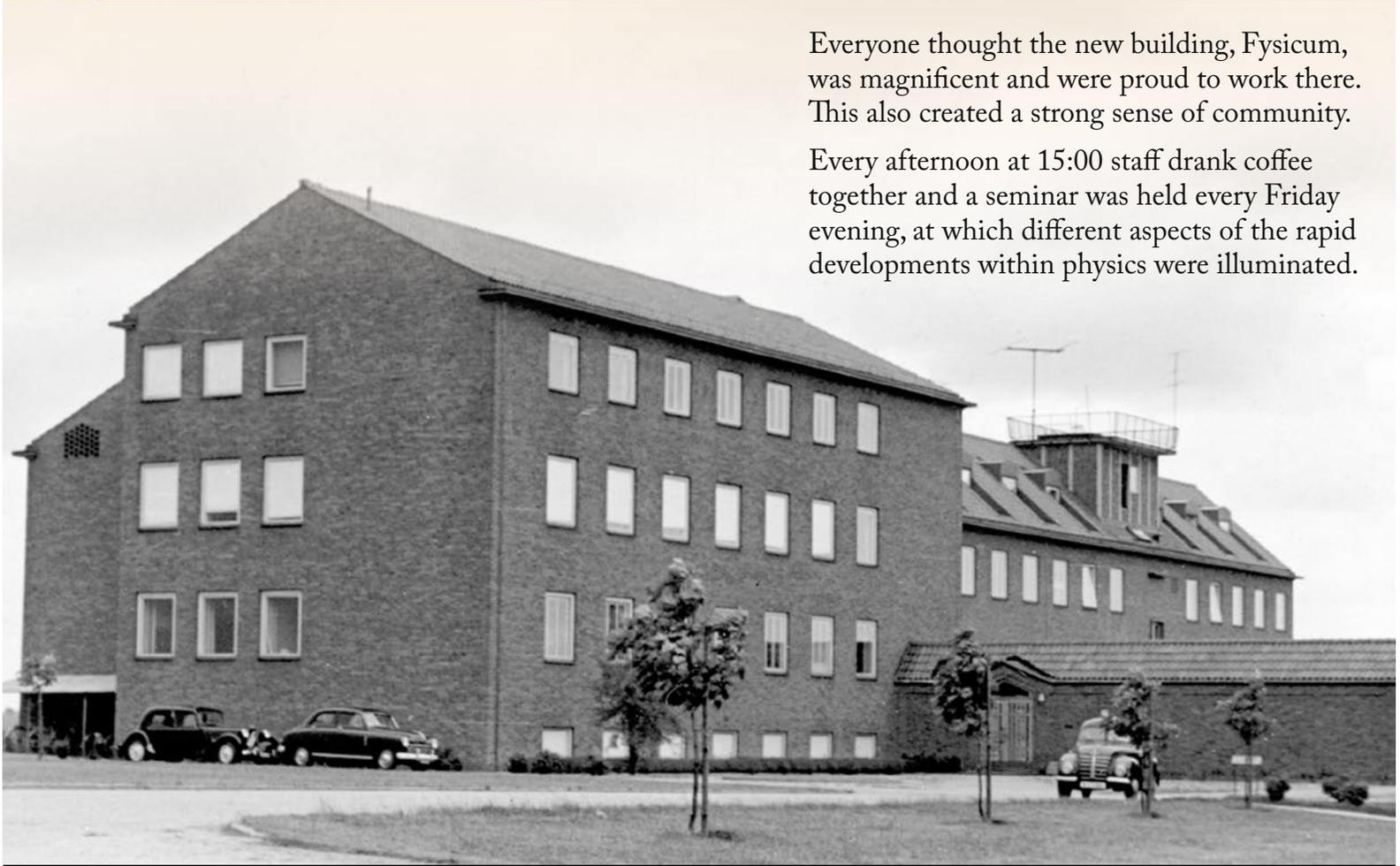
The new building on Sölvegatan was taken into service in 1950 and officially opened in 1951 by King Gustaf VI Adolf.



## Pride and community

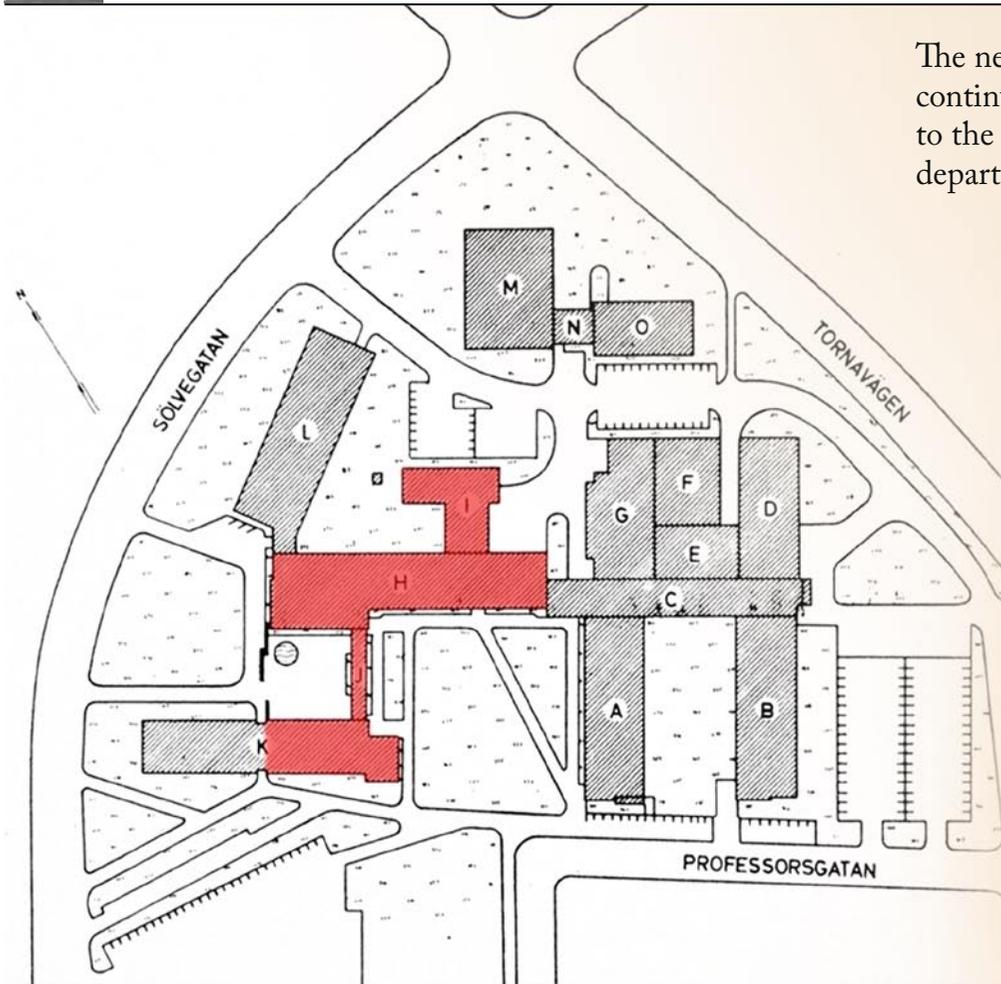
Everyone thought the new building, Fysicum, was magnificent and were proud to work there. This also created a strong sense of community.

Every afternoon at 15:00 staff drank coffee together and a seminar was held every Friday evening, at which different aspects of the rapid developments within physics were illuminated.



## Continued expansion

The need for space for research and teaching continued to increase, however, and in addition to the original buildings (marked in red) the department grew as follows until 1965.



- 1957 Synchrotron hall (G)
- 1961 Course laboratory (L)
- 1962 Extension for Theoretical Physics (K)
- 1964 Course laboratories for LTH (M, N, O)
- 1962–1965 New buildings with the establishment of LTH (A, B, C, D, E, F)

## Academic workshop

The department on Sölvegatan could pride itself on a well-equipped workshop where a number of skilled instrument makers manufactured the majority of the experiment equipment for the research divisions.

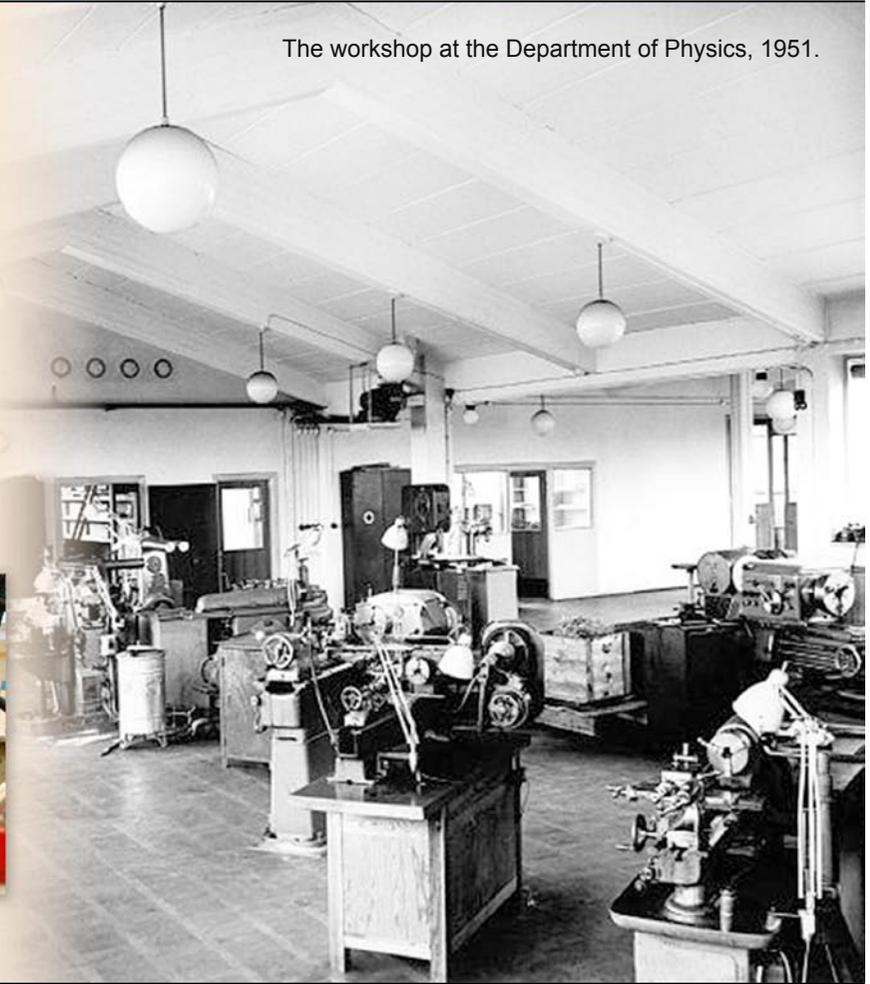
When LTH was established, demand increased and a second mechanical workshop was added.

In 1994, the mechanical workshops were merged in a new workshop wing with modern equipment. In 2011, five people served the entire university and Ideon Science Park. In December 2012 the workshop was closed down.

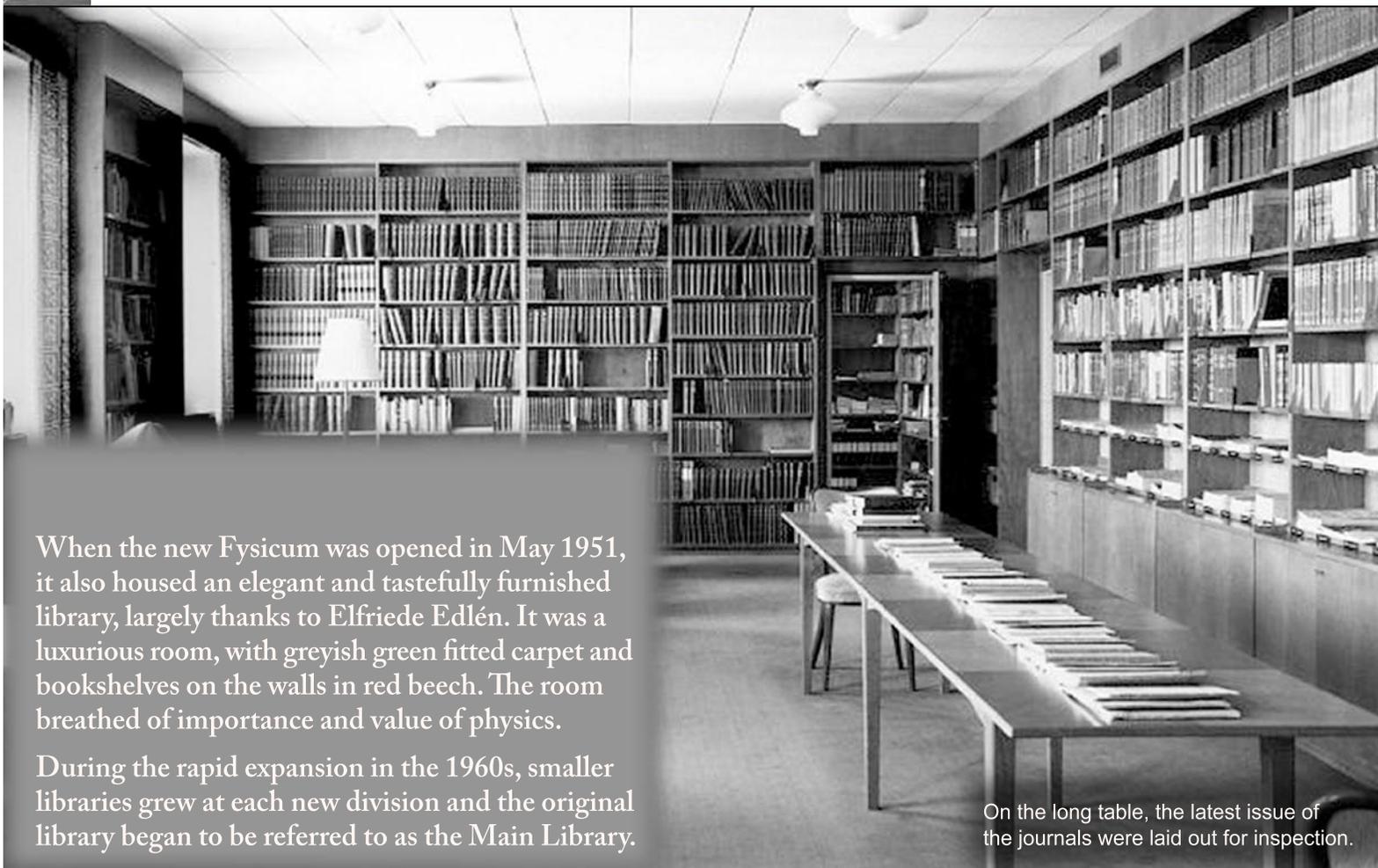


The Academic workshop, 2011.

The workshop at the Department of Physics, 1951.



## Main library



When the new Fysicum was opened in May 1951, it also housed an elegant and tastefully furnished library, largely thanks to Elfriede Edlén. It was a luxurious room, with greyish green fitted carpet and bookshelves on the walls in red beech. The room breathed of importance and value of physics.

During the rapid expansion in the 1960s, smaller libraries grew at each new division and the original library began to be referred to as the Main Library.

On the long table, the latest issue of the journals were laid out for inspection.

## Shared library 2006

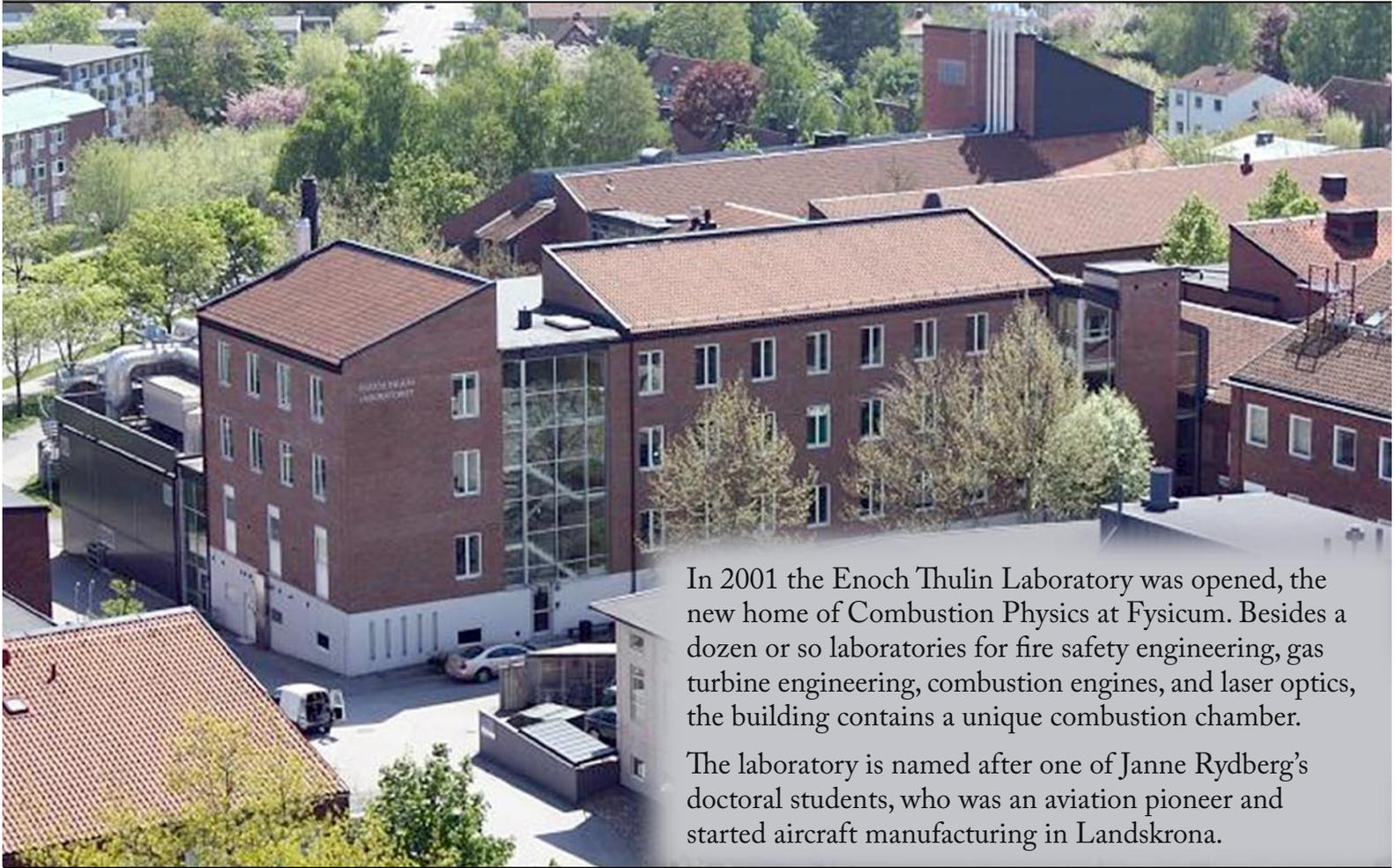
Unmanned collections spread out across the department eventually made finding items difficult. When Kristina Holmin Verdozzi took up the new post of librarian in 2001, planning began in earnest for a new, shared library. The problem was finding suitable premises.

When the decision was taken to close down the Pelletron accelerator, the large machinery hall stood empty and after extensive renovation and alteration it was able to house the shared library.

The new library, 2006.



## Combustion physics



In 2001 the Enoch Thulin Laboratory was opened, the new home of Combustion Physics at Fysicum. Besides a dozen or so laboratories for fire safety engineering, gas turbine engineering, combustion engines, and laser optics, the building contains a unique combustion chamber.

The laboratory is named after one of Janne Rydberg's doctoral students, who was an aviation pioneer and started aircraft manufacturing in Landskrona.



The nano church



The first sod is turned for the Berzelius Laboratory, with the Professors Hermann Grimmeiss, Bengt Edlén, and Nils Stjernquist.

After twenty years in cramped premises in building A at Fysicum, in 1984 it became possible for Hermann Grimmeiss, Professor of solid state physics, to move into a newly built wing of Fysicum which was named the Berzelius Laboratory (building Q).

In 2007 the wing was extended and specially equipped for the new activities in nanophysics and *the nano church* became a new feature of Fysicum.