

Who needs scientific instruments?

In October 2005 a three-day conference will be organised in Museum Boerhaave. The conference deals with instruments and their users. The central topic can best be formulated as a question: *who needs scientific instruments?*

Asked today, the question will typically lead to the answer that scientific instruments are used by scientists doing research, so that the question itself may seem somewhat superfluous. Yet there is more to it than meets the eye. Looking back over time, it becomes clear that there were different kinds of users who each used their instruments for quite different reasons: perhaps to display their wealth, in an attempt to prove the existence of God or for educational purposes.

Historians of science have primarily looked at scientists in the past. The attention of these scholars has focused mainly on the scientific heritage left behind by men such as Galileo, Hooke or Huygens. They often did take note of the scientific instruments involved, but saw them merely as a tool for their own theories. When described at all, instruments were invoked to show what kind of research scientists were doing and the results of that research. However, the development of these instruments and such questions as who or why they were made have rarely been considered in the history of science.

Beginning in the 1970s a more instrument-based view came to the fore. The publications of G. L'E. Turner and others contained intensive research, descriptions and categorisation of scientific instruments. Looking at the instrument allowed new information to be acquired about its usage, production and development. Indeed, instruments are made of specific materials, frequently have signatures, show signs of wear and sometimes have later additions. All this information made it possible to gain a deeper understanding of the research done with them. However, most such investigations led to a very specialised knowledge of the instruments themselves and seldom came up with a connection between theories in the history of science and the instruments used.

Simon Shaffer and Steven Shapin in their study *Leviathan and the air-pump* and later Peter Galison in his study *How Experiments End* adopted another approach. In these publications a connection was made between the history of science and scientific instruments. For this connection the users of scientific instruments played an important part. These users are the natural links between instrument and theory. With the aid of the users a more instrument-based history of science became available.

The users' role will be explored in this conference in three different topics:

The Status of Instruments **Location & Organisation** **Innovation**

These topics have been chosen because they cover a large area in the field of the instrument-based history of science. We hope that studying the interrelations of the three distinct topics will result in a new synthesis in which users and their instruments function as cornerstones in the history of science. We therefore invite historians of science as well as historians of scientific instruments to give their views and discuss the users of scientific instruments.