

Instruments that failed, became obsolete or forgotten.

The pitch session on “failures”, held at the Museum Boerhaave on 4 September during the Commission’s 37th symposium, aimed at stimulating a reflexion on instruments that were regarded as failures at their time or later. The aim was to discuss questions such as “Why do some instruments fail or fall into oblivion?”, “What can we learn from such instruments?”, “Can their study enrich the history of science?”, “Should they be displayed and how?”. Four short ‘pitches’ (10-minutes each) proposed examples and points of view, thus opening an in-depth discussion.

Richard Dunn (Royal Museums Greenwich) started the session with a presentation of the Admiralty Compass Observatory, established in the 1840s, which collected experimental and prototype instruments in the field of magnetic instrumentation, including devices that were not precise enough or even could not work at all. From a few examples, Richard showed how failed instruments can today contribute to bring new light into the history of technology.

Jan P. Hogendijk (Utrecht University) then described the astrolabe workshops he conducted in Pakistan in 2018, describing the reasons why astrolabes can raise interest today. He thus showed how such early-designed instruments can have a new life in new contexts and with different roles.

The changings that can happen in the way objects are regarded throughout time were then further discussed by Tacye Phillipson (National Museums Scotland), who focused on the case of phrenology, which is often displayed as a paradigm of bad science. Today, scholarly researches are shedding a new light on the role of phrenology in scientific development. Phrenology-related objects thus passed through several phases, from being regarded, initially, as successful instruments, then as failures, before their current phase as some museums start proposing a potentially extremely inspiring reflexion both on these changing views and on the current interpretation of these objects.

Finally, Sofia Talas (University of Padua) described the instruments designed and made in Padua in the 1930s by Bruno Rossi, one of the pioneers of cosmic-ray research. Due to the fascist racial laws and to WWII, Rossi’s instruments were not used until the end of the War, when they were already obsolete and did not lead to any significant scientific result. They were thus a failure for cutting-edge research, but were very useful for the local young physicists to learn about the experimental practices of particle physics. Such instruments could thus today be regarded as a kind of “training to research” devices, rather than being iconic objects linked to Rossi’s name.

The four talks provided different points of view on what being a failure may mean and on the role that failures can play in museums and the history of science. They launched a very lively discussion. Participants underlined that exhibiting instruments that can be regarded as failures is important to raise questions and reflexions on the way science has actually developed, showing that it is not as a one-way series of successes, as often presented, but that it faces difficulties, errors, steps forward and backward. This is actually what makes science fascinating for scientists, despite the fact that many scientists themselves often prefer to present only their successes instead of their actual way of working. This should be changed, at a time when the public more and more enjoys being brought to the backstage of institutions to discover their real life. Likewise, science teaching would also benefit from the presentation of failures, which could make science more lively and inspiring for young people.

Participants also pointed out that there are various ways of regarding the notion of “failure” for a scientific instrument. There are, for instance, collectors who only focus on failures, and the instruments they collect thus become “star” collection pieces. Makers, on the other hand, from the moment they regard an instrument as finished claim it cannot be regarded as a failure, thus underlying the subjectivity of the notion of failure. Sara Schechner and Ken Laurie described a James

Short telescope specially commissioned by Harvard College in the 1760s and reported as used during the 1769 Transit of Venus and later major events. In testing it recently, they discovered that its extreme magnification and altazimuth mounting made it totally unworkable. Presenting these kinds of narratives to the public and discussing them is certainly fascinating and thought-provoking.

The discussion underlined that the assessment of an instrument as a failure or as a success depends on the period of time, the location and on the individuals making the judgments. The discussion thus broadened the reflexion, underlining how the concept of “failure” for a scientific instrument is actually a historical phenomenon itself. More discussions on this topic would be welcome, maybe in a new session at the next SIC Symposium?