



## Editorial

### *Amateurs in the History of Physics*

Over a few decades around the turn of the twentieth century science became a profession. Not long afterwards, physics followed suit, along with other special sciences. The professionalization process, which took an avocation and turned it into a vocation, met resistance from those who favored the informality of a community that pursued knowledge of the natural world for its own sake. But professionalization also opened up science to new classes of practitioners, enabling the tremendous growth in the population of scientists that enabled the remarkable strides it took in the twentieth century.

Around the same time, history was professionalizing as well. Much of the history of modern science, then, has consisted of professionals studying other professionals. In subtle ways, historians looking back on physics in the twentieth century, and sometimes earlier, are incentivized to understand the currents of scientists lives in terms of the patterns of professional engagement that govern their own.

It is therefore helpful to remind ourselves periodically that the rhythms of professional life are comparatively new to science, and would seem alien to many of the amateurs who ensured the health of physics over the centuries. One of those, Gaetano Spandri, is the subject of an article in this issue of *Physics in Perspective*. Spandri, as we learn from Roberto Mantovani, was a skilled instrument maker and a prolific instrument collector, who situated himself near the center of scientific life in early nineteenth-century Verona.

Spandri's story reminds us of the changes that came with professionalization. He was able to establish himself as a premier instrumentalist without formal scientific education, without much engagement with contemporary theoretical discourse, and without the imprimatur of professional societies or governing bodies. What he did have was independent means and the ability to build himself into the social networks through which scientific knowledge was distributed. This account of Spandri as an instrumentalist can join the work of Terry Shinn and Bernward Joerges in describing how the status of instruments (and the careers of those who worked with them) has shifted over time. It also offers a useful complement to Iwan Morus's studies of Michael Faraday and William Sturgeon in the different context of Britain in the same period, which have shown how difficult it could be to maintain a reputation for those without independent means, but also how particular approaches to questions of visibility and law were tied to

understandings about the nature of natural philosophy and its relations to commerce, and these were reflected in instrument design.

More recently, interest in amateurism has reemerged in a different form. Citizen science has become a powerful movement, and public engagement has increasingly sought to include public involvement. It is therefore worth thinking about what we can learn from the long, rich, and varied history of amateur contributions to scientific knowledge and practice. Spandri's story is a reminder that these contributions are longstanding, and that amateur interests have long had the power to nudge scientific inquiry in new and productive directions.

An amateur, etymologically speaking, is someone who does something for the love of it. Even as science has professionalized, scientists have sought maintain avocation within their vocation—they have often maintained that their motivations have more in common with those of the amateur than they have with those of other professionals. In that sense, the stories of amateur scientists like Spandri form an important part of our foundation for understanding modern, professional scientists, right alongside the stories of its institutions and theories.

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