

The physicist's research notes as historical documents

If you have been given to believe that your physics research has produced important results, has it occurred to you that your laboratory notebooks and even parts of your experimental apparatus might be of great interest to historians of science and that you have an obligation to see that they are preserved for this purpose?

Since the inception of its history project in 1961, the American Institute of Physics has assisted physicists and their families in the evaluation of historical source materials in their possession and in the choice of appropriate repositories for the preservation of these materials. The Center for History and Philosophy of Physics welcomes inquiries from physicists who suspect that their personal papers might contain documents of historical interest.

The AIP has recently published a brochure, *Scientific Source Materials: A Note on Their Preservation*, to explain to scientists why historians consider preservation of apparatus, manuscripts, and other documents to be indispensable to their research and how such research materials may be preserved.

To fulfill the historian's needs, documents of physicists and astronomers should be preserved which reflect the nature of the investigation; the community in which the scientist worked; the university, industry, or laboratory that made the work possible; and the wider intellectual and social interests of the scientist. This would include all correspondence, laboratory notebooks, day-books in which he recorded new ideas, diaries, collections of research papers (particularly if they include comments by their author), photographs of his equipment and of the scientist showing him in various activities.

Whereas a physicist is primarily concerned with the end product of his and others' labors, historians are as deeply concerned with the origins and development of a scientific problem as with its final solution. The more closely the steps can be illuminated by correspondence and other documents that reflect the trends and changes in a man's thought, as well as that of the physics community, the more meaningful the historian's final account will be.

In 1960 a committee set up by the AIP



determined that there was a clear and urgent need for a concerted program at the Institute to promote the preservation of source materials documenting the development of recent physics. The Center for History and Philosophy of Physics (which encompasses the Niels Bohr Library) was established, in part, to carry out this mandate. The goal of the Center is to provide students and teachers of physics, historians, sociologists, philosophers and other scholars with the necessary resources to investigate the nature and origin of developments in physics, to evaluate the effect of these advances on subsequent developments in physics or upon technology and society, and to promote the public understanding of the role of physics as a human endeavor and as part of the intellectual mainstream of modern thought.

Clearly, it is the individual physicists and astronomers who hold the key to this preservation program. The Center may establish cooperative ties with university and industrial archivists as well as with historians and other scholars of science, but as long as physicists and their families fail to recognize the historical value of their papers this program can have only limited success.

The brochure, *Scientific Source Materials*, (AIP Pub. R-240), and other

publications of the Center are available upon request (Center for History and Philosophy of Physics, AIP, 335 E 45th St, New York 10017).

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Physics or Astronomy?

I must confess that as an astronomer my feathers were considerably ruffled when I read the letter from Richard M. Spector on "How Neptune was discovered" (March, page 13). To say that "the full story of the discovery of Neptune is one of the most dynamic and human stories in the entire history of physics" (*italics mine*) is fantastic. The accomplishment belongs clearly in the history of astronomy, and astronomy is certainly a discipline in its own right. There appears to be a growing tendency today to consider astronomy as merely a segment of physics—a view that Spector evidently shares, as will appear in what follows. To be sure, the prediction of the existence and position of Neptune did call on Newton's laws of motion and the law of gravitation, but that does not make astronomy a part of physics any more than the use of such concepts as temperature and blood-pressure places physiology within the domain of physics. And it must not be forgotten that the law of gravitation was discovered from astronomical observations. (I realize, of course, that "jurisdictional disputes" are often silly, but since we have subdivisions within science it seems proper that each development should, if possible be placed in the correct pigeonhole.)

The discovery of Neptune began with direct measurements of the changing position of the sky of the planet Uranus—measurements to which numerous corrections had to be applied. These corrections in turn, such as those for precession and aberration, had themselves been derived empirically from other astronomical measurements, some of them many centuries old and all of them entirely outside the realm of physics. Finally, utilizing these corrected observations, the prediction