The Archivist: Link Between Scientist And Historian

By J. FRANK COOK

WHY SHOULD the archivist stimulate the use of his scientific archives, and how may he accomplish this objective? I believe that manuscripts relating to the natural and physical sciences have been relatively ignored by scientists, historians, and even by college and university archivists. Unless your experience has differed greatly from ours at the University of Wisconsin, you have discovered historians relatively far more interested in examining holdings that deal with a political question, for example, than in working with papers relating to some scientific development.

The scientist has likewise largely ignored the archives of his institution except for an occasional request to see an old research notebook or, perhaps, to ask the archivist to store some research data for him until he finds the time to complete the project. Because of this lack of interest, the archivist has most likely not been as energetic in accessioning, processing, and encouraging the use of scientific archives as he has been of some of his other record groups. In his defense the archivist may argue that his training did not prepare him to handle adequately the manuscripts and archives produced by the sciences. The argument has validity, but in my opinion, it will have to be overcome in the years ahead. For I believe one of the most important functions the archivist will have in the future will be to serve as *a bridge between the scientist and the historian.*

By this I mean that the archivist will find himself more and more serving as a middleman between the scientist and the historian. He will help the scientist understand the necessity of society's knowing more about his life and work than just what is contained in the published monograph. And he will convince the historian that he should spend much more of his energy and time in an effort to understand and explain the most important historical trend in 20th-century America—the revolutionary developments in

The author is Director of the University of Wisconsin Archives.

science and technology. He will find it necessary to convince the scientist and the historian to cooperate and work with each other far more than they have done in the past. Such a technical field requires the expert knowledge of the scientist, but if his work is to be explained to the Nation, he will have to rely on the historian to interpret the more human aspects of the scientist's work.

The archivist will have to broaden his usual area of competence. He does not need to become a trained scientist or a historian of science, but as the papers of scientists and scientific disciplines will almost surely be destroyed unless he step in, he is the logical figure to bring about this cooperation between science and history. If the archivist does not develop the ability to insure the exploitation of his scientific archives, he has failed in a major responsibility.

The archivist can bridge the gap between the scientist and the historian if he is willing to do so. Archivists have long felt the necessity of knowing a little about many disciplines that were not part of their formal training. Maynard Brichford in his recent booklet *Scientific and Technological Documentation: Archival Evaluation and Processing of University Records Relating to Science and Technology* stated that "few scientists become historians and few historians master science." He added that "few archivists will gain a detailed knowledge of the scientific origins and the historical uses of the documentation they preserve."[1]

Nevertheless, the archivist is in a unique position. Only he can serve both the scientist and the historian in such a way as to bring their fields closer together, for he is the one who will arrange the papers of the scientist for use by the historian. I am not advocating any special arrangement that would violate long established archival principles. But the archivist is going to need the help of the scientist in preparing finding aids and descriptions. He should use that opportunity to interest the scientist in the preservation of a historical record of his work. He should also use the opportunity to introduce the scientist to the historian, so that the latter may come to understand more fully what technical, scientific knowledge he will have to learn from the scientist in order to write an adequate history of a scientific topic.

The archivist who makes the effort to build a bridge between science and history will find that he is not laboring alone. Some scientists want to understand the history of their profession and some historians show increased interest in the history of science. A professor of physics, John A. Wheeler, made clear his interest in

[1] Maynard Brichford, *Scientific and Technological Documentation: Archival Evaluation and Processing of University Records Relating to Science and Technology*, p. 2 (Urbana-Champaign, Ill., 1969).

the history of his discipline in a preface he wrote for an inventory and report on *The Sources for History of Quantum Physics,* which was prepared by the American Philosophical Society.

> Neither physicist young nor physicist old can serve society with full effectiveness until the past has sprung into intense and unfolding drama before his eyes: the great men, the great struggles, the great ideas. These historical insights are not for scientists alone, but also for analysts of the creative process, and makers of government and university policy toward science.

He saw history as having a practical value for the scientist:

> Many a young scientist lacks conviction about important points in work-aday quantum theory, and is deprived of the deepest insights into the quantum principle itself, because he does not know the debates that settled these issues firmly for the fathers of the quantum theory. He troubles over the same old issues indecisively and ingloriously.[2]

A. Hunter Dupree, a historian from the University of California at Berkeley, chided his fellow historians for their lack of interest in the history of science in an address before the American Historical Association's annual meeting in 1964.

> American civilization and modern science occupy the same span of history. Many pay lip service to the overwhelming role of science in the mid-twentieth century, and the rise of the United States to world eminence both politically and culturally is equally a self-evident proposition in contemporary history. Yet few people expect to find a connection between the two phenomena, and fewer still have any sense of the possibility that science is a thread woven into the very fabric of American civilization from the beginning.[3]

The archivist must actively support the efforts of groups such as quantum physicists to preserve their professional papers. If he enthusiastically helps them, he will be able to make sure that they carry out their project in keeping with sound archival practice. He can prevent scientists from destroying their papers before the historical value has been determined. Second, if the archivist is a trained historian or if he has access to professional historians, he can advise the scientists what records the historian will find most useful. Briefly, the scientist and the historian may pool their talents through the archivist to guarantee the creation of an excellent scientific archives.

2 Thomas S. Kuhn and others, *Sources for History of Quantum Physics: An Inventory and Report,* p. vi (vol. 68 of the *Memoirs of the American Philosophical Society;* Philadelphia, 1967).

3 A. Hunter Dupree, "The History of American Science—A Field Finds Itself," in *American Historical Review,* 71:873 (Apr. 1966).

Fortunately, the archivist has an ally in his efforts to increase the use of his scientific archives. A new discipline—the history of science—has been developed that unites history and science. It is a relatively new department at most schools, but admirable work has been done in many fields. Here at the University of Wisconsin Professor Aaron J. Ihde has written a very fine history of modern chemistry. One of his graduate students, now a professor of history at the University of South Carolina, has just published a biography of a dean of the College of Agriculture of the University of Wisconsin. This student came to Ihde with an undergraduate degree in chemical engineering, which prepared him to handle the more technical aspects of the dean's career as an agricultural scientist. The University Archives devoted considerable staff time to helping him complete his research in the dean's administrative papers. The training he received from the department of history prepared him in the proper method of writing a biography. The finished product is something that we can all take pride in—the College of Agriculture, the departments of history and the history of science, the family of the dean, and the University Archives. The archivist will undoubtedly find professors of the history of science professionally interested in increasing the quality and use of scientific records.

The archivist must remember, though, that even professional historians of science may lack the background to write on all aspects of a scientific topic. Almost all of Professor Ihde's graduate students come to him with scientific backgrounds as undergraduates and as a result, most of them are interested in the internal, or purely scientific, phases of a subject. The external phases, or what Professor Idhe calls the "philosophical" aspects, of a topic require someone with a more humanistic background. Professor Ihde clearly recognizes this problem, but at present, the discipline is divided into two camps over this question. One group maintains that only a person so thoroughly trained in a science as to be capable of carrying on original research is properly prepared to evaluate the historical significance of that science. The other group maintains that only a strong liberal arts background combined with adequate training in historical method is required to competently handle all aspects of science worthy of a historian's attention. When either of these extreme views has dominated the other, the discipline has suffered. The archivist should be concerned enough with his scientific archives to make certain that his holdings are used by both divisions of the history of science department in his institution.

In the foreseeable future, most of the more philosophical aspects of scientific history will be handled by the professional historian.

There simply are not enough properly trained professors of the history of science to handle every aspect. The archivist has a clear responsibility to be sure that he has made thorough use of his institution's scientific talent in an effort to assimilate his scientific archives into a form that the historian will find intelligent and workable. Here at the University of Wisconsin Archives we found it necessary to hire a professional limnologist to arrange and classify our records from the limnology laboratory. Those of us on the archives staff did not understand much of this highly technical material. Hopefully, the historian will now be able to use the files with relative ease. The director, trained as an historian, worked with the limnologist. The end result of this combination was a record group that will be found to be of use to both the scientist interested in limnology data and the historian interested in determining the past of a science in which the University of Wisconsin pioneered.

I realize that this task of serving as a link between the historian and the scientist will not be an easy one. If we succeed, however, we will have preserved both the documentation of one of the most important aspects of our society and the knowledge of how to utilize such records. We will have earned the gratitude of future scholars and assured our place among their ranks.

Clearly, I have not proposed many concrete solutions. Those of you who are interested in scientific archives should examine, if you have not already done so, the proceedings of the Conference on Scientific Manuscripts that were published in Part I of a 1962 issue of *Isis*, the journal of the history of science. This volume discusses in a series of papers the many problems involved in preserving scientific documents.

I would like to see archivists work with beginning graduate students in history and in the history of science by encouraging these students to use the manuscripts of the archives for their theses. If staff and money permit, perhaps, we could open our collections to the graduate students in science so that they might develop some appreciation of how their predecessors worked out their theories. And more important, such a tour might encourage these future scientists to preserve their own papers.

I see this work of bridging the gap between science and history as a chance for the archivist to work against the excessive academic specialization that surrounds us today. I might have been a biochemist today if the freshman biology course had had more—I might almost say any—treatment of the history of how the science of biology had developed. I soon found, however, that I was more interested in knowing something about Darwin than in cutting up another starfish.