

Editorial: Sarton, Science, and History

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## **EDITORIAL**

## Sarton, Science, and History

Those Georges are not English monarchs, but Orwell and Sarton. It was George Orwell's 1984 that laid out for us the scientific nightmares that might be enacted in a truly "advanced" society. Orwell wrote in 1948, in the aftermath of war, and with the artist's gift for satire. One of his targets was the optimistic faith of those to whom science and progress were almost synonymous terms. George Sarton early embraced just such a faith. His faith was the means through which first Isis, then the History of Science Society, was created. It is thus a mild but not unpleasant irony that Orwell's fateful 1984 is the year in which we celebrate the centennial of Sarton's birth.

The juxtaposition of the two Georges is instructive. George Sarton was born in the year in which the Fabian Society was founded and the first practical steam turbine patented. A positive view of the possibilities inherent in science came readily to him. The progressive direction of history and the central role of science as the motor of civilization were matters easy for Sarton to enunciate. Convincing others of the importance of studying the history of science and organizing the necessary learned discipline were tasks that might take a lifetime or more. But the tasks themselves were obvious, and of obvious worth. In contrast, George Orwell was a writer who looked on the dark underbelly of things. 1984 was written in a mood of profound pessimism and against a background of wars and rumors of wars, with the military possibilities inherent in scientific knowledge too freshly vivid to require exegesis.

Today we find it hard to share Sarton's vision of a science-based *nirvana*. Orwell's sinister scientific nightmares seem equally unlikely to be realized. Instead we face a more complex, less tractable reality than either George envisaged. The very complexity of the modern world of science gives us an opportunity, as historians. In 1984 the importance of science itself does not require demonstration. Nor do thoughtful individuals need to be convinced that historical study offers one fruitful road to humane knowledge. The services of historians of science are thus accepted and required throughout the learned world, in a way almost unimaginable as recently as 1924, when the History of Science Society was founded.

Ordinarily, *Isis* is devoted to the patient reporting of the results of original research on the history of the sciences themselves. In this anniversary year, however, it seems appropriate that we pause to consider not how science has changed, but how our historical ability to understand that science has itself matured in the decades since 1924. Accordingly, this anniversary issue of *Isis* offers vignettes of Sarton, science, and history. Like history itself, the issue begins with the reflections and recollections of participants. Five distinguished statesmen of the history of science give us their memories of George Sarton and

Right: From Sarton's letter to the chief librarian at the University of Ghent, 4 November 1902. Courtesy of the Central Library, University of Ghent (see page 40).

Below: George Sarton in 1909.



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Above: George Sarton in 1925.

Left: From a letter Sarton wrote V. I. Vernadsky on 29 August 1937. Courtesy of S. R. Mikulinsky (see page 62). of some early stages in the spread of systematic teaching and research in the field. Appropriately, these recollections open with John T. Edsall's memories of an undergraduate course given two years *before* the History of Science Society was founded, continue through I. Bernard Cohen's early days at Harvard, turn to similar developments in Great Britain with A. Rupert Hall and A. C. Crombie, and conclude with Thomas S. Kuhn's reflections on the strategies adopted and the prices paid as the history of science became a regular academic discipline in the 1950s and 1960s.

Recollections and reflections may form a starting point for history, but documents are its necessary staple. In our second section we see scholars at work, painstakingly building up the factual and evidential structures on which all history depends. In this case the common subject is George Sarton, as revealed in his copious correspondence. Mark De Mey and Hosam Elkhadem utilize hitherto neglected documents to throw new light on Sarton's life in Belgium and the formation of his beliefs, while Bern Dibner uses the rich holdings of the Burndy Library to portray Sarton as the dedicated scholar, alone yet at the center of a vast web of correspondence. Important strands in that web are traced by Tore Frängsmyr and S. R. Mikulinsky. Together these documents convey a vivid sense of the loneliness—and the liberty of action—of pioneer days.

In making history, recollections and documents offer us points of entry. But history itself consists of coherent accounts. Those accounts may have both chronological and analytical components. It is one mark of the still-young state of the history of science as an academic discipline that we do not possess coherent accounts of how our subject has itself developed in particular locations. A promising start toward this goal is made in our third section. Victor Hilts's article deals with the tradition of work in the history of science at the University of Wisconsin. That tradition began with William Snow Miller and Edward Kremers at the start of this century, led to the establishment of a department in the 1940s, and is now manifest throughout the university in the interlocking programs so well described in the article. By weaving a narrative that relies on oral history interviews and archival repositories to describe the building of an institution, the article offers an excellent foil to the more personal narratives in our first section and to the documents in the second. In its turn, the Wisconsin article is illuminated by Margaret Rossiter's important account of the patronage of the National Science Foundation, which while serving the broader purposes of promoting scientific activity in the United States, also helped shape the agenda of our field through the 1960s and 1970s.

History is made as historians form their accounts in the light of available sources. And—as is revealed in our News of the Profession section—the traditional ideas about sources are rapidly changing. Here as elsewhere, the problems and opportunities ramify rapidly as the more recent periods of history are approached. Whatever other difficulties he or she may confront, the historian of Greek astronomy is not overwhelmed by the sheer number of the available primary sources. The science of the twentieth century, however, was created with the aid of and is preserved in arrays of documents that stagger the imagination. The reports offered by Bruce Wheaton, Clark Elliott, and William Aspray reveal some of the questions that confront historians of science when they explore the recent past. Those reports also display very clearly the growing

complexity of the ancillary institutions through which the act of historical inquiry into modern materials is made possible. George Sarton himself yearned for an institute for the history of science: even he could have had little sense of the scale of the teamwork that is beginning to emerge in our field, in relation to twentieth-century science.

If one were to regard this anniversary issue of *Isis* as almost a seminar in historical method (or at least as providing illustrative materials for such a seminar), then its concluding parts ought to consider how, by thought about technique and by careful review of finished pieces of historical work, one might advance in the ability to pose fruitful questions. Here, the Critiques & Contentions section and the Review Symposia prove of special value. G. Nigel Gilbert, Michael Mulkay, and Steven Shapin discuss some of the special problems facing the historian of very recent science: the relationship between scientists' accounts and historians' accounts, and the meaning of scientists' accounts in different contexts. These authors' lively exchange allows us to see how history is made. From a quite different but equally promising perspective, Frederic L. Holmes confronts the differences—and similarities—encountered when one studies the individual scientist in the near and deeper past. Finally, our two review symposia show how major historical works are digested and evaluated within the community of scholars. This process of evaluation inevitably sends us back full circle to those reflections and documents with which we began.

This issue of Isis comes in the year of the two Georges. It also celebrates not one but two anniversaries connected with "our" George, George Sarton. In 1884, when Sarton was born, the history of science was entirely an occasional and episodic affair, dependent on the personal and private enthusiasms of a very few lone individuals. In 1924, when the History of Science Society was launched "to do something for Sarton in the matter of *Isis*," there was more promise than substance to the idea of the history of science as an organized field of learning. Today in 1984, that field is small but secure. The History of Science Society has over two thousand individual members, is growing steadily, and possesses a proud reputation. The auguries are favorable for the success of the Society's present drive to secure a more adequate financial base. If he could read this anniversary issue of his (and the Society's) journal, George Sarton might be agreeably surprised at the scope, scale, and subtlety of the profession of the history of science as here revealed. One also hopes that this issue would give some comfort to George Orwell, and show him that—even in 1984—science and humanism go well together.

> Arnold Thackray New Year's Day, 1984