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## How An Understanding Of Science History Is Useful, Enriching, And Rewarding

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It was gratifying to publish Franklin Hoke's article titled "History Of Science Societies Sprout Up Nationwide, With More Researchers Studying Lessons Of The Past" (*The Scientist*, Nov. 15, 1993, page 1). The dramatic proliferation of these societies is a very healthy trend.

Throughout my career—in fact, since my early adolescence—I have been fascinated by the history and sociology of science. Indeed, it's quite likely that a book my uncle gave to me at the end of my freshman year in high school—John D. Bernal's *The Social Function of Science*—was the spark that ignited my incipient interest in research and influenced my eventual decision to make a career for myself in the science community.

As a Columbia University undergraduate, I wrote a paper on biblical treatments of medical problems; later, as a young chemist at Johns Hopkins University—where my investigations of information retrieval were launched—I worked under Sanford V. Larkey, a physician-librarian with an abiding interest in Elizabethan medicine; and at the Institute for the History of Medicine, I met scholars like Richard H.

Shryock, the "dean" of American medical history.

Chauncey D. Leake—pharmacologist, dean, medical historian, and one of the leading mentors in my life—introduced me not only to the subtleties of review writing, from which my ideas on citation indexing sprung, but also to Egyptian medical papyri, Leonardo da Vinci, and a host of other science history subjects. Later, I became closely associated with Derek J. de Solla Price—the creative pioneer of scientometrics—and Robert K. Merton, the quintessential sociologist/historian of science.

In 1958, at the International Conference on Scientific Information in Washington, I met John Desmond Bernal himself, the man whose work had stimulated me first as a teenager and later at the Welch Indexing Project at Johns Hopkins. (After his death about a decade ago, I was happy to sponsor the J.D. Bernal Annual Award of the Society for the Social Study of Science.)

Why has the study of the history of science remained so compelling for me? What prompted some of the people I've mentioned previously, and countless others, to devote the bulk of their professional lives to

learning, teaching, and writing about it? What is its practical value to the researcher of today? And why do I so warmly greet the news that interest in the subject appears to be spreading rapidly?

There are many ways to address these questions. I think it is safe to say, for instance, that each of us, no matter what our role may be, gains from the understanding that the daily tasks we perform, petty and routine as they often may be, contribute to the composition over time of a larger pattern and more elevated purpose than is immediately perceptible to us. The study of history not only provides a glimpse of the ennobling grand scheme, but also reinforces our sense of community with our colleagues, with those who have preceded us in time, and with those who are to follow.

Hoke's article quoted a long-time associate of mine, Gerald Holton, a Harvard University professor of physics and the history of science and past president of the 4,000-member History of Science Society. "For understanding the 20th cen-

ture," Holton contends, "it is a requirement to be able to understand what science is about, how it works, and what influence it has had." This is especially applicable today, he says, in light of the fact that "something like half the bills in Congress have scientific or technological implications."

Perhaps the most strikingly poetic justification was provided in 1955 by the Belgian-born George Sarton, author of the mammoth *Introduction to the History of Science* and often referred to as "the father" of the field. In the mid-1920s, Sarton—founder and editor of *Isis*—organized the History of Science Society. At the first George Sarton Medal ceremony in 1955—the year before his death—he said:

"The past cannot be separated from the present without grievous loss. The present without the past is insipid and meaningless; the past without the present is obscure. The life of science, like the life of art, is eternal, and we must view it from the point of view of eternity."