

The Joseph Henry Papers Project

A Physicist's Perspective

The career of Joseph Henry coincides with a major change in the status of science in the United States--a transition for which he personally is, to a very great extent, responsible.

Prior to Henry, science in America provided in the main an interesting intellectual pastime for amateurs of various kinds, such as gentlemen farmers, physicians, politicians such as Jefferson, or in some cases, for members of the military who had a technical background and desired to extend their understanding of science for professional reasons or out of wholesome curiosity.

Henry, from the beginning of his career at the Albany Academy, insisted that our country had a major destiny in professional science and pursued that goal relentlessly in every possible way. He was the first great torch bearer for professional science in the United States. It is true that some of the amateur scientists, most notably Benjamin Franklin a century earlier, made extraordinary discoveries just as some individuals of similar diverse interests in Europe did, but Henry's dedication to the advancement of science was all-encompassing and without compromise.

As mentioned, Henry began his career in upstate New York where, independent of Faraday, he discovered the laws of magnetic induction and for this quickly gained an international reputation. His qualities were appreciated by Princeton University as early as 1832 and he was taken on as a full fledged faculty member and research investigator. This in itself was a remarkable step since most universities in our country at that time focused their attention on the teaching of young gentlemen destined for careers in the clergy, law, medicine, or business and regarded scientific research as fairly peripheral to the main course of education. Those individuals who wished additional experience had the privilege of going abroad to the European universities. Among his researches at Princeton, Henry extended his work on magnetism and, incidentally, developed one of the first telegraph systems in our country for local use.

By 1846, when the dust had finally settled on matters related to the acceptance of the Smithsonian bequest--a matter which extended over a good decade--the Regents decided that Henry had the unique qualifications to develop the institution to its full potential and invited him to do so.

The tasks he faced were formidable ones because the future goals of the institution remained a matter of open controversy until the Civil War. The leaders of the southern states were very suspicious about the creation of any institution that might bear the imprint of federal status. Some individuals wished to have the resources widely dispersed outside of Washington, others wanted a museum, whereas others hoped for a grand portrait gallery.

It required all the skill and persuasive powers that Henry possessed to make certain that, among other things, the Smithsonian would become a truly representative research institution that had some hope of gaining international reputation as such. No lesser man could have accomplished what he did. In fact we know there were moments when he was sufficiently depressed by the controversies and confusion which surrounded both him and

the institution that, on several occasions, he seriously considered abandoning his program and returning to a quieter scholarly life in Princeton. Fortunately he did not.

A major turning point came during the Civil War when the Southern opposition disappeared from Washington and the need of the North to take advantage of its technological base spurred interest in science and scientific research that had a bearing on practical matters. Joseph Henry had the good fortune to become a close friend of President Lincoln during this period. The latter visited him frequently at the Smithsonian Institution both for diverting relaxation and to gain some understanding of the research programs underway.

One reflection of the growing interest in pure and applied science in our country at that time is symbolized by the creation of the National Academy of Sciences in 1863, partly to consolidate professional effort in science and engineering in pursuit of the war.

Interestingly enough, the founding members, who were to a considerable extent what I have termed amateur scientists, surreptitiously excluded Henry from the initial founding circle not because they questioned his competence, but because he had expressed fears about the possible partisan nature of such an organization, and his support was uncertain.



Painting by Albert Herter in 1924, depicting President Abraham Lincoln signing the Charter of the Academy of Sciences in 1863. Henry is third from left. Courtesy of the National Academy of Sciences.

Henry was, of course, made a founding member once the legislation creating the Academy had been signed. Moreover, the membership were more than glad to make him take on the presidency as soon as the Civil War ended since they realized that only he had the strength of purpose and understanding to continue the work of the Academy into the period of peaceful development of our country that lay ahead. Without him, the institution would probably have withered away or been completely dormant until nearer the end of the century when our country recognized in full depth that it had to encourage science on a large scale.

Most nations recognize certain individuals who are regarded as the fathers of the establishment of science in their communities. For example, the English think of Gilbert and Bacon, the French of Descartes, the Italians of Galileo, the Germans of Leibnitz, and the Russians of Lomonosov. While popular lore in the United States ascribes that status to Benjamin Franklin, who was indeed a remarkable genius, the truth is that the evolution of science in our country both through the establishment of standards and the creation of institutions was far more dependent upon the persistent, undeviating work of Joseph Henry.

It follows that the papers associated with the activities of this great man reflect far more than the immediate product of his scientific genius. They mirror, in a very significant way, the activities of several generations of individuals in our country who strove to establish a firm base for professional science. In effect, his papers could be given the label "The Life and Times of Joseph Henry," as a reflection of an important stage in the evolution of the nation.

*Dr. Seitz, a leader in the field of solid state physics and president emeritus of Rockefeller University, chaired the Joint Committee of the Sponsoring Institutions for the Joseph Henry Papers Project.

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