

What Is History and Why Is History Important?

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What Is History?

History is the study of some subject in chronological order: tracing ideas back to their origin and studying the evolution of ideas or events. History is most commonly used to study government and politics, but history can also be used to illuminate other topics, such as science, technology, or law. A biographer writes a history of one person and how that person changed or influenced society.

The essence of history was tersely expressed by Prof. Ronald Edsforth at Dartmouth College: “I sought answers to three questions: what happened, what happened next, and why?”¹

In this sense, history is not really an academic subject (unlike mathematics, physics, and chemistry), but rather a *method* of understanding the evolution of ideas. Anyone who reads primary sources (e.g., old books, articles in periodicals, newspapers, judicial opinions, etc. where information on a topic was *first* published) is collecting historical facts. In my opinion, the real accomplishment of a historian is to present the historical facts in a coherent way, by adding original explanation for *why* the facts occurred.

In its least appealing incarnation, history is about memorization of names of people and dates they did something important. While such factual information is *part* of a historical approach, for me the real significance is in understanding the evolution of ideas and understanding *why* ideas changed.

¹ Faculty biographies, History Department, Dartmouth College website, viewed in February 2004, but this quotation had disappeared by March 2007.

Why Is History Important?

A study of history shows that people, both individually and as groups or nations, repeatedly encounter the same kinds of problems. If we understand how and why we responded to a particular problem in the past, and if we also understand the results of that past response, maybe² we can develop a better response when the problem occurs again. In this context, history is useful to predict the results of a contemplated response to a problem.

History can be inspirational: reading about the courage of some hero may inspire a reader to also be courageous — and probably wind up as a martyr, since people in power resent challenges by courageous or principled people. Reading a biography of a scientist might inspire a young student to persevere and work diligently for tens of years in the quest to understand something new.

It is conventionally understood that history gives a group of people (e.g., a nation) a sense of identity. For that reason, schools commonly require that pupils be taught the local national history. Personally, I wonder if teaching national history is a good idea. The content of national history textbooks seems to be to glorify the nation, to explain why “we” are better than anyone else, and to justify why we should impose our religion, our system of government, and our values on other people in other parts of the world. In this sense, national history is transformed, from an honest intellectual understanding of both good and bad accomplishments, into dogma and jingoism. Once a nation believes that they are better than anyone else, they have an easy excuse to invade their neighbors or to smite anyone who irritates them. A more credible way of studying national history is to read books written by historians who are citizens of other countries, who look at a nation from outside, which gives those historians more objectivity.

² I say *maybe* because I am not optimistic that man’s intellect can triumph over emotions and prejudices. There are many examples in the world of wars or other conflicts that continued for at least tens of years between two groups of people with different religions or different cultures (e.g., Catholics and Protestants in Ireland, Jews and Muslims in Israel/Palestine). An intellectual understanding of the reasons why they fight, and the history of their fight, is *not* particularly useful in stopping the fighting, because people fight for emotional reasons (e.g., retaliation or revenge) or because of prejudices.

My Own Experience

I was a full-time physics student continuously in universities for ten years, ending when I earned a Ph.D in physics in 1977. Because I was interested in how ideas evolved, in 1968 I petitioned for and received a waiver to minor in philosophy of science, instead of the conventional undergraduate minor in chemistry accepted by most physics majors. Outside of my assigned work in physics classes, I read many books on the history of physics.

During 1971-72, I did a manual search of printed volumes of *Science Abstracts* to find articles on the physics of lightning and thunder. I collected an entire file-cabinet drawer full of photocopies of articles, which I intended to use in my career in scientific research, and perhaps in eventually writing a book on atmospheric electricity.

My master's thesis in 1975 cited a total of 75 references in the bibliography, most of which I laboriously found with a tedious manual search of printed volumes of *Science Abstracts*. In contrast, a typical thesis in physics might have a half-dozen references.³

During my career in scientific and engineering research during the 1970s and 1980s, I often read old books, old journals, and old patents, to trace ideas back to their source. I repeatedly found that the original discoverer of a fact, or the original inventor of a new technology, explained the discovery more clearly than later textbook writers. This result is easy to understand: the original discoverer probably spent at least hundreds of hours agonizing over the development of his new idea, while later textbook authors had only a superficial encounter with that idea, and which the textbook authors always saw in its modern, fully developed state.

One of my longstanding interests is in how and why scientific ideas evolve. In particular, I am interested in the psychology of creativity.⁴ In the previous paragraph, I remarked about the value of articles in old journals. The original discoverer often mentioned hints about *how* or *why* he made a discovery or invention, information that is not repeated in science and engineering textbooks, which tersely concentrate on results.

³ A total of 75 items in a bibliography is unusually long in physics or engineering, although longer bibliographies are common in history, law, or biology. The emphasis in conventional physics research is on *new* results, not on history. This historical approach was a small part of my thesis, which also described my measurements of currents in blunt and sharp lightning rods during thunderstorms, my numerical model to simulate development of upward-propagating streamers in response to downward-propagating stepped leaders, and my measurement of current in a wire-trailing rocket that triggered lightning over land.

⁴ Ronald B. Standler, *Creativity in Science and Engineering*, <http://www.rbs0.com/create.htm> September 1998.

Sometimes, an old author described a problem that could not be solved with the technology of his time, but which is now solvable with modern technology, which makes reading of old works a source of ideas for current research.

In 1990, my career in electrical engineering research was ended by the annihilation of financial support for research (my funding went from \$ 250,000/year to zero) in all of my areas of science and engineering at the end of the Cold War, and during a simultaneous recession in industry that killed funding from electric utilities.⁵ I waited a few years, in the hope that the U.S. Government would resume funding of scholarly research in my previous areas of science and engineering. Senior-level scientists and engineers can not easily switch fields, because it takes at least a year to develop expertise in a new area, and most employers want to hire people with experience in a desired narrow specialty to fill senior positions. When I realized that my former areas of physics and engineering research were dead, I attended law school, and I became an attorney in Massachusetts in December 1998.

In reading law, I often find a conventionally accepted rule of law that appears *unjust* to me. In examining the history of this unjust rule, I have often found that it was created as a result of some error, then mindlessly propagated because people in power liked the result of the rule and because judges in the USA are required to follow precedent, instead of think from first principles. A good example of such an unjust rule of law is the concept of at-will employment in the USA.⁶ One might think that exposing the old error would be a good way to repudiate an unjust rule of law, but respect for precedent is an absolute rule in the law of the USA. Only an appellate court that issued the precedential opinion or a higher court — or the legislature in a new statute — can overrule precedent, and such overruling is uncommon.

Since 1997, I have written many essays on law that I posted at my professional website. In these essays, I list the court cases in strict chronological order with oldest first, so the reader can easily follow the historical development of a national phenomenon. My style defies the conventional citation practice in the legal profession, which lists the newest case first and segregates cases by jurisdiction. I would feel like an idiot if I blindly followed a style rule that was illogical, just so I could appear orthodox.

In conclusion, I believe I enriched my productivity by taking a historical view of each of the subjects in my professional career — atmospheric physics, electrical engineering, and law.

⁵ Ronald B. Standler, *Funding of Basic Research in Physical Science in the USA*, <http://www.rbs0.com/funding.pdf> August 2004.

⁶ Ronald B. Standler, *History of At-Will Employment Law in the USA*, <http://www.rbs2.com/atwill.htm> , July 2000.

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