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# Scientific Literacy And The Myth Of The Scientific Method (Illini Books)

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## Scientific Literacy and the Myth of the Scientific Method

Henry H. Bauer

**I**gnorance and misconception can have regrettable consequences. Nowadays, science and technology are so inextricably a part of our lives that ignorance and misconception about them may have particularly regrettable consequences.

Ignorance of science is indeed widely and quite routinely deplored. That scientific illiteracy is prevalent has become a shibboleth. Schemes proliferate for more and better education in science—just as they did after the first Russian satellite orbited the Earth in 1957.

What has not been widely remarked, however, is the high order of prevailing misconception, as opposed to rank ignorance, about science and technology: misconception even or particularly among the very people who most loudly bemoan the prevalence of scientific illiteracy. Public pundits, not only the public, drastically misconceive

what science is, what it means to be scientific, and what the relationship is between science and technology. Scientists themselves, moreover, and science writers hold many of the same misconceptions.

Perhaps the central fallacy is that there exists an entity called “science” about which sweeping generalizations can validly be made; for example, that science is characterized and defined by the scientific method (which, it is widely supposed, can be defined rigorously and unambiguously). In actuality, for most generalizations about science their opposite also carries some truth. Thus it is in a sense true and yet also a misconception that science prizes originality: the most original scientists usually have a devil of a time

*“IT MAY VERY WELL PROWN ABOUT MANKIND, BUT IT WILL TAKE SOMETHING TO TEST IT.”*

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getting anyone to take their notions seriously when they first put them forward. It is in a sense true and yet also a serious

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## Synopsis

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## Customer Reviews

Very valuable discussion of science; science, technology, & society (STS) I consider this short book by Professor Bauer a must read for any person, scientist or non-scientist, who wants a concise but thorough discussion of the way science works, and of the myth, really ideal, of the scientific method, and most importantly, of what the author calls STS: science, technology, and society. I found the book remarkable because Professor Bauer is a practicing scientist, yet he delineates a philosophy of science from a very objective, dispassionate point of view. While he rightly praises science much in the last chapter, most of the rest of the book focuses not only on the limitations of science and scientific knowledge, but which sciences really are and are not scientific as he defines it. Clearly the fact that Professor Bauer has been the dean of arts and sciences at Virginia Tech has given him a balance between science and the arts, and has allowed him to see science both as an insider and an outsider. Thus the main thrust of the book is to show that what is most vital for the layperson is not to attempt to become "scientifically literate," which the author claims would be a very time-consuming task, even for a college student, but rather to see that science is a human activity whose theories and models are limited not only because scientists are human, but because almost without exception scientific "truths" are at some point superseded by better "truths," a process which

repeats itself ad infinitum. It is therefore far better for the layperson to try to understand science's relationship to technology and society.

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