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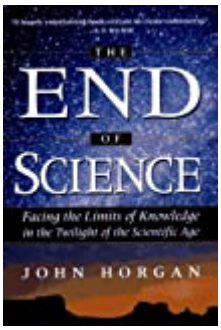

John Horgan. *The End of Science: Facing the Limits of Knowledge in the Twilight of the Scientific Age.* Reading, Mass.: Longman, 1996. xii + 322 pp. $16.95 (paper), ISBN 978-0-553-06174-1; $24.00 (cloth), ISBN 978-0-201-62679-7.

Reviewed by Joseph E. Bauer (Buffalo State College)

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John Horgan's *The End of Science* has as its main theme the gloomy prognostication of the impending dissolution of science, that the great era of scientific discovery is over or very nearly so. He sees the great discoveries and relevations that have made up the history of science as now yielding to incremental, diminishing returns.

While the author and his work might be lumped together with a long list of doomsayers, who are always predicting the demise of something, the reader will want to withhold that overgeneralization. John Horgan is a senior writer for *Scientific American*, and this book is based on interviews he has had with a virtual Who's Who of Science over the past several years.

The book is organized around Horgan's depiction of modern science as increasingly becoming more speculative, and thus, entering a post-empirical mode that he refers to as "ironic science." In this mode, scientists from a vast array of fields are generating questions that will never (he asserts) be subjected to experimental test. For Horgan, there is a quandary that arises in science from the pursuit knowledge. This pursuit is fueled by the quest for The Answer. According to Horgan, if The Answer is not found soon, then it is a sign that there are roadblocks that science will never get around; if The Answer is found, then our curiosity will be quenched. In either scenario, the end of science is reached. The author devotes a majority of the book to interviews with acknowledged leaders in numerous scientific disciplines. The text includes detailed references, as well as a selected bibliography to serve as a guide for interested readers in tracing recent ideas about science and the challenges to science's hegemony.

Horgan admits that his rendering of his thesis of the end of science is not an airtight case. In fact, many of the very scientists he interviewed probably would not entirely agree with his characterization of much of their science as being ironic. One might disagree with his dipiction of the growth of science as proceeding in a simple, linear fashion, that everything that is discovered is based on what is discovered before it. Certainly, Thomas Kuhn would have emphatically emphasized that the very nature of science could be re-configured given a paradigm shift–and a simple, linear model does not account for that kind of dynamic growth. Additionally, what Horgan seems to have minimalized in his ironic science is the capacity of human imagination and its potential–not just in pushing the limits of science, but to re-define the nature of science. The famous historian of science, Derek de Solla Price, who incorporated human imagination into his understanding of science and knowledge generation, seems to have been overlooked by Horgan.

The End of Science is an interesting foray into the hal-

lowed halls of science, and any book that challenges our conceptions/perceptions of reality is certainly worth the time it takes to read it. The text will familiarize the reader with a good deal of basic science research as well as highlight some of the major problems at the frontiers of science. This will motivate readers to evaluate their own quest for knowledge.

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