ness problem that were discussed earlier in connection with more specific scientific ideas and concepts. Although—as would be expected—the main emphasis is on the physical aspects of the problem, some biological questions are also given attention, and the author allows for the possibility that there may well be basic properties of nature that become apparent only in the realm of biology.

In addition to its logical and physical aspects, completeness also has its pragmatic character, which is partly a matter of how far we find it profitable to go in questioning nature. As expressed here by Schlegel, this aspect of completeness "sets a limit that arises not out of the kind of language we use or the nature of the world we study in science but out of how much we *want* to know."

In summing up his investigation, the author makes the point that, because it is incomplete, science alone cannot constitute a comprehensive philosophy and that there is much more to nature than that which is embodied in our science. He recommends a philosophy of naturalism—one that "does not postulate a reality comparable to that of the natural world for any process or being not a part of nature."

Completeness in Science is truly a stimulating, informative and enjoyable book. I hope it will encourage many scientists to read more widely in the philosophy of their subject.

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Tortuous explorations

ATOM AND ORGANISM. By Walter M. Elsasser. 143 pp. Princeton U. Press, Princeton, N. J., 1966. $4.50

by Joseph G. Hoffman

The analytic search that led to concepts such as that of biotonic laws in Elsasser's earlier work, *The Physical Foundations of Biology*, is pursued further here. He develops the properties of homogeneous classes, which include, for example, the subject matter of physics, and inhomogeneous classes, which might designate the subject matter of biology. The sizes of these classes are examined, and it is shown that in finite inhomogeneous classes there may exist regularities that have no equivalent in finite homogeneous classes. This provides a logical distinction between biology and physics. The abstract arguments are given in the first chapter called "Statement of Basic Principles." The remaining two chapters, "Statistics and the Concept of Immensity" and "The Meaning of Logical Complexity," give an elaboration of inhomogeneous classes as means for ordering the phenomena of life into a conceptual structure. The ordering is of necessity only vaguely indicated because "biology is the domain of the utterly complex." This resilient aspect of life is emphasized repeatedly by Elsasser: "A basic aspect of biological relationships is *intrinsic and irreducible logical complexity.*"

Noteworthy is the author's deliberate abandonment of the word "biotonic" to designate all those biologic processes that exhibit signs of autonomy because "biotonic" suggests vitalism. One may wonder if the notions of inhomogeneous classes may, like biotonic laws, be discarded in due course for other ideas in Elsasser's tortuous explorations of the mystery of life processes.

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Science, society, maturity

A COMPREHENSIBLE WORLD: ON MODERN SCIENCE AND ITS ORIGINS. By Jeremy Bernstein. 269 pp. Random House, New York, 1967. $5.95

by R. Hobart Ellis Jr

Democracy properly gives great heed to popular taste, and popular taste is probably well represented by television commercials (at what else would you aim them?). Amid the daily depressive effects of such a picture, a weekly note of cheer comes with *The New Yorker* magazine, which, in the face of all that challenges the view, appears to believe in intellect and maturity. The maturity of its view of science and science-society relations can be attributed largely to Jeremy Bernstein, former New York University physicist, CERN mountain climber and *New Yorker* staff writer. He has recently accepted an appointment at Stevens Institute of Technology as professor of physics.

Of Bernstein's frequent *New Yorker* pieces many are signed, like the ones reprinted in the book under discussion, and many are not, like his tribute to Robert Oppenheimer, which appeared in the "Talk of the Town" section. Some are concerned directly with science and scientists, like his discussion of the Albert Einstein - Niels Bohr debates; some have a more tenuous relation, like his essay on film director Stanley Kubrick. Yet underlying each one is a serious concern for the influence of science, particularly physics, on modern life and a joyous enthusiasm for science itself.

The volume contains 16 essays, the longest a discussion of C. N. Yang, T. D. Lee and parity in 42 pages, the