

fact that men still find it very difficult to pay serious attention to contingencies that lie more than a few years in the future and are coupled to present events with a probability of less than one.

After examining the need for improving standards of government, Dr. Morrison shows how compulsive are the mass uses of indoctrination techniques. There is great need for responsible people to be constantly aware of the dangers inherent in specialities and in propaganda machinery. There is need for a combination of the highest sort of intellectual and moral attainments. In the first place, it should be unnecessary in a democracy to point out that a speaker has no business to try to make the final decision for his hearers. This would be, in fact, the simple way out and is common procedure in dictatorships, theocracies, and other controlled societies. Democracy rests on the assumption that people in general will reach the right decision if they are given the truth. But the truth is impossible to define in abstract terms, and even in concrete matters like the effect of radiation on genetic anomalies, is not much more than a fluctuating area of agreement.

The telling of this kind of truth cannot be guaranteed by constitutional articles or perjury laws. As more and more features of our life fall under the control of those who wield a specialized body of knowledge, control measures must be sought. These can be found only in the individual moral and intellectual excellence of those who develop, hold, and disseminate knowledge.

THE HISTORY OF SCIENCE

The Search for Order

The Development of the Major Ideas in the Physical Sciences from the Earliest Times to the Present. By Cecil J. Schneer. Pp. xvii+398. (London: English University Press, Ltd., 1960.) 21s. net.

THIS book belongs to the class, of which there have been several examples of late, of bird's-eye views of the history of physical science from early times to the present. The chief defect of this type of work is that it inevitably omits everything but the direct ancestry of the science of our time, and makes what is in fact an almost indescribably devious course, constantly doubling back on itself, appear like a straight line. Of its kind, however, it is among the best. The story is told in a clear, straightforward and interesting manner, and, apart from an excessive number of small inaccuracies that could well have been avoided, the subjects dealt with are on the whole presented faithfully. Those subjects include, mainly, physics, with some chemistry and a brief glance at geology and evolution. Despite a picture of a spiral nebula on the dust cover, there is no cosmology and next to no astronomy.

There are a few surprising passages. For example, the conflict between physicists and geologists over the age of Earth is presented as a conflict between "historical knowledge" and ordinary physical knowledge, as though these were different in kind, instead of as an instance of the different conclusions that can be drawn from two incomplete sets of data. On a smaller scale, while it is certainly true that J. J.

Thomson "lived on into the electronic era", the essence of the fact scarcely appears in that expression of it; and there are numerous quotations of which the authorship is either not given or indicated ambiguously.

But the chief criticism to which the book is open concerns its underlying attitude, which, though it appears overtly only here and there, can be felt throughout—the attitude, namely, that identifies present knowledge, so far as it goes, with truth. Whatever is right, and ever will be, and whatever else was wrong, and will never be again. We are told, for example, that "the [relativity] theory must for ever remain . . .", and that "the assertion of the unity of all living things through the theory of evolution, is contradicted only by the ignorant or the intellectually vain". What one should learn from the history of science is that the fact that one is living now is a mere accident, and that the science of our time will appear to a historian of the future as crude as that of the seventeenth century appears to us, while some of the latter crudities (the transmutability of elements has already done so) may then have returned to displace our present superstitions. The present time is an utterly undistinguished point in an indefinitely long sequence; it is not the culminating moment "for which the floating forceless ages waited". Unfortunately, few historians of science make this their central theme.

HERBERT DINGLE

PSYCHICAL RESEARCH

William James on Psychical Research

Compiled and edited by Gardner Murphy and Robert O. Ballou. Pp. viii+339. (London: Chatto and Windus, Ltd., 1961.) 30s. net.

CONDITIONS in New England around the mid-nineteenth century were such as to throw up a number of people of exceptional talents. Among them were the brothers James—William, investigator of the paranormal, and Henry, the novelist. We are concerned here with the former, the elder of the two by one year. They had much in common, especially a marked streak of pragmatism. Its manifestations were different, practical and empirical for William, introspective and self-observational for Henry. So we find William taking Medical School at Harvard, and receiving an invitation to teach physiology to students, which soon led, as one would expect, to the borders of psychology and the associated problems of the mind.

William James on Psychical Research deals with the last forty years (1870–1910) of William's life by presenting his papers, combined with an illuminating introduction and retrospect. The collection is valuable, more perhaps on account of the personalities involved than for the content of the contributions themselves. As a commentary on the state of psychical research, and indeed of much advanced philosophical thought of the period, it is admirable. But if the reader is to enjoy these pages as he should—and as they deserve to be enjoyed—he might try the experiment of overlooking a good deal of the descriptions of séances, media, occult happenings and so on—which naturally aroused a fair amount of suspicion and controversy—and concentrate on the courage and sincerity of the people in question. We need pass no verdict on what they did, or what they thought it all meant: what stands out is a monument of intellectual valour.