than the average rate of 0·5° per million years during a fraction of the total time apparently available. In future, when more well-dated data have been obtained, thus defining the time-scale, it should be possible to determine magnetic ages of Upper Palæozoic rocks from the position of their poles on the master curve.

The standard error of each of the poles listed in Table 2 is less than about 10°. For more details the reader should consult the references noted in Table 3, but he should beware of placing too much reliance on values of circles of confidence given in papers or lists of poles without carefully enquiring how they were calculated, since no single method of doing this has been generally agreed. Frequently the effects of secular variation of the ancient geomagnetic field have not been averaged out because inadequate thicknesses of rock were sampled. Thus the quoted circles of confidence are not realistic because the poles quoted are not true palæomagnetic poles in that they do not coincide with the ancient geographic pole. Sometimes authors have taken no account of systematic errors due to partial remagnetization, and when samples have been collected from too small an area the effects of tectonic movement have not been properly considered.

Lower Palæozoic data have not been considered in this analysis because few are reliable. I am now carrying out more thermal demagnetization experiments on British and South American Cambrian formations and I hope to extend this analysis back in time to the beginning of the Cambrian in the near future.

The prime purpose of this analysis has not been to deduce an exact palæogeographical reconstruction for the Upper Palæozoic, but rather to illustrate that when the reliability of palæomagnetic data is carefully considered, those data thought to be the most reliable fit a rather simple overall pattern which does not conflict unduly with geological evidence. One important result of this analysis is that it illustrates the importance of carrying out much more palæomagnetic work on Palæozoic rocks which have been rather neglected in past studies, and of taking great pains to detect stable secondary magnetization.

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NEWS and VIEWS

Science Policy Research in the U.S. Library of Congress : Dr. Edward Wenk, jun.

Dr. Edward Wenk, jun., has been appointed chief of a newly created Science Policy Research Division in the Legislative Reference Service at the Library of Congress and will also serve as special adviser to the Librarian in Science and Engineering as from September 28. Dr. Wenk is at present technical assistant to the Director of the Office of Science and Technology in the Executive Office of the President. He has also been serving as Executive Secretary of the Federal Council for Science and Technology. In his new post, Dr. Wenk will serve in the Legislative Reference Service as a Congressional consultant in scientific and technological developments that affect public policy, and he will also serve the Library as a whole, in his capacity as special adviser to the Librarian and as co-ordinator of science information services furnished to the Congress. Dr. Wenk served in the Legislative Reference Service of the Library of Congress from 1959 until 1961 as senior specialist in science and technology. He resigned in 1961 to join the White House staff as assistant to the President's Science Adviser and moved to the President's Office of Science and Technology when it was established in 1962. In addition to serving also as the Federal Council's executive officer, he served as staff specialist in scientific man-power, long-range planning, and oceanography. A graduate of the Johns Hopkins University, where he gained a B.E. degree in civil engineering in 1940, Dr. Wenk holds an M.Sc. degree in applied mechanics from Harvard University (1947), and a D.Eng. degree in civil engineering from Johns Hopkins University (1950). He served in the U.S. Navy during the Second World War and received a Navy Civilian Meritorious Service Award. From 1942 until 1956 he was a naval research scientist and research administrator for the David Taylor Model Basin in Washington, and from 1956 until his first appointment to the Library of Congress in 1959 he was chairman of the Department of Engineering Mechanics at the South-west Research Institute in San Antonio, Texas. Dr. Wenk has been a special lecturer at the University of Maryland, Harvard University, Massachusetts Institute of Technology, Virginia Polytechnic Institute, Purdue University, Yale University, and the University of Texas.

Director of the Water Pollution Research Laboratory, Stevenage : Dr. B. A. Southgate, C.B.E.

Dr. B. A. Southgate, director of the Department of Scientific and Industrial Research Water Pollution Research Laboratory at Stevenage, is to retire at the end of March 1966. Dr. Southgate first joined the Water Pollution Research Organization as a chemist in 1929. Before the Second World War he worked on the development of methods for the treatment of industrial effluents and conducted two major surveys of estuaries. The first, a detailed examination of the effects of pollution on the Tees Estuary, set a pattern for many similar surveys in various parts of the world; the second, on the Mersey Estuary, showed that pollution by untreated sewage was not responsible for siltation of the navigable channels. In 1940 the first central Water Pollution Research Laboratory was set up—though in temporary premises—and in 1943 Dr. Southgate was appointed director. His book on *Treatment and Disposal of Industrial Waste Waters*, published in 1948, was an outstanding contribution to the literature on the subject, and showed clearly his unrivalled knowledge of the field. The activities of the Station expanded steadily after the War and in 1954 it was transferred to a permanent new laboratory (at Stevenage). Under Dr. Southgate's leadership, early empiricism in the research has been replaced by a much more fundamental approach. The benefits are to be seen particularly in the successful outcome of a recently completed survey of the effects of pollution on the Thames Estuary, in which

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