

tion to astronomy is far more than his very considerable research in stellar spectroscopy. At the Yerkes Observatory during the 1930's, he gathered an outstanding group of research astronomers and influenced a large fraction of the men now active in the field. He knows their work well, and he has acquainted himself with almost all other significant astronomical activity. His Russian origin provides a valuable link with Soviet astronomers, and he makes the point early in this book that astronomy has proved itself above the East-West political controversies of this century.

Otto Struve's own story, which he used to tell on rare occasions, would make another interesting book, quite aside from the astronomy involved. As an officer in the Czarist army, he barely escaped with his life from the Crimea during the Russian revolution, underwent further risks as a military refugee in Turkey, and literally lost his pants to a "con man" in Constantinople. Then the winds of fortune changed; he received a letter from the Yerkes Observatory, chanced on a man in Constantinople who could translate into Russian the enclosed offer of a job and who loaned him money for the passage, and soon established himself in Wisconsin. The stranger who helped Struve at the critical moment was a Y.M.C.A. official from a small Wisconsin town near the Yerkes Observatory.

It was more than luck, however, that brought such men as Chandrasekhar, Elvey, Greenstein, Henyey, Hiltner, Kuiper, Meinel, Morgan, Strand, and Strömgren to the Yerkes Observatory. Building on an effective tradition, and seizing on a variety of opportunities, Struve made the Yerkes Observatory a leading center of astrophysical activity at a time when American astronomy was pre-eminent. Earlier than most he recognized the significance of interstellar material and of variations in cosmic abundance of the chemical elements. In the early 1930's he learned that the University of Texas had received a bequest for a large telescope and an astronomical observatory, although there were then no astronomers at that university to plan and use such an instrument. Out of this situation, Struve devised the McDonald Observatory, located it in the high, dry Davis Mountains of Texas, and equipped it in 1938 with an 82-inch reflector, then the world's second largest. It was promptly

put to work by Yerkes astronomers and by visitors from many other parts of the world.

In *Astronomy of the 20th Century* Struve has used his ingenuity and broad knowledge to pull together the many growing ideas of astrophysics, showing not only *what* has been discovered in the past 60 years, but *how*.

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Geography and Resources

Soviet Potentials. A geographic appraisal. George B. Cressey. Syracuse University Press, Syracuse, N.Y., 1962. xvii + 232 pp. Illus. \$5.75.

There is a constantly growing demand for authentic information about the Soviet Union. The language barrier remains an imposing one, and the supply of Soviet publications does not yet meet the need, at home or abroad. The specialist often wishes to see the work in his own field against a background of the country as a whole. Those fortunate enough to visit the Soviet Union require some preliminary briefing, and the growing number of college courses on the country need up-to-date introductory texts.

George Cressey has provided a book that should meet most of these requirements. In little more than 200 pages he has somehow managed to distill the essence of that country's geography and to combine with it the wisdom acquired by 40 years of study and teaching. And as a former resident of China, he is able to view developments from both East and West. *Soviet Potentials* is the outgrowth of three earlier books on the U.S.S.R., but it has the great advantage over its predecessors of including statistical and other material released during the post-Stalin period.

The author's theme, put briefly, is: Does the Union of Soviet Socialist Republics have the environmental potentials with which to become the world's leading state? During his search for an answer, three main ideas are predominant—the continentality of the U.S.S.R., the physical handicaps of the country's environment, and the vast mineral resources with which it is endowed.

In ten chapters, Cressey assesses the

land itself, its varied peoples, its agricultural resources, and the system under which these resources are used; he then provides regional descriptions of Soviet Europe, Middle Asia, Siberia, and the Far East. One chapter touches on international relations, with a particularly valuable, if all too brief, discussion of the future of Soviet policy toward China. The appendix contains a wide range of recent statistical material; the illustrations are many and excellent, and there are adequate maps. The list of selected readings in English is sufficient for the general reader and for introductory college courses.

How, finally, does Cressey appraise the potentialities of the U.S.S.R.? In this case, as in the case of any "thriller," the reviewer should not reveal all, but let it be said that Cressey's conclusions are possibly a shade less assured than in the earlier volumes. One wonders whether even so expert an observer has not been taken a little by surprise at Soviet economic and social progress in recent years. However, "burying" the United States is not in the cards. On balance, it seems that, irrespective of its form of government, the land of the Soviets is unlikely to match in material strength and individual welfare either Western Europe or North America.

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Emphasis on Physiography

Great Britain: Geographical Essays. J. B. Mitchell. Cambridge University Press, New York, 1962. xii + 612 pp. Illus. \$7.50.

This collection of essays will inevitably be compared with *Great Britain: Essays in Regional Geography*, edited by A. G. Ogilvie and published in 1928. The early essays marked a milestone in the history of British geography, for they represented work by many of the younger geographers only recently appointed to newly established geography departments within British universities. With the exception of work by Emeritus Professor Kinvig, who also contributed to the Ogilvie essays, the present essays are by second or third generation British geographers, and it is only natural to enquire about the geographical progress made in the last 25 years. Were