

included is a chronological listing of major events that have concerned the OAU since its founding in 1963. The researcher who wishes to contact the several regional organizations listed in this volume will be pleased to find the addresses of most, plus the names and addresses of the permanent representatives to the United Nations.

Part Three forms the bulk of this massive volume. It consists of surveys of all fifty African countries (including island groups) south of the Sahara. These contain essays on each country's physical and social geographies, recent history, and economy. Geographers are well represented here, although they take the back seat to the economist, historian, and political commentator when measured in terms of the length of their contributions. Fifteen of the sixty-nine contributors are geographers, all of whom have had considerable experience in Africa. Among them are L. Berry (the Sudan and Tanzania), E. A. Boateng (Ghana), John I. Clarke (Cameroon), R. J. Harrison Church (several West African states), G. Kay (Rhodesia), Akin L. Mabogunje (Nigeria), and W. T. W. Morgan (Kenya). Unfortunately, their contributions are limited to the brief chapter introductions under the title "Physical and Social Geography," which usually means physical features, populations, and natural resources, and occasionally climate and soils.

Geographers who use the volume will be disappointed by this underutilization of talent, but they should be more than happy with the mass of information on modernization and development under the headings "Recent History" and "Economy." Although the coverage varies in detail from chapter to chapter, the quality of writing and the insight of the politicoeconomic commentaries are consistently high.

Each of the regional chapters also includes a statistical survey of the economy, a summary of the constitution, a select bibliography, and directory material on the government, the diplomatic corps, political parties, communications media, banks and insurance companies, trade and industry, transport and tourism, and educational and cultural institutions. The statistical surveys generally include data for the last four or five years on employment, trade, development programs, the budget, agricultural and mineral production, and other pertinent aspects of the economy. The directory listing is one of the volume's most valuable assets, for it contains addresses of government agencies, major private industries and public corporations, and diplomatic representatives in each country.

Part Four is devoted to miscellaneous subjects, including a "Who's Who in Africa South of the Sahara," a select bibliography of periodicals dealing with Africa, a list of research institutes concerned with Africa, and a review of Africa's agricultural and mineral industries.

This is an indispensable reference for the serious student of contemporary Africa. No other single volume contains so much factual information, so much bibliographical material, so much directory information, and so many well-written, perceptive essays. For \$56 it is a real bargain.—ALAN C. G. BEST

OBITUARIES

CARL TROLL (1899–1975). One of the great figures in geography, Carl Troll, died on July 21, 1975. Troll exemplified the best of an older generation in the German school; he led the postwar resurgence of geography in Germany; and his international stature was reflected by the presidency of the International Geographical Union at the London meeting of 1964.

Like many geographers of his day, Troll received much of his basic training outside the field. Born at Wasserburg (Bavaria) on December 24, 1899, he studied botany and geography at Munich, receiving his doctorate in 1922 with a dissertation in plant physiology. His interests in biogeography had come into focus in 1925, when he received faculty status (*Habilitation*) in geography at Munich. In the classic field tradition, Troll embarked on a three-year study of the Andes in May, 1926, a time when foreign fieldwork was still interdicted for German nationals in most areas other than Latin America. Traveling by mule from Chile to Colombia, he

investigated glacial geomorphology, periglacial phenomena, microclimatology, and, above all, vertical ecozonation. In his second major field study he spent a full year, 1933–1934, examining similar phenomena down the backbone of Africa from the Red Sea Hills to the Cape Ranges. Subsequent fieldwork included scientific direction of the Nanga Parbat Expedition to the Himalayas (1937) and exploration of the plant geography of Eritrea and northern Ethiopia (1938). The unusual scope of his research won recognition in his appointment to Berlin (1930), his designation as editor of the prestigious *Koloniale Rundschau* (1936), and his being named to the new chair in geography at Bonn (1937), where he remained as director of the Geographical Institute for more than twenty-five years.

In the difficult years that ensued, Troll helped to inspire the passive resistance of the great majority of German geographers that blocked academic recognition of Nazi geopolitics. He spoke out publicly against ethnic relocations in 1942. It appears that he instigated Sven Hedin's dramatic intercession that saved Alfred Philipsson from the death camps, and he was instrumental in rescuing Bonn's unique geographical library just before the saturation bombing that destroyed the university in October, 1944. Among the ruins, and at his own financial risk, Troll managed to create a new journal, *Erdkunde*, which first appeared in 1947, marking a rebirth of geography. In its first, lead article (Die geographische Wissenschaft in Deutschland in den Jahren 1933 bis 1945, *Erdkunde*, Vol. 1, 1947, pp. 3–47), Troll explained the nature and contributions of German geography from 1933 to 1945, documenting the breadth and vigor of research and its lack of political overtones. The fact that Karl Haushofer was unable to secure any university appointment underlines the ideological independence gamely preserved by most segments of the academic community in the face of ever-mounting political terror.

Troll was among the first to seek, actively and successfully, to reestablish the international links that had been severed in the late 1930's. His ties with the United States were reconfirmed when he spent a semester as guest professor at the University of Wisconsin in 1954, and the enduring warmth of his Latin American contacts was evident in 1959 when he was invited as keynote lecturer to several Humboldt commemorations in South America. His greatest honor was conferred by the king of Sweden in the form of the Vega Medal, the highest Swedish award next to the Nobel Prize.

Troll's scientific contributions, numbering several hundred papers and five monographs, were equally wide-ranging and trend-setting (see *Erdkunde*, Vol. 13, 1959, pp. 252–258, and *Colloquium Geographicum*, Vol. 12, 1970, pp. 18–26, for partial bibliographies). His station diagrams of diurnal versus annual temperature regimes were the basis of an insightful characterization of thermal climates (Thermische Klimatypen der Erde, *Petermann's Mitteilungen*, Vol. 89, 1943, pp. 81–89; and Climatic Seasons and Climatic Classification, *Oriental Geographer*, Vol. 2, 1958, pp. 141–165). Observations on soil temperature changes (Die Frostwechselhäufigkeit in den Luft- und Bodenklimaten der Erde, *Meteorologische Zeitschrift*, Vol. 60, 1943, pp. 161–171) were basic to his original contributions to the genesis and classification of stone rings and other patterned ground phenomena (Structure Soils, Solifluction, and Frost Climates of the Earth [Translation 43, U.S. Army Snow, Ice and Permafrost Research Establishment, Wilmette, Ill., 1958]). His ideas on periglacial geomorphology, as synthesized in "Der subnivale oder periglaziale Zyklus der Denudation" (*Erdkunde*, Vol. 2, 1948, pp. 1–21), influenced a generation of French, German, and Polish research. In the Andes, Troll developed one of his major theses, that of convergent plant physiognomies among unrelated families as a result of ecological adaptations. Here too he rediscovered Humboldt's model of vertical ecozonation; based on detailed vegetation transects across the mountains at several latitudes, a succession of Troll's papers demonstrated the complexity of three-dimensional ecozonation on a global scale. These contributions found an appropriate summation in "Die tropischen Gebirge" (*Bonner Geographische Abhandlungen*, Vol. 25, Ferd. Dümmlers Verlag, Bonn, 1959). Following his retirement in 1965, and despite recurrent coronary problems, Troll remained active in writing, in a variety of international commissions, and as the creative force behind several symposia in biogeography and high-mountain ecology.

Carl Troll was a dynamic and gregarious man, a charismatic teacher eager to share his knowledge, and a humanist as well as a scientist. His passing creates an uncomfortable void, but he leaves a lasting legacy of scholarship and intellectual inspiration.—KARL W. BUTZER

JACQUES M. MAY (1896–1975). With the death of Dr. Jacques M. May in an automobile accident in Tunisia on July 3, 1975, an extraordinarily colorful and useful life was ended. His wife of less than a year, Donna McLellan May, was also killed in the accident. Both were serving as consultants to the Tunisian National Institute of Nutrition and Food Technology on a mission sponsored jointly by the Agency for International Development and the United Nations Development Programme.

In the course of a professional life that spanned a half-century, Dr. May pursued three separate careers—as a physician and surgeon, as a medical geographer, and as a nutritionist. He was born in Paris on January 27, 1896, and from boyhood was determined to be a doctor. He took his preliminary degrees at the Sorbonne (1913 and 1914), and after service in World War I received his medical degree from the University of Paris in 1925. An early interest in tropical diseases led him to accept in 1932 a three-year appointment as chief surgeon in the French Mission Hospital in Bangkok. His experiences during this period were chronicled in a delightful book, “Siam Doctor,” published by Doubleday in 1949. From 1935 to 1940, Dr. May was professor of tropical medicine in the Hanoi University Medical School. He escaped with his wife and four children when the Japanese occupied Indochina. During World War II he again served in the army, with the Free French forces. Following a year’s post as chief surgeon in Guadeloupe, French West Indies, Dr. May came to the United States in 1947, and in that same year received his license to practice in New York State.

However, before he had had an opportunity to build a private practice, he received an invitation that not only intrigued him but changed the entire direction of his professional work. He was asked by the American Geographical Society in 1948 to head up a new venture that had been under consideration for some time—namely, a department of medical geography, the principal effort of which was to be directed toward the compilation of an “Atlas of Diseases.” Dr. May met this challenge with enthusiasm and with an unparalleled background, owing to his long-standing interest in the influence of environmental factors on the genesis of disease. For the next twelve years he devoted himself to the acquisition and interpretation of masses of data from all over the earth and to the mapping on a world base of the major diseases. Of the seventeen sheets in the atlas, most show the distribution of a single disease (cholera, malaria, yellow fever, and the like); others deal with groups of diseases (for example, the rickettsial diseases). The project was launched with an article in the *Geographical Review* (Vol. 40, 1950, pp. 9–41) entitled “Medical Geography: Its Methods and Objectives,” which set forth Dr. May’s ideas on medical ecology and described the theoretical framework that underlay the atlas. The first few sheets were distributed with the *Review*, together with a commentary on each, until the program was well under way and had become recognized as a significant contribution in both disciplines, medicine and geography. Dr. May’s long service as chairman of the Commission on Medical Geography of the International Geographical Union was an outgrowth of his work on the atlas. During his last several years at the Society, Dr. May also produced two books: “The Ecology of Human Disease” (MID Publications, New York, 1958), and “Studies in Disease Ecology” (Hafner Publishing Company, New York, 1961).

Two sheets in the Atlas of Diseases deal with “Human Starvation,” and it was in the preparation of these studies that Dr. May came to feel more and more strongly that the problem of inadequate nutrition in many areas of the world was a crucial one. Before he left the Society in 1960, he had embarked on a volume dealing with “The Ecology of Malnutrition in the Far and Near East” (Hafner Publishing Company, New York, 1961). In the ensuing years this work was followed by similar surveys of malnutrition in other countries, with the help of various collaborators. The fourteenth and final volume in the series, “The Ecology of Malnutrition in Western South America,” appeared in 1974. During the last fifteen years of his life, Dr. May’s