agencies are stressing improvements in resource development, health, and education; these and other improvements will inevitably result in a modification of concepts and values.

The book would have been strengthened by inclusion of a more functional index and by a wider selection of references from the rich literature pertaining to the monsoon lands of Asia.

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Scientific Adventure

The Year of the Gorilla. George B. Schaller. University of Chicago Press, Chicago, Ill., 1964. xii + 260 pp. Illus. $5.95.

Many readers of *Science* are already familiar with Schaller's *The Mountain Gorilla: Ecology and Behavior* [University of Chicago Press, 1963; reviewed in *Science* **140**, 1081 (1963)], the most thorough monograph on a nonhuman primate species ever published. The earlier monograph was, in the author's words, "a compendium of facts, discussing the apes as subjects to be studied, not as acquaintances whose activities my wife and I discussed at the end of each day; I had no space to reveal the enjoyment I derived from roaming across grassy plains and uninhabited forests and climbing mist-shrouded mountains."

In *The Year of the Gorilla* Schaller has added this personal narrative. It is the story of the mountain gorilla expedition, from its inception at the University of Wisconsin and the initial survey of gorilla habitats with John T. Emlen, through the author's subsequent year-long study of gorilla behavior, to the hectic days of Congolese independence which terminated the study. It includes a summary of the daily life of the gorillas, vivid descriptions of the forests, encounters with natives and European settlers, and the joys of housekeeping in a windblown cabin at 10,000 feet. There are no new facts about the mountain gorilla except a brief epilogue, added after a revisit to the study area in August 1963, 3 years after the original study. Schaller had no difficulty recognizing individuals from the previous study, and he noted a decrease in size in group 7 from 21 gorillas to 17 and in group 8 from 21 to 10.

The book's awesome and beautiful setting, in the Virunga Volcanoes, south of the legendary Mountains of the Moon, is a land inhabited by pygmoid Batwa and tall Watutsi herdsmen; the periphery of this area has often been described, but few Europeans have explored the interior of its dense forests or climbed the peaks of its still active volcanoes. This book recalls an earlier style, when Africa was new and explorers felt compelled to describe everything they encountered. Schaller includes geology, the tribal histories, life in African villages, and the flora and fauna of the region, but it is his genius to have preserved the descriptive candor of 19th-century observers without succumbing to local mythology and hearsay. His probing eyes seem to miss nothing, and his descriptions have the ring of 20th-century, scientific accuracy. A sensitive and articulate observer, he is at his best when he is describing the forest itself, the timeless, paleozoic atmosphere of riotous foliage, tree ferns, and scurrying roaches. Whether the author is tracking gorillas, slipping past elephant herds on narrow jungle paths, avoiding poachers' deadfalls, or routing Watutsi invaders, this is an exciting book. Although Schaller feels that this is "not an adventure book," few readers will be able to agree.

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Science Study Series

Waves and Beaches. The dynamics of the ocean surface. Willard Bascom. Doubleday, Garden City, N.Y., 1964. xii + 268 pp. Illus. Paper, $1.45.

Willard Bascom's *Waves and Beaches* is a welcome addition to the fine Science Study Series of books for "students and the general public."

The series aims to present, in an interesting way, the most "stirring" and fundamental topics of science and to tell the "fascinating" stories of great discoverers or discoveries.

Conveying accurately what Warren Weaver has called the "interest, importance, beauty, and excitement of science" requires judgment and skill, or it can degenerate into popularization. Bascom combines the two prerequisites: A deep and close knowledge of the sea and its borders and a clear and lively style. The result is a book that completely lives up to the advanced billing of the series.

Willard Bascom's eminence in oceanography guarantees the scientific accuracy of the book. He is president of Ocean Science and Engineering, Inc., and he was executive secretary of the Maritime Research Advisory Committee of the National Academy of Science and director of the Mohole project. His book, *A Hole in the Bottom of the Sea*, is an account of the Mohole project through the preliminary drilling off the coast of Southern California.

In the process of giving the reader a good deal of basic knowledge about the interaction of the sea and coast, Bascom tells some marvelous stories about tsunamis, storms, and the awesome power of waves. There is an account of how the U.S.S. *Ramapo* measured 112-foot waves in the Pacific and horrifying pictures of a longshoreman a few seconds before his death in the seismic wave that struck Hilo, Hawaii, on 1 April 1946.

Bascom discusses some of the lure of the sea. Oil does calm sea waves, especially if it is fish oil; there is no such thing as an undertow that pull swimmers under the surface. ("There are currents flowing in the surf zone and there are other water motions which may cause trouble for swimmers, but they hardly fit the description.") Groins occasionally do stop the erosion of beaches. (See the case of the Minnie Hunter at Cape Henlopen in 1883.)

One of the hopes of the editors of the Science Study Series is that the reader will be encouraged to make his own investigations of natural phenomena. Bascom's book certainly provides the motivation.

In an epilogue, Bascom says that many of the pleasantest hours of his life have been spent in watching waves and examining beaches—walking and meditating, photographing, digging, and surveying.

> There is satisfaction in being aware enough of the waves and beaches to detect the special softness of a new layer of sand underfoot, that means the berm is building or to observe a slight change in the appearance of the breakers and think, "There must be a new storm in the Gulf of Alaska."