erate threats to strategic stability that would better be headed off. Readers who wish to be informed themselves, and to contemplate why many of their fellow citizens have chosen to be otherwise, will do well to read the Wolfe and Panofsky books.

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Littoral Philosophy

The Outer Shores. From the Papers of EDWARD F. RICKETTS. Introduced and edited by Joel W. Hedgpeth. Mad River Press, Eureka, Calif., 1978. In two volumes. Part 1, Ed Ricketts and John Steinbeck Explore the Pacific Coast. xii, 128 pp., illus. Paper, $7.95. Part 2, Breaking Through. x, 182 pp., illus. Paper, $9.45. The two volumes, $15.97.

James Boswell was one of the greatest biographers who ever lived, but his talents would have been largely wasted had not his friend the great lexicographer provided him with something to write about. A rather similar relationship holds between John Steinbeck and Edward F. Ricketts.

Ricketts is the culture hero of marine biology. He founded the modern study of intertidal zonation, and wrote, with Jack Calvin, a classic book on seashore life, *Between Pacific Tides*. Steinbeck and he collaborated on the equally celebrated *Sea of Cortez*. To the general reader he is known as "Doc," the hero of Steinbeck's *Cannery Row* and *Sweet Thursday*.

Unfortunately, Steinbeck's writings have tended to provide a distorted impression of what Ricketts was like and what he did. Hedgpeth has gone a long way toward rectifying this situation by publishing a series of manuscripts and letters interspersed with much helpful and entertaining commentary.

The documents show that Ricketts was a serious marine ecologist, in many ways ahead of his time. This is particularly evident in his communications to Steinbeck intended to serve as a basis for their projected book on the Queen Charlotte Islands. Of equal or even greater interest to many readers will be the exposition of Ricketts's philosophy, a curious mixture of Taoism, University of Chicago vitalism, and other doctrines, but dimly understood by Steinbeck. The choice document here is an early version of the essay on "non-teleological thinking" which Steinbeck adapted as a chapter for *Sea of Cortez*. Ricketts was concerned with deep metaphysical issues, but it is what we would call his "philosophy of life" that has made the strongest impression on the public. Ricketts bears comparison with Thoreau in this respect.

Some might contend that Hedgpeth has allowed too much of his own personality to intrude into this work. Yet he too has become a semilegendary figure in marine biology, and he actively participated in the story he tells. Hedgpeth has rarely if ever minced a word, and he does not conceal his feelings about those in academia and the publishing trades who take it upon themselves to manage the truth. With a few apt remarks and choice quotations he makes the late W. K. Fisher of Stanford look like a complete fool for seeing to it that *Between Pacific Tides* was Bowdlerized. A letter from Steinbeck to the publisher of *Sea of Cortez* expresses, in the language of outraged indignation, a steadfast resistance to efforts to lie about who wrote that book. The account of how the book was reviewed should make anyone think twice before perpetrating the all too frequent vices of that genre.

One might suspect that Hedgpeth has had troubles of his own maneuvering this manuscript past the guardians of respectability. But once the Backbites and Sneerwells have had their say, the work will be welcomed by those who want to read about good science and good literature. We have here a delightful and most unusual book about two great men. Even Old Jinglebollix would want to own a copy.

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Edward F. Ricketts in front of his Cannery Row shop, July 1936. [Photograph by Ralph Buchsbaum, from *The Outer Shores*, part 1]

Hunter-Gatherers Today

The Nutrition of Aborigines in Relation to the Ecosystem of Central Australia. Papers from a symposium, Canberra, Oct. 1976. B. S. HETZEL and H. J. FRITH, Eds. Commonwealth Scientific and Industrial Research Organisation, Melbourne, 1978 (U.S. distributor, ISBS, Forest Grove, Ore.). x, 150 pp., illus. Paper, $5.95.

The Aborigines of Australia flourished, or at least survived, for more than 10,000 years in a difficult environment by hunting and gathering. At the time of European contact, the number of Aborigines is estimated to have been about 250,000. Early observers report a lean, fit, well-nourished population that maintained self-respect by ethnocentrism despite chronic hardships and occasional crises. The first century of contact was hard on the Aboriginal populations: conflict, disease, and out-marriage (of women, almost entirely) reduced the size of the Aboriginal group to 67,000 by the census of 1901. The Aboriginal experience is typical of 19th-century contact of hunter-gatherers with more "advanced" peoples. Extinction of the culture and absorption of the people into the dominant group (at the lowest social-class level) was predictable, and actually occurred in the case of the Tasmanians, some of the Khoisan groups of Africa, and many of the tribes of native peoples in North America. Since 1900, however, the typical process has changed to one of concentration into dense settlements, provision of welfare payments or charity to provide a scanty cash income, dependence on store-bought food, and eventually population growth from the continuation of relatively high fertility despite a level of disease higher than that prevalent in the dominant society. In Australia, by 1966, the census shows about 80,000 Aborigines living in towns and on rural "stations" parallel to the reservations of North America and the settlements found in Africa. Peterson reports that during the 1950's there were at