

Book Reviews

The Voyage of the Lucky Dragon.

Ralph E. Lapp. Harper, New York, 1958, xiii + 200 pp. Plates. \$3.50.

Ralph Lapp has sympathetically and effectively chronicled the saga of the 23 unfortunate Japanese fishermen. Victims of the vagaries of an uncertain catch, they met the short-range fallout of the Bikini blast of 1 March 1954 and shared the unenviable distinction (with some Marshall Island inhabitants) of being the world's first victims of the H-bomb. Ku-boyama, the single crew member who had any technical comprehension of the circumstances, ironically was the only one to die. For the others, the clinical phase has passed, but collectively they seem destined to play a political role for some time to come. Lapp's book, in this respect, is remarkably restrained, and he would have been remiss in his reporting had he not described at least the diplomatic and political repercussions among the Japanese and United States governments. In this respect the issue of contaminated tuna seems to have outweighed that of the injured fishermen.

In establishing the personalities of the principal fishermen, the book provides interesting detail on their way of life and on the skills necessary to sustain them. Later, the nuclear detective work of Japanese scientists, in the attempt to identify the nature of the fallout, is effectively woven into the fabric of the tale. It is clear, however, that the culprit (in their opinion and in Lapp's) was forejudged to be the U.S. Atomic Energy Commission. As the Japanese scientists ably demonstrated, the nature of the nuclear radiation to which the fishermen had been exposed was easily identifiable. Since the amounts and energies of the radiation were readily ascertained, it was possible to estimate the external exposure. It was not necessary, for immediate medical purposes, to know the isotopic origin of the radiation, so the demand for information on the composition of the bomb seems extraneous. But, regardless of the validity of the scientists' reasons for seeking that data, the narrative clearly shows that normal scientific curiosity is capable of penetrating many a classification barrier.

Pearl Buck provides a brief "Fore-

word" in which she says, "Innocent and industrious, pursuing their daily duties, these men are eternal symbols of what can happen to anyone, anywhere, unless—what?" It would be unfortunate if this query or indeed the events of Lapp's book were interpreted as applying to the problem of long-range or world-wide fallout. The latter is a separate, no less important, issue; unfortunately, no balanced discussion of it exists. But such is not the purpose of *The Voyage of the Lucky Dragon*, a highly readable and absorbing book, which is to be recommended to all, scientist and layman, who seek further understanding of our contemporary nuclear dilemma.

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Anatomies of Pain. K. D. Keele.

Thomas, Springfield, Ill., 1957. x + 206 pp. Illus. \$5.50.

From time immemorial both physician and philosopher have speculated upon the nature and meaning of pain. The physician's concern has been predominantly with pain as a symptom, local in origin, whereas the philosopher in the pursuit of sensibility in the pleasure-pain principle has treated it as a central phenomenon, material or immaterial. Eventually the two approaches meet in the physician and scientist. However, between these two positions the pendulum of opinion and experimentation has oscillated ever since, and no accord is yet in sight; if anything, the position is more uncertain than it was a few years ago, for we have come to recognize more clearly the difficulties of the problem.

The author, with very great skill, traces these fluctuating views from the earliest times to the present: from the concepts of primitive man of local spirit intrusion to Indo-European thought of the heart as the generalized center of sensitivity; to the debate of the Greeks, from Pythagoras to Galen, on the heart versus the brain as the organ of sensation; to the enthronement of the brain, and the search, from the mediaeval period to Descartes, Willis, Soemmerring,

and Kant, for the *sensorium commune* and the residence of the soul; to the union of the local with the general by the discovery of the spinothalamic tract as a pathway for pain, with the contributions of Bell, Magendie, Schiff, Brown-Séquard, Voroschilov, Gowers, Eddinger, and Spiller; to the laws of specific nerve energies and their local bases; and finally to 20th century ideas on the anatomy and physiology of pain mechanisms. This story of the great and continuing diversity well merits its title and fulfills well its object of tracing the anatomicophysiological concepts "which lie, often unconsciously, at the roots of our present ideas."

The work gains in strength and substance as it proceeds. The latter chapters are excellent, but the earlier, especially those which deal with the difficult Egyptian and complex Greek periods, leave something to be desired. For the Egyptian period the author has relied too much on a single and secondary source, Sigerist's recent *History of Medicine*. Following, but misinterpreting, his source, he states that there are two treatises on the heart and blood vessels, little realizing that the so-called treatise in the *Papyrus Edwin Smith* consists of three lines (I: 5 to 8) of a gloss which parallels a statement in *Papyrus Ebers*. But, more important, he is apparently quite unaware of the difference in meaning between *h3tj* (the heart as a physical organ) and *ib* (the heart and bowels as the center of consciousness and sensibility). So important was this distinction to the ancient Egyptian that it was preserved in the texts from the Pyramid age to the end of his civilization, in the Ptolemaic period. Further, it is quite incorrect to say that the ancient Egyptians had "no idea of a central nervous system" and that they allotted all sensory and motor functions to the heart and its vessels; even a very superficial acquaintance with *Papyrus Edwin Smith* would show this error. Likewise, the significance of the *mt·w*, or vascular system, is lost to the author; this is important, for this theory leads into early Greek conceptions and Aristotle's position.

There are a few minor annoyances, such as the consistent use of the noun for the adjective in the discussion of the ulnar nerve (pages 53, 58); praise for Galen's knowledge of the distribution of the ulnar nerve to "half of the middle finger" (page 51)—a distribution which would be highly exceptional; his citing of Tertullian (about A.D. 150–200) as, by some curious chronological inversion, supporting St. Jerome (about A.D. 340–420) (page 56); his crediting of Newton with a wave theory of sensation when his theory was corpuscular, as specifically mentioned in the very same paragraph of the *Principia* quoted (page 88); and