in the livers of rats which had previously received a selenium ration at levels of 70, 35, and 177.5 p.p.m.

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NORTH AMERICAN FISH-HOOKS

BIREN BONNERJEA in his recent article in SCIENCE,[1] "North American Fish-Hooks," states that he has come to the conclusion that the barbs on fish-hooks (in America) might have been an original invention, concluding the article by saying, "it seems to me that ethnographers and archeologists in the field would do well to bear this [looking for proof to that end] in mind."

While in charge of the Quileute Indians at LaPush, Washington, from 1905 to 1909, the writer did much excavating about the hill on which the Indian village is situated. The first two feet of debris there included numerous Hudson Bay beads, as well as other white man's things. Below this level only aboriginal things were found, among which were many Indian fish-hooks, of the barbed-outside type, these being found often in the lowest debris exposed there, often six feet below the stratum that contained the blue trade beads. This proves conclusively that the barbed hooks were in use before the coming of the white man to that region.

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TERMITES IN CENTRAL NEW YORK STATE

DURING a recent discussion on the distribution of Termites, mention was made of the scarcity of these interesting insects north of the Mason and Dixon line.

In the late spring of 1933, a nest of Termites (*Reticulitermes flavipes*) was discovered on the north bank of Cascadilla Creek, several hundred yards southeast of the Cornell University stadium, by Mr. Wade H. Hadley, Jr., and the writer. Note of this northern station for this species of Termite might be of interest to the entomologist.

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SCIENTIFIC BOOKS

THE AUTONOMIC NERVOUS SYSTEM

The Autonomic Nervous System. Anatomy, Physiology, and Surgical Treatment. By JAMES C. WHITE, assistant professor and tutor in surgery, Harvard Medical School, assistant visiting surgeon, Massachusetts General Hospital, Boston. xviii + 386 pp. The Macmillan Company, 1935. Price $7.00.

THIS important monograph written by a surgeon is a highly significant contribution both to the anatomy and the physiology of the autonomic nervous system. In addition it represents the most authoritative clinical discussion of surgery of the autonomic nervous system that has yet appeared. After a brief historical account of the autonomic system, in which the date and title of Eustachius' celebrated plates are erroneously stated and the name of Gaskell is not to be found, White gives an excellent brief discussion of the anatomy of the autonomic nervous system which can be safely recommended to students. Indeed it is much more complete and concise than that to be found in any current text-book of anatomy or physiology. It is to be regretted, however, that the unimaginative publishers have virtually ruined White's excellent tabular summary of the innervation of the principal organs on pages 35–46 by lack of suitable indentation and complete disregard for the niceties of typography. The chapter on general physiology is sound, but dull, suggesting that too many physiologists tried to help the conscientious author.

The most significant disclosure in the book is described on pages 92–98 in which it is pointed out that the conventional operation for removing the sympathetic supply of the upper extremities destroys the cells of origin of the post-ganglionic fibers, whereas the conventional operation for the removal of the sympathetics of the lower extremities (ablation of lumbar ganglia 1, 2, 3 leaving intact the lower lumbar and sacral ganglia) leaves the cells of origin of the post-ganglionic fibers virtually intact. When the post-ganglionic cells are removed the tissues formerly innervated by them become sensitized to adrenaline. Consequently when such an animal or a human being secretes adrenin or is given adrenaline, extreme vasoconstriction occurs in the sensitized part. This, White argues, gives an intelligent physiological explanation for the virtual failure of the conventional operation for sympathectomy of the upper extremity. Having pointed this out, White then describes a procedure for pre-ganglionic denervation of the upper extremity, and in the few cases thus far tried this gives more satisfactory immediate results than the older procedure. It is based upon the fact, originally disclosed by Langley and long overlooked, that the pre-ganglionic vasoconstrictors of the upper extremities emerge from the spinal cord at levels below the third or fourth thoracic, often extending as far down as the tenth thoracic. Consequently when the thoracic sympathetic trunk is merely cut through at Th. 3 or 4, the pre-ganglionic vasoconstrictors of the upper extremity are entirely removed and the post-ganglionic cells remain intact. Regeneration, however, may occur.

White, like Livingston, whose recent book, "The

[1] 82: 2134, p. 492.