The SSEC is working on the long-range issues (correctly identified in the article) and expects to finish next summer. In the coming year, technical studies will be conducted by NASA and its contractors to refine spacecraft–launch vehicle options while scientific working groups will tighten up mission objectives, drawing heavily on input from the Space Science Board. We intend to discuss the SSEC activity with the concerned scientific community at a series of sessions in conjunction with major scientific meetings throughout the fall and winter.

Last, I should add that, while the major effort of the SSEC is indeed on biting off individually smaller, less expensive, more focused chunks of planetary exploration, we will consider those special cases where a large U.S. exploration mission may indeed be the proper course of action.

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Giant Geoduck

The grim proof of our clear overexploitation of the marine environment is reflected in the photograph of *Panope generosa* (Gould) provided with D. J. Barnes' book review (9 Oct., p. 176) (*1*).

This species occurs in the Pacific Northwest of the United States and is taken both commercially and for sport. The photograph, which must be more than 50 years old judging from the clothing and the construction of the wheelbarrow, shows a specimen much larger than anything taken in the fishery today, or even yesterday!

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References

1. D. C. Rhoads and R. A. Lutz, Eds., *Skeletal Growth of Aquatic Organisms*. Biological Records of Environmental Change (Plenum, New York, 1980).

The review by Barnes of the book *Skeletal Growth of Aquatic Organisms* includes a picture of the geoduck, *Panope generosa* (Gould), with the remark, "source of photograph is unknown."

One thing about the photograph is certain. It is faked. Johnson and Snook (*1*, p. 466) give the length of the geoduck as ". . . reaching 7 inches with a weight of 6.5 pounds." Ricketts and Calvin (*2*, p. 215) go a bit higher: "Individuals more than 8 inches long are not uncommon, and the record weight seems to be 16 pounds." The light on the clam comes from the right side and above, while that on the boy's face and hand is clearly from the left. A clam the size shown would exceed the size limits for a sessile filter feeder. (The giant clam, *Tridacna*, achieves its large size with the help of photosynthetic symbionts.)

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References

1. M. E. Johnson and H. J. Snook, *Seashore Animals of the Pacific Coast* (Macmillan, New York, 1927; reprinted by Dover, New York, 1967).
2. E. F. Ricketts and J. Calvin, *Between Pacific Tides* (Stanford Univ. Press, Stanford, Calif., rev. ed., 1948).

The composite photograph of *Panope generosa* (Gould) was sold in the Pacific Northwest in 1935 on postcards, as were postcards illustrating jackrabbits large enough for saddle, bridle, and rider, and trout overlapping the freight cars purporting to be supporting them. Neither of the latter, of course, showed "distinct growth patterns . . . visible on the external surface" necessary to illustrate the topic of skeletal growth of aquatic organisms. The review by D. J. Barnes closes on a lighthearted note, but the photograph is a hoax.

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Trace Elements

Commendations to Walter Mertz (18 Sept., p. 1332) for reemphasizing that criteria for nutritional essentiality of a trace element are related to impairment of a function in its absence and restoration of the function by supplementation with that element. These criteria contrast sharply with the still widely cited notion of essentiality by virtue of prevention of a specific disease.

Commendations also for his emphasis on the rapidly changing face of nutritional science, including the recent establishment of a number of trace elements as essential, recognition that wide ranges of some elements are compatible with good health, and the suggestion that the primary nature of interactive effects of elements is the basis of their biological action. These emphases warn against all too common extrapolations from in vitro studies of single elements and acceptance of the idea that human nutrition is a simple affair.

In discussing deficiency states, Mertz describes well the reduction of goiter incidence in the United States "goiter belt" by dietary iodine. He confines his remarks on selenium deficiency, however, to a passing mention of China. Since 1974, the incidence of Keshan disease, a congestive heart disease prevalent in selenium-deficient areas of China, has been dramatically reduced by dietary selenium supplementation (*1*). There is firm evidence of selenium deficiency and related cardiovascular disease in the United States also (*2*), with those in selenium-deficient areas (where 80 percent of vegetables contain $\leq$ .05 part per million selenium) having three times the disease risk of those in areas where selenium is adequate (80 percent of vegetables contain $\geq$ 0.1 part per million selenium) (*3*). Deficient areas include most of Connecticut, Delaware, Illinois, Indiana, Massachusetts, New York, Ohio, Oregon, Pennsylvania, Rhode Island, and the District of Columbia.

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References

1. Keshan Disease Research Group, Chinese Academy of Medical Sciences, *Chin. Med. J.* **92**, 471 (1979).
2. R. Shamberger, M. Gunsch, C. Willis, L. McCormack, in *Trace Substances in Environmental Health*, D. Hemphill, Ed. (Univ. of Mississippi Press, Columbia, ed. 9, 1975), pp. 15–22.
3. R. Shamberger, in *Proceedings of a Symposium on Selenium–Tellurium in the Environment* (Industrial Health Foundation, Pittsburgh, Pa., 1976), pp. 265–284.

Erratum: In the report "Selective protection of methionine enkephalin released from brain slices by enkephalinase inhibition" by G. Patey *et al.* (5 June, p. 1153), Fig. 1B was labeled incorrectly. The corrected figure is printed below.