

## 'SECOND-HAND' BUILDING BY SEA DWELLERS

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IN THESE DAYS of shortages and impending shortages we don't sneer at anyone who uses second-hand lumber, pipes, or shingles to build his house. We wish we had some, too. But we can't help remarking his similarity to certain invertebrates, both living and fossil, that have been found to build their houses the same way. The practice of our old friend, the hermit crab, of taking over an abandoned whelk shell is a different sort of real-estate operation altogether. He's just buying an old house, probably with a mortgage on it.



Figure 1

Among the simplest animals, the single-celled Protozoa, are the Foraminifera, very common as fossils though microscopic in size. Most of them build shells that look rather like tiny snail or nautilus shells, very beautiful productions indeed when examined



Figure 2

under the microscope. But some of the Foraminifera, and we can't call them either lazier or smarter than the rest, build their protective coats of materials picked up from that best-stocked of all junk yards, the floor of the ocean.

Usually the sea floor in any limited area is covered with a limited assortment of materials: angular large quartz grains, round small quartz grains, partly rounded feldspar grains, or similar objects, dominantly of a single variety. Most of the borrowing Foraminifera pick these up as they glide along the bottom, fastening one here, one there, on their soft unprotected bodies as

needed. It is remarkable that this type of construction results in a perfectly definite and recognizable shape of integument for each of the many species practicing it. Other borrowing Foraminifera select only grains of a given color from among thousands of grains of slightly different hues. Others, with infinite pains, delve about over a wide area, selecting only the rare flakes of mica sparsely scattered among the sand grains or the still rarer spicules (tiny stiffening rods) remaining from dead and dissipated sponges. The material used and the shape of the resulting "shell" are in each case reliable means of identifying the species.

Most of the higher forms of shell-building sea animals use only mineral substances chemically removed from the sea water, as do the normal shell-building Foraminifera. Their shells are principally composed of calcium carbonate ("lime"). But in even such a relatively advanced group as the

### KEY TO FIGURES

Figure 1: *Textularia smithvillensis*, a foraminifer from an Eocene sand deposited 25 million years ago. It built its "shell" of sand grains. Model by Artist Joseph B. Krstolich for a new exhibit in Frederick J. V. Skiff Hall (Hall 37).

Figure 2: *Xenophora crisperi*, a sea snail that ornamented its shell with carefully chosen rock and shell fragments. Many of the decorative pieces have fallen off.

sea-snails, there are some that patronize the "second-hand market." The Museum possesses some shells of *Xenophora crisperi*, from the Quaternary deposits of Palermo, Sicily. Although the shells are built almost entirely of lime, they are ornamented with regularly placed fragments of rock, broken shells, and even whole shells of small scallops, clams, and snails. When one of these is dislodged, a perfect impression of it remains in the limy shell, as an impression of a removed ornament would remain in the cement of a fancy gatepost. The name of this decoratively inclined snail, translated from the high-sounding scientific language, means *Crisp's* (in Latin) *foreigner-bearer* (in Greek). As usual the scientific name turns out to have been well devised to provide a brief description as well as a name.

With a history of the re-use of building materials extending back to an antiquity antedating man himself, no one need blush for using whatever he can get when he finds himself with a house to be built.

*Learn from the birds what food the thickets yield.*

*Learn from the beasts the physic of the field, The art of building from the bee receive,*

*Learn of the mole to plow, the worm to weave.*  
—POPE

## MUSEUM RADIO PROGRAMS, SATURDAY AFTERNOONS

Through the courtesy of the American Broadcasting Company, Chicago Natural History Museum is on the air each Saturday afternoon at 4:30 P.M. over station WENR in Chicago (and at 2:30 P.M. on the coast-to-coast network of ABC) in a new program entitled "Exhibit A."

On this program members of the Museum's scientific staff are interviewed in the Museum exhibition halls, where they relate many things about outstanding exhibits that would not be apparent to most Museum visitors—how the material was collected in the field, how it was prepared for exhibition—and give details of natural history that cannot be told within the limited space of exhibition labels. To date, those who have appeared on the program include John R. Millar, Deputy Director of the Museum; Karl P. Schmidt, Chief Curator of Zoology; Dr. Paul S. Martin, Chief Curator of Anthropology; Bryan Patterson, Curator of Fossil Mammals; and, in a program about the preparation of the famous gorilla Bushman, D. Dwight Davis, Curator of Vertebrate Anatomy, Taxidermist Leon L. Walters, and Joseph B. Krstolich, Artist in Zoology.

Scheduled for appearances in the near future are Dr. Theodor Just, Chief Curator of Botany, Loren P. Woods, Curator of Fishes, and Robert K. Wyant, Curator of Economic Geology. Other museums participating in the program are the Art Institute of Chicago, Museum of Science and Industry, Chicago Historical Society, and Adler Planetarium.

### Botanical Collectors Back From Florida

The Botanical Field Trip to Florida conducted by Emil Sella, Curator of Exhibits, and Samuel H. Grove, Jr., Artist-Preparator, has completed its work and returned to the Museum with a large collection of flowering plants. Included are species native to Florida and species introduced from tropical countries. In a little less than five weeks the expedition covered a large part of the state, including the Everglades, Lake Okeechobee, the Miami area, and Key West. Studies were made at two experimental gardens maintained by the United States government.

### Museum Pensioner Dies

John Anderson, employed as a carpenter in the Department of Anthropology and in the Division of Maintenance from 1920 until his retirement on pension in 1942, died April 7. Mr. Anderson was born in Sweden in 1869.





Richardson, Eugene S. 1951. "Second -Hand' Dwelling by Sea Dwellers."  
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