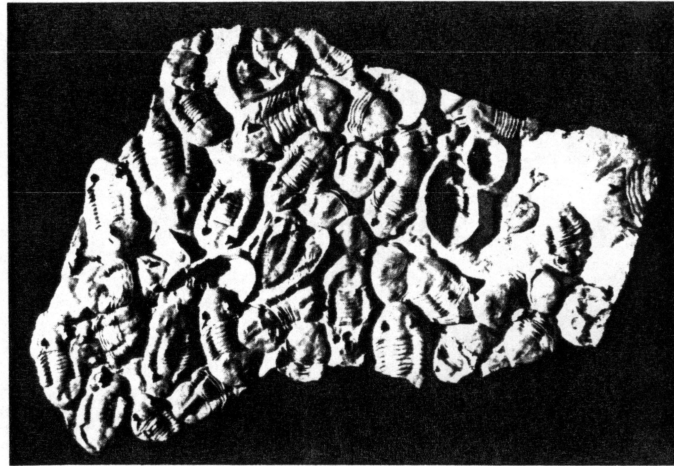


**FIGURE 11.1**

A slab of Ordovician limestone containing many specimens of a large trilobite, *Homotelus*, characteristic of that period. The block is about 40 cm long. (Courtesy of Los Angeles County Museum of Natural History, photo by Lawrence S. Reynold.)

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feeders as the bivalves were present, but they were generally subordinate. Other important members of these communities were sessile carnivores (the corals), a variety of detritus feeders (such as gastropods), and predators (cephalopods and fishes).

Each of the three main groups—brachiopods, bryozoans, and stalked echinoderms—is characterized by two important attributes. First, within each group there is a definite succession of dominance. Those kinds of brachiopods that were predominant in the Ordovician gave way to other types in later periods. The same is true for the other two groups. Secondly, these groups provide the first evidence for conspicuous stratification of marine communities—the brachiopods living just above the sea floor, many bryozoan colonies being raised a few centimeters above the bottom, and stalked echinoderms being generally ten or more centimeters high. This stratification was largely lacking in Cambrian communities. Ordovician communities also differ from Cambrian ones in another respect; in the former, most of the common animals were sessile (fixed to the bottom), whereas in the latter, trilobites were mobile animals. Also, dominant Ordovician animals had a calcium carbonate shell, whereas Cambrian animals most often had a chitinophosphatic shell.

We will now look at the succession from the Ordovician through the Permian of each of these three major groups of filter feeders in more detail.

### Brachiopods

The earliest brachiopods have a shell that is chitinophosphatic in composition, and the two valves enclosing the soft parts are not hinged together (inarticulate condition). This kind of brachiopod predominates in Cambrian rocks but is replaced