

also that these casts in relief are the best preserved. This arises from the fact that the original moulds or impressions are usually made in clay, whereas the filling material is sandy, and the latter, infiltrated with calcareous or siliceous matter, may become a hard sandstone, while the clay may remain a comparatively soft shale. This tendency of casts rather than of moulds to be preserved sometimes produces puzzling effects. A cylindrical or branching trail thus often assumes the appearance of a stem, and any pits or marginal impressions assume the form of projections or leaves, and thus a trail of a worm or Gastropod or a rill mark may easily simulate a plant. It is to be observed, however, that these prominent casts are on the under side of the beds, that their material is continuous with that of the beds to which they belong, and that they are destitute of any carbonaceous matter. There are, however, cases where markings may be in relief, even on the upper surfaces of beds. The following are illustrations of this. Just as a man walking in newly fallen snow compresses it under his feet, and if the snow be afterwards drifted away or melted away by the sun, the compressed part resists longest, and may appear as a raised footmark, so tracks made on soft material may consolidate it so that if the soft mud be afterwards washed away the tracks may remain projecting. Again, worms eject earthy matter from their burrows, forming mounds, patches or raised ridges of various forms on the surface, and some animals burrow immediately under the surface, pushing up the mud over them into a ridge, while others pile up over their bodies pellets of clay, forming an archway or tunnel as they go. Zeiller has shown that the mole cricket forms curious roofed trails of this kind, and it seems certain that Crustaceans and marine worms of different kinds execute similar works, and that their roofed burrows, either entire or fallen in, produce curious imitations of branches of plants.

The great and multiform army of the sea worms is indeed