

contemporaneous marine formation.\* But the most remarkable form assumed by basalt, is that of regular pillars, or columns, clustered together; a character also observable in some recent lavas; the columnar basalt of the tertiary epoch has already been noticed (pages 259—268). This columnar structure is proved by some highly interesting and philosophical experiments, to have originated from the manner in which refrigeration took place. Mr. Gregory Watt † melted seven hundred weight of basalt, and kept it in the furnace several days after the fire was reduced. It fused into a dark-coloured vitreous mass, with less heat than was necessary to melt pig-iron; as refrigeration proceeded, the mass changed into a stony substance, and globules appeared; these enlarged till they pressed laterally against each other, and became converted into *polygonal prisms*. The articulated structure and regular forms of basaltic columns have, therefore, resulted from the crystalline arrangement of the particles in cooling; and the concavities, or sockets, have been formed by one set of prisms pressing upon others, and occasioning the upper spheres to sink into those beneath; thus the different layers of spheres have been articulated together, as in these specimens of basaltic columns from the Giants' Causeway (Tab. 146).

Proofs of the correctness of this inference are

\* Silurian System, p. 75.

† Philosophical Transactions, 1804.