

magnificent volcanic eruption is here pictured in its submarine lava currents! For it undoubtedly was a mass or series of expansions of liquid lava poured on the bed of the sea after the deposition of the chalk. It is a series of basaltic and ochraceous beds,—some of the former being eminently columnar. Near the Giant's Causeway, the following succession is given by Dr. Richardson:—

|   |   |   |   |        |
|---|---|---|---|--------|
| 1. Basalt rudely columnar   | - | - | - | 60 ft. |
| 2. Red ochre or bole  | - | - | - | 9      |
| 3. Basalt rudely prismatic  | - | - | - | 60     |
| 4. Basalt columnar  | - | - | - | 7      |
| 5. Intermediate between bole and basalt   | - | - | - | 8      |
| 6. Basalt coarsely columnar   | - | - | - | 10     |
| 7. Basalt columnar; the upper range of pillars at Bengore Head                    | - | - | - | 54     |
| 8. Basalt irregularly prismatic; inclosing the wacke and wood coal of Port Noffer | - | - | - | 54     |
| 9. Basalt columnar forming the Causeway   | - | - | - | 44     |
| 10. Bole or red ochre   | - | - | - | 22     |
| 11, 12, 13. Basalt, tabular, divided by the layers of bole                        | - | - | - | 80     |
| 14, 15, 16. Basalt, tabular, with zeolite   | - | - | - | 80     |

The stratified rocks on which the basaltic masses rest, are variously altered by the effect of their former heat. Lias is changed, at Portrush, into a hard rock like flinty slate: by the side of basaltic dykes at Fairhead, the coal shales are similarly hardened: red sandstone is indurated at the foot of Lurgethan; and in Rathlin, at Glenarm, &c. the chalk is changed by dykes into a largely crystalline marble.

The *quadersandstein* (?) of *Weinbohla* (on the Danube) is overlaid by a syenitic rock.

In the Pyrenees, cretaceous strata are in contact with granitic and serpentinous rocks, and mineral veins are in consequence introduced among them. (M. Dufrenoy.)

*Close of the Secondary Period.—Ensuing Disturbances of the Crust of the Globe.*

With the cretaceous system ends the long series of deposits which are, by general consent, ranked as strata of the secondary periods of geology. In reviewing the successive secondary formations, from the red sandstones