

compared with its many-colored porphyries, its granites, and its quartz-rocks. In the Forfarshire Conglomerate, the prevailing rocks are hard porphyries, of an infinite variety of hue, and indistinguishable in their composition from the porphyries of Ben Nevis and Glencoe; in the Conglomerate of Cromarty and Ross, a decaying granite, red like that of Peterhead, but as finely grained as that of Aberdeen, blent with red quartz-rock and red granitic gneiss, is the prevailing stone; in that of Orkney, as exhibited in the neighborhood of Stromness, the prevailing rock is also a red granite, somewhat larger in its grain, and more durable, than the Cromarty one. The stone which composes many of these inclosed pebbles can no longer be found *in situ*; and a good representative collection of at least the classes of the rocks which they exemplify would serve to show the nature of the framework of that ancient unknown land to whose existence the Great Conglomerate bears evidence; and which — as over many thousand square miles the pebbles present the worn and rolled character — must have been exposed, zone after zone, during a protracted period of gradual depression, to the incessant wear of the ocean. The Conglomerate seems to have been exposed in an after period to intense heat. We find many of its hardest pebbles bent and indented, as if they had been reduced to the consistency of dough, or distorted by miniature faults, which scored their lines of fracture with the ordinary *slicken-sided* markings, when they were in a state viscid enough to re-unite. The fact would have been deemed a great one during the heat of the controversy waged in this city between the antagonistic schools of Hutton and Werner; but it is not less interesting now, when it can be looked at more quietly; and so I have given to a series of the pebbles which illustrate it a place in my collection.

Above the upper beds of the Great Conglomerate, at distances varying from forty to a hundred and sixty feet, the fishes