

glomerate. The latter rock forms a conspicuous feature in many Old Red Sandstone districts. It varies in thickness from a mere thin bed up to successive massive beds, having a united thickness of several thousand feet. The pebbles vary much in composition and size. They consist of quartz, quartzite, graywacke, granite, syenite, quartz-porphry, gneiss, felsite, or any durable material, and their varying nature serves to distinguish some bands of conglomerate from others. They are of all sizes up to blocks eight feet or more in length. They are sometimes tolerably angular, particularly where the conglomerate rests upon schists or other rocks which weather into angular blocks. In the upper Old Red Sandstone, thick accumulations of subangular conglomerate or breccia recall some glacial deposits of modern times. For the most part the stones in the conglomerates are well rounded, sometimes indeed remarkably so, even when they are a foot or more in diameter. The larger blocks are usually angular fragments that have been derived from rocks in the immediate neighborhood. The smaller rounded stones have often come from some distance; at least it is impossible to discover any near source for them. Bands of red and green clay or marl occur, in which seams and nodules of cornstone may not infrequently be observed. Here and there, too, the sandstones assume a flaggy character, and sometimes pass into fine gray or olive-colored shales and flagstones. Organic remains occur in some of these gray beds, but are usually absent from the red strata, though in some of the conglomerates teeth, scales, and broken bones of fishes are not uncommon. In the north of Scotland, peculiar very hard calcareous and bituminous flagstones are largely developed, and have yielded the chief part of the remarkable ichthyic fauna of the system. In Scotland, also,