

and wing-cases of beetles and other insects, spiders, &c. Rain pittings on the shales are not infrequent, together with sun-cracks and footprints of Labyrinthodont Amphibia, *Dendroperon*, *Anthracosaurus*, and other genera. The rain pittings in this special case, tell of showers falling on surfaces of moist mud, exposed by the temporary retirement of fresh water, and the sun-cracks of the drying and shrinkage of that mud; and these joined with the footprints of Amphibia tell of daily events which by happy accidents got perpetuated, first, by baking in the sun's rays. Next, when the area was again overflowed, new layers of mud settled on these impressions, and afterwards becoming consolidated into shale; and thus we have, in a measure, fossilised sunshine, showers, and footsteps of old Amphibians, imprinted, during their occasional visits to the moist land, on the margin of the water in which they chiefly lived.

Before closing the subject I must endeavour to explain under what broad conditions of Physical Geography the Carboniferous series was formed.

It is impossible to have an intimate knowledge of the Carboniferous rocks, even within the limited area of the British Islands, without coming to the conclusion, first, that the various strata were formed in seas, some comparatively open and deep, some shallow, estuarine, and restricted in area, and some in fresh water; and second, that beds of coal were due to terrestrial vegetable growths that flourished and died on the land, and were buried with the soils on which they grew. To examine all of these points in full detail would require the writing of a special treatise, and I can here only glance at the proofs.

In the southernmost parts of South Pembrokeshire,