

among the Old Red Sandstones, it belongs to the age of the Old Red Sandstones; if among the Coal Measures, to the age of the Coal Measures; and if among the Oolites, to the age of the Oolites. But we cannot predicate after the same fashion, that the bed of trap proper which we find resting over one series of sedimentary strata and under another is of nearly the same age as the rock above and below, or just a little older than the upper and a little newer than the nether ones. It may have been injected among them many ages after their deposition, during even an entirely different period of the earth's history. We may safely infer, that those beds of stratified trap-tuff which alternate in the Calton Hill with beds of trap-porphry belong to the Carboniferous period, and are very considerably older than the overlying sandstones and shales on which Regent Terrace is built; but we can no more infer that the great bed of greenstone which forms the picturesque crown of Salisbury Crags is of the same age as the rocks among which it occurs, or, more strictly, a little newer than the strata below and a little older than the strata above, than we can infer that a cast-iron wheel or axle is of the same age as the mould into which it was run, or, more strictly, a little newer than the bottom of the mould, and a little older than the top of it.<sup>1</sup>

Let us now devote a brief space to the consideration of

<sup>1</sup> The usual test of the age of these melted traps is the relation they bear to the rocks which overlie them. If the part of the superjacent bed resting on the igneous rock present an altered appearance, as if it had been more or less baked in a furnace, the trap is regarded as *intrusive*, that is, it forced its way between the planes of the strata, and must consequently be of later age. If, on the other hand, the beds above display no symptom of alteration, and more especially if they consist of trap-tuff, the underlying igneous rock may be presumed to have been erupted either under water or in open air, as the case may be; and hence it is regarded as in a general way contemporaneous with the strata among which it occurs.—G.