

arrangement : for instance,—1st, in those countries (as England and the Netherlands) where all the beds above this series really deserve, from their generally horizontal position, the name of flötz rocks, the carboniferous strata are most frequently much inclined, and exhibit every variety of contortion and disturbance,—agreeing in these respects with the transition rocks, but being entirely unconformable with the more recent : 2dly, the limestones of this series exhibit, in chemical and external characters, in mineral contents, and in organic remains, a very near alliance with those of transition, but differ in all these respects most strikingly from the more recent calcareous beds : it often requires much consideration to distinguish them from the former, but the merest tyro in Geology would at once discriminate them from the latter : 3dly, the sandstones in the lower part of this series approach closely in character to the more obviously mechanical varieties of greywacké, and indeed so completely pass into that rock, that in many instances the limits between this series and that of transition rocks can only be arbitrarily assigned.

In entering on our description of this series, we are at once struck with its far greater importance in a statistical and economical point of view above the formations we have previously described. We have hitherto had to notice little more than a few varieties of stone fit for architectural purposes ; and of those which are more usually considered as the sources of mineral wealth, the trifling metalliferous deposits occasionally occurring in some of the rocks associated with the new red sandstone have afforded the only trace ; but here we enter on a new scene in this respect.

The manufacturing industry of this island, colossal as is the fabric which it has raised, rests principally on no other base than our fortunate position with regard to the rocks of this series. Should our coal mines ever be exhausted, it would melt away at once, and it need not be said that the effect produced on private and domestic comfort would be equally fatal with the diminution of public wealth ; we should lose many of the advantages of our high civilization, and much of our cultivated grounds must be again shaded with forests, to afford fuel to a remnant of our present population. That there is a progressive tendency to approach this limit, is certain ; but ages\* may yet pass before it is felt very sensibly ; and when it does approach, the increasing difficulty and expense of working the mines of coal will operate by successive and gradual checks

\* See some remarks on this subject in the section on the Northumberland and Durham coal-field.