

by him are only twelve in number, and some of these were confessedly rare. As years went on, he intercalated new varieties, introduced the division of Transition rocks, and was compelled to reduplicate some of his primitive formations by having to find places also for them among the Floetz series.

Yet with all these shiftings to and fro, the apparent symmetry and conspicuous method of the system were retained to the end. No Saxon mine could have had its successive levels more regularly planned and driven, than the crust of the earth was parcelled out among the various Wernerian universal formations. Each of these had its definite chronological place. When you stood on granite, you knew you were at the base and root of all things mundane. When you looked on a hill of Floetz-trap you saw before you a relic of one of the last acts of precipitation of the ancient universal ocean.

But Nature has not arranged her materials with the artificial and doctrinaire precision of a mineralogical cabinet. Werner's system might temporarily suffice for the little part of the little kingdom of Saxony which, when he promulgated his views, he had imperfectly explored. But as his experience widened and new facts accumulated, the modifications to which I have referred were so serious that they might well make the author of the system pause, and raise in his mind some doubts whether the fundamental conception on which the system was based could possibly be true.<sup>1</sup>

<sup>1</sup> D'Aubuisson, a loyal and favoured pupil of the Saxon Professor, remarks that "Werner has continued from year to year to modify, and even to recast, some parts of his doctrine, while his disciples,