

Hence those descriptive names only have been really useful in geology which had been used without any scrupulous regard to the appropriateness of the description. The *Green Sand* may be white, brown, or red; the *Mountain Limestone* may occur only in valleys; the *Oolite* may have no roe-like structure; and yet these may be excellent geological names, if they be applied to formations geologically identical with those which the phrases originally designated. The signification may assist the memory, but must not be allowed to subjugate the faculty of natural classification.

The terms which have been formed by geologists in recent times have been drawn from sources similar to those of the older ones, and will have their fortune determined by the same conditions. Thus Mr. Lyell has given to the divisions of the tertiary strata the appellations *Pleiocene*, *Meiocene*, *Eocene*, accordingly as they contain a *majority* of recent species of shells, a *minority* of such species, or a small proportion of living species, which may be looked upon as indicating the *dawn* of the existing state of the animate creation. But in this case, he wisely treats his distinctions, not as definitions, but as the marks of natural groups. "The plurality of species indicated by the name *pleiocene*, must not," he says,<sup>4</sup> "be understood to imply an absolute majority of recent fossil shells in all cases, but a comparative preponderance wherever the pleiocene are contrasted with strata of the period immediately preceding."

Mr. Lyell might have added, that no precise percentage of recent species, nor any numerical criterion whatever, can be allowed to overbear the closer natural relations of strata, proved by evidence of a superior kind, if such can be found. And this would be the proper answer to the objection made by De la Beche to these names; namely, that it may happen that the *meiocene* rocks of one country may be of the same date as the *pleiocene* of another; the same formation having in one place a majority, in another a minority, of existing species. We are not to run into this incongruity, for we are not so to apply the names. The formation which has been called pleiocene, must continue to be so called, even where the majority of recent species fails; and all rocks that agree with that in date, without further reference to the numerical relations of their fossils, must also share in the name.

To invent good names for these large divisions of the series of strata is indeed extremely difficult. The term *Oolite* is an instance in which

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<sup>4</sup> *Geol.* iii. 392.