3. *Classification of Minerals.*

In the *Philosophy of the Inductive Sciences*, B. VIII. C. iii., I have treated of the Application of the Natural-history Method of Classification to Mineralogy, and have spoken of the Systems of this kind which have been proposed. I have there especially discussed the system proposed in the treatise of M. Necker, *Le Règne Mineral ramené aux Méthodes d'Histoire Naturelle* (Paris, 1835). More recently have been published M. Beudant's *Cours élémentaire d'Histoire Naturelle, Minéralogie* (Paris, 1841); and M. A. Dufresnoy's *Traité de Minéralogie* (Paris, 1845). Both these works are so far governed by mere chemical views that they lapse into the inconveniences and defects which are avoided in the best systems of German mineralogists.

The last mineral system of Berzelius has been developed by M. Rammelsberg (Nürnberg, 1847). It is in principle such as we have described it in the history.

M. Nordenskiold's system (3rd Ed. 1849,) has been criticised by G. Rose, who observes that it removes the defects of the system of Berzelius only in part. He himself proposes what he calls a "Krystallo-Chemisches System," in which the crystalline form determines the genus and the chemical composition the species. His classes are—

1. Simple Substances.
2. Combinations of Sulphur, Selenium, Titanium, Arsenic, Antimony.
3. Chlorides, Fluorides, Bromides, Iodides.
4. Combinations with Oxygen.

We have already said that for us, all chemical compounds are *minerals*, in so far that they are included in our classifications. The propriety of this mode of dealing with the subject is confirmed by our finding that there is really no tenable distinction between native minerals and the products of the laboratory. A great number of eminent chemists have been employed in producing, by artificial means, crystals which had before been known only as native products.