

bodies as *combustibles* and *supporters of combustion*. But even *combustion* is not capable of being infallibly known, for it passes by insensible shades into oxidation. We can find no basis for our reasonings, which does not assume a classification of obvious facts and qualities.

But any classification of substances on such grounds, appears, at first sight, to involve us in vagueness, ambiguity, and contradiction. Do we really take the sensible qualities of an acid as the criterion of its being an acid?—for instance, its sourness? Prussic acid, arsenious acid, are not sour. “I remember,” says Dr. Paris,¹ “a chemist having been exposed to much ridicule from speaking of a *sweet acid*,—why not?” When Davy had discovered potassium, it was disputed whether it was a metal; for though its lustre and texture are metallic, it is so light as to swim on water. And if potassium be allowed to be a metal, is silicium one, a body which wants the metallic lustre, and is a non-conductor of electricity? It is clear that, at least, the *obvious* application of a classification by physical characters, is attended with endless perplexity.

But since we cannot even begin our researches without assuming a classification, and since the forms of such a classification which first occur, end in apparent confusion, it is clear that we must look to our philosophy for a solution of this difficulty; and must avoid the embarrassments and contradictions of casual and unreflective classification, by obtaining a consistent and philosophical arrangement. We must employ external characters and analogies in a connected and systematic manner; we must have *Classificatory Sciences*, and these must have a bearing even on Chemistry.

Accordingly, the most philosophical chemists now proceed upon this principle. “The method which I have followed,” says M. Thenard, in his *Traité de Chimie*, published in 1824, “is, to unite in one group all analogous bodies; and the advantage of this method, which is that employed by naturalists, is very great, especially in the study of the metals and their compounds.”² In this, as in all good systems of chemistry, which have appeared since the establishment of the phlogistic theory, combustion, and the analogous processes, are one great element in the arrangement, while the difference of metallic and non-metallic, is another element. Thus Thenard, in the first place, speaks of Oxygen; in the next place, of the Non-metallic Combustibles, as Hydrogen, Carbon, Sulphur, Chlorine; and in the next place, of Metals. But the Metals are again divided into six Sections, with reference, princi-

¹ *Life of Davy*, i. 263.

² Pref., p. viii.