sulphates, observes: "Identity in capacity for heat is, therefore, to be looked for in compound atoms of the same nature, and which *closely agree* in their chemical relations like the numbers of each group, but not between compound atoms which are *differently* constituted."—p. 123. Mr. Regnault has announced the following general law in connexion with this subject: "In all compound bodies of the same atomic composition and similar chemical constitution, the specific heats are in the inverse proportion of the atomic weights."

The author's remarks upon combining proportions are not as clear and simple, nor their meaning as palpable as those of other writers upon the same subject; that is, a novice would not as readily seize the sense and appreciate the relative importance of the laws of combination as by perusing Turner's or Fownes' statement of those laws. But the observations on the relation between the atomic weights and volumes of bodies in the gaseous state are truly excellent, and a long and valuable table is given showing the number of volumes in an equivalent of a large number of gases and vapours, and their specific gravity as compared with air, oxygen and hydrogen respectively as unity.

In the 4th section of the 3rd chapter is a brief but able exposition of Mitscherlich's great discovery, that the same number of atoms combined in the same way produce the same crystalline form. Following out this theory, the author has arranged a large majority of the elements in 10 isomorphous groups, and extended the list of isomorphous bodies much further than is done in other English works; indeed the only elementary substances not included in this classification, and whose isomorphous relations have not been traced out, are carbon, boron silicon, mercury, cerium, didymium, lanthanum, lithium, rhodium, ruthenium, palladium, and uranium, and even of these, didymium, cerium and lanthanum, rhodium and ruthenium may probably have their places assigned them. The members of these several groups are so linked together by the isomorphism of one or more of their compounds, that it is probable that a large proportion, if not the whole of the elementary bodies, are isomorphous—indeed Professor Graham thinks "the tendency of discovery is to bring all the elements into one class, either as isomorphous atom to atom, or with the relation to the others which sodium, chlorine, and arsenic exhibit."

Having pointed out the fact that isomorphism is the surest criterion of similarity of composition which we possess, and that it is generally an indication of many common properties besides external form, and is a feature which indicates the closest relationship between bodies; and having considered the chief objections which have been urged against the principles of this truly sublime generalization, he makes the follow-