

the numbers of molecules in each gas supposed to be *unequal*, the diminution of volume under similar pressure ought to vary also, which is not the case, at least in the more perfect gaseous bodies; neither this observation, or those in the former paragraph, apply to vapours.

Of the similar Capacity of Gaseous Bodies for Heat.—The best experiments seem to show, that under equal pressures, the same volumes of all gases have the same capacity for heat—a circumstance quite according with the other phenomena. Hence, for the reasons assigned in the two foregoing paragraphs, and for other reasons which might be mentioned, we have been induced to adopt the hypothesis already stated, that, *under equal pressures, and at the same temperature, all bodies in a perfectly gaseous state, contain equal numbers of self-repulsive molecules.**

* It is proper to observe, that these views were adopted by the author, long before he was aware of the existence of the essays on the subject, by Messrs. Avogadro, Ampere, and Dumas. Indeed he was unacquainted with those of Dumas, which most nearly resemble his own, till he saw them alluded to in Mr. Johnston's recent report on chemistry, in the Transactions of the British Association. Mr. Donovan seems to consider the above hypothesis as untenable; but we think his arguments entirely inconclusive. See Giornale di Fisica, sec. 11. tom. viii. p. 1; Annales de Chimie, tom. xc. p. 43; a Treatise on Chemistry, by Mr. Donovan, in Lardner's Cabinet Cyclopædia, p. 379; and the Introduction to Dumas's *Traité de Chimie appliquée aux Arts*; which excellent work the author had been prevented from perusing, by the nature of the title.