

nevertheless loses its heat near a third sooner. It is the same with lead, silver, and copper, which are all more dense than iron, and which, like gold, heat and cool more readily; for though the object of this second memoir was only refrigeration, yet the experiments of the one that preceded it demonstrate, that there is ingress and egress of heat in bodies, and that those which receive it most quickly also lose it the soonest.

If we reflect on the real principles of density, and the cause of fusibility, we shall perceive, that density depends absolutely on the quantity of matter which Nature places in a given space; that the more she can make it enter therein, the more density there will be, and that gold, in this respect, is of all substances, that which contains the most matter relatively to its volume. It is for this reason that it has been hitherto thought, that more time is required to heat or cool gold than other metals; and it is natural enough to suppose, that containing double or treble the matter in the same volume, double or treble time would be required to penetrate it with heat; nay this would be true, if in every substance the constituent parts were of the same figure and ranged the same. But in the most dense the molecules of matter are, probably, of a figure sufficiently regular not to leave very void places between them; in others
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