

origin; and therefore serve better to illustrate the principle of this treatise.

From among those substances which in commercial language are called precious stones, though some so called are not really derived from the mineral kingdom, it is proposed to select the diamond as a preeminent example of the whole class; because, in addition to those properties which render it valuable as an ornamental gem, there are some points in its history which give it a peculiar worth. It will naturally excite the surprise of those, who are unacquainted with the chemical history of this substance, to learn that the purest diamond does not essentially differ from a particular variety of common coal; or from that mineral of which drawing pencils are made, and which is usually, though not with propriety, called *plumbago* and *black lead*: and yet nothing has been more clearly proved than that equal weights of these several substances, if submitted to the process of combustion, will produce nearly equal proportions of carbonic acid gas; which has already been stated to be a chemical combination of definite proportions of carbon and oxygen; the diamond, which is the purest form of carbon, burning away without leaving any residuum; the other two leaving a very small proportion of ashes, in consequence of their containing foreign matter.