tured by Sir H. Davy, that the earths and alkalies which form lavas, exist in the centre of the globe in a metallic state, and take fire by the access of water. The property of the newly discovered metals to inflame instantly on the access of water offers an easy explanation of the origin of volcanic fires, could we suppose that substances so extremely inflammable and oxidable have remained for ages in a metallic state. This theory is now abandoned. There may, however, be processes going on in the vast laboratory of the globe, that separate the earths from oxygen, and prepare them for the support of volcanic fires, by which they are thrown upon the surface, and thus establish a communication between the internal and external parts of our planet.

The saline products of volcanoes are not numerous. The sulphureous and sulphuric acids, formed by the combustion of sulphur during eruptions, act upon lavas and rocks, and produce different combinations, of which the most important are alum, sulphate of magnesia, sulphate of iron, or green copperas, and gypsum. Muriate of ammonia, or sal-ammoniac, forms an incrustation on many lavas soon after they cool: muriate of soda, or common salt, and muriate of copper and of iron, are found in the craters of volcanoes. Muriatic acid, in an uncombined state, occurs in some of the spongy lavas in Auvergne.

The *principal metallic substances* in volcanic rocks are iron and titanium; but ores of antimony, copper and manganese, have sometimes been found in the craters of volcanoes. Tellurium, gold, and mercury are also said to occur in some volcanic rocks. The island of Ischia, which is entirely volcanic, contains a mine of gold.

Iron, in the form of brilliant laminæ, called specular iron, occurs in the cavities and fissures of many lavas. Magnetic iron ore, and oxide of iron, with iron sand and titanium, form a constituent part of nearly all dark-coloured lavas or basalt.

The *earthy products* of volcanoes are either vitreous, or stony, or scoriaceous, or spongy, or in loose grains or powder. Volcanic rocks are composed chiefly of felspar, and the dark-coloured mineral called augite; they contain, also, hornblende and grains of magnetic iron ore, with titanium and iron sand, and the mineral called olivine. Mica, leucite, iron pyrites, garnets, rubies, and zircon, are also found in some volcanic rocks. The different states of lava, whether vitreous, compact, or scoriaceous, depend on the different circumstances under which it has cooled.

Volcanic rocks, being composed principally of the two minerals, felspar and augite, very minutely intermixed, derive their principal characters from the prevalence of one or other of these minerals. Those lavas in which felspar greatly predominates, have, generally, a whitish or greyish colour, and melt into a white glass. The lavas which contain a large portion of augite, have a dark colour, and melt into a black glass. According to M. Cordier, all volcanic rocks that