If primitive mountains and volcanic formations have been fluid, and have crystallised on cooling, it is necessary that we should retrace in them the same phenomena and the same laws which we still observe at the present time. If a fluid body become solid by cooling, these phenomena are differently modified, according to the chemical nature of the bodies, and according to the crystalline forms which they acquire on cooling; but the laws remain always the same. Mitscherlich says, I am in possession of some specimens which explain several of the phenomena so often shewn by basalt and volcanic formations. I do not possess artificial basalt resembling the natural columnar kind; yet the slags obtained at the furnaces of Sahla resemble basalt so perfectly, as to deceive the most experienced eye, especially as their cavities contain crystals of augite. But I have found at Fahlun a bisilicate of protoxide of iron, which has in consequence a composition analogous to that of basalt, and which has distinct joints. In this slag we perceive that the joints, which are parallel to the axis of the prism and to the lateral planes of the crystals, are always perpendicular to the plane of cooling. This is particularly observable in a specimen which was obtained by melting the slag in a mould; on crystallizing it had several planes of cooling, and the joints are parallel to each of these planes. The planes of separation in basalt present exactly the same phenomenon as this slag.

The phenomena which take place when a fluid body crystallizes may be observed in sulphur, better than in any other body. All fluid bodies, however, and even water, on freezing, present the same phenomena.

If a fluid body has cooled to the point at which it be-