

PLATE XVIII.

- Fig. 1. Section of nucleus of manganese nodule from Station 285 ; 2375 fathoms, South Pacific. In the manganese forming the ground-work of the preparation, there are embedded irregular, triangular, elongated, or quadrilateral fragments, having a yellowish tint, and formed of successive zones of different shades of colour ; very often there is a hollow centre, in which crystals of zeolites are sometimes formed. In polarised light these fragments are birefrangent, like palagonite, and are believed to be altered fragments of basic volcanic glass (magnified 145 diameters).
- Fig. 2. Section of nucleus of manganese nodule from Station 276 ; 2350 fathoms, South Pacific. This nucleus is formed by an aggregation of greenish, vesicular, volcanic lapilli, enclosing little lamellæ of plagioclase and sections of olivine almost entirely replaced by limonite mixed with manganese, and in addition some grains of augite. These are splinters of basaltic rock, with an altered vitreous base, the different lapilli being cemented by fibro-radiate bands of zeolites, forming a mammillated coating around each splinter (magnified 145 diameters).
- Fig. 3. Section of nucleus of nodule from Station 276 ; 2350 fathoms, South Pacific. This nucleus is composed of volcanic fragments of a vitreous nature, transformed into palagonite. There are numerous areolar cavities lined or filled with zeolites, besides numerous lamellæ of plagioclase. The two lapilli partially represented in the figure are surrounded by zeolitic zones, the interspace being filled with earthy matters and peroxide of manganese (magnified 50 diameters).
- Fig. 4. Section of nucleus of nodule from Station 276 ; 2350 fathoms, South Pacific. This nucleus consists of a fragment of palagonite of a red colour, in which there are some lamellæ of plagioclase. The vesicles are everywhere occupied by fibro-radiate colourless zeolites, in a thick layer towards the interior, but in concentric zones towards the external border, the empty space in the centre being frequently filled by manganese or muddy matters. The characteristic fractures depending on the perlitic structure are in this specimen more circular than is usually the case (magnified 145 diameters).