PLATE XXVII.

Fig. 1. Microscopic mineral particles from a Volcanic Mud. Station 262; 2875 fathoms, North Pacific. The particles are principally brown splinters of volcanic glass, showing in typical form the irregular outlines and conchoidal fracture, as well as the elongated fibrous structure of some varieties of pumice (magnified 175 diameters).

Fig. 2. Mineral particles and fine washings of a Red Clay. Station 178; 2650 fathoms, South Pacific. The little colourless angular particles scattered over the figure are microscopic splinters of volcanic glass, or of minerals from eruptive rocks. Among these are vitreous fragments of a larger size as well as crystalline particles. The red-brown particles are palagonite. There are felspars and green particles of augite (magnified 175 diameters).

Fig. 3. Mineral particles of a Red Clay. Station 240; 2900 fathoms, North Pacific. These are essentially volcanic products. Among them may be recognised numerous fragments of pumice and other glassy volcanic particles, plagioclase, and palagonitic grains of a red colour (magnified 175 diameters).

Fig. 4. Mineral particles of a Red Clay. Station 294; 2270 fathoms, South Pacific. As in the preceding figure, these are almost wholly composed of volcanic products, in which pumice fragments are the most abundant; there are also felspar, plagioclase, green fragments of augite, red palagonitic particles, and small crystals of quartz. The last are hexagonal prisms terminated by two pyramids; two individuals at the top of the figure are united together with their vertical axes parallel. The brown-black particles are peroxide of manganese (magnified 175 diameters).

Fig. 5. Fine washings of a Radiolarian Ooze. Station 225; 4475 fathoms, Western Pacific. This figure represents the exceedingly fine grains or flocculent matter, mixed with particles of volcanic glass, felspars, palagonitic and manganese grains, together with minute fragments of Radiolarians and other siliceous organisms (magnified 175 diameters).

Fig. 6. Mineral particles of a Green Mud. Station 189; 28 fathoms, Arafura Sea. This figure shows the difference in a mineralogical composition and in the dimensions and form of the grains in a terrigenous deposit compared with pelagic deposits, which are represented in the five preceding figures on this plate. Rounded fragments of quartz, sometimes covered with a reddish deposit of limonite, are the most numerous. Some colourless particles terminated by cleavages are felspar; the rounded green grains are glauconite. There are also crystals of tourmaline and zircon (magnified 37 diameters).