VI.—*Note on paragenetic formations of carbonate of lime and oxide of iron, and of quartz and oxide of iron, at the Mwyndy iron mines, Glamorganshire.*

By Wm. Vivian.

THESE constitute interesting objects for the microscope. The first mentioned is calc spar, having perfect rhombohedral cleavage; it is transparent, or translucent, apparently coloured topaz yellow or amber, by the intimate diffusion of ochreous iron throughout. The distribution of the colouring iron oxide through the carbonate of lime is minutely microscopic, in tangled interlacing curved lines, many of which, if not all of them, are hollow tubes not unlike maccaroni or vermicelli, but, although this form of iron oxide is distributed through the calc spar in such close masses, it does not seem to affect the cleavage planes of the latter, which separate as readily as if no ochreous iron had been present.

Another combination is of quartz and oxide of iron, existing in amorphous masses and in crystals; the quartz being transparent and the oxide of iron yellow. The mode of the distribution is somewhat different from that of the carbonate of lime and oxide of iron just described; here, the iron is disposed in flossy forms delicately suspended, as if floating in a liquid, and apparently without primary root or trunk, and yet so beautifully arranged is the iron, according to some definite law, that not a single particle seems to be accidentally misplaced.

Another combination of quartz and oxide of iron is seen here, though rarely, in which microscopic quartz crystals—perfect double pyramids—are laced externally and suspended by a peculiar yellow, not ochreous, iron, distributed in curvilinear mossy forms, and these latter are themselves studded over with very minute acicular crystals. All the specimens are best seen as opaque objects in a good light and with a low power, from 1″ to 2″ objective.