

V.—NOTES ON CHINESE FIGURE STONES.

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THREE minerals, Nephrite, Agalmatolite, and Steatite, are much used by the Chinese for small articles of ornamental sculpture. The examination of several oriental specimens of these substances in my collection has led to some interesting results, which I have embodied in the following brief notes :—

1. *Nephrite*, or jade, is now generally considered a variety of tremolite, its low density, among its physical characters, being sufficient to distinguish it from augite. Nephrite varies in colour from a dull greyish-white to a dark leek-green; rarely it is of a much more brilliant green tint. On one or two specimens I have observed small brownish and yellowish patches, and quite lately I met with a large specimen of the mineral of a good and well-defined honey-yellow colour throughout. The hardness was nearly 6, the fracture was splintery, and the lustre glimmering. A careful determination of density gave the figure 2.64. The mineral was further identified by an analytical examination. I believe yellow jade to be, however, rare.

2. *Agalmatolite*, there is little doubt, is a good species; yet I have seen in a public collection of minerals several oriental figures of steatite labelled “agalmatolite.” This error is alluded to in mineralogical works, and is of frequent occurrence. A determination of the density of a Chinese agalmatolite seal gave the figure 2.805, a result closely agreeing with other observations. The red mottlings on some of the larger masses of agalmatolite contain a large quantity of ferric oxide, and are of greater density than the paler portions. In the black mottlings I looked in vain for manganese. The powder of the black parts is grey, and if it be thrown into a fused mixture of caustic soda and chlorate of potassium no green manganate is formed, but a series of slight deflagrations occurs, indicative of the carbonaceous character of the black colouring matter.

3. *Steatite* is clearly distinguished from agalmatolite by its inferior hardness, scarcely more than 1, while agalmatolite is nearly 3. The density of steatite is variously given. For a specimen containing interstitial air, and preserved from the action of water during immersion in that liquid by a film of collodion, I found a density equal to 2.28; the same specimen freed from interstitial air gave the number 2.58. I have observed that the surfaces of Chinese steatitic carvings have generally been subjected to an artificial treatment, which materially alters their physical characters. A considerable degree of translucency and an increased hardness have been obtained by a saturation of the surface with wax, probably of vegetable origin. In my experiments I have taken care to remove this altered surface-layer.