1200 A, while the mean value becomes 1020 A. With this value, the stength of the Burgers vector was estimated to be 93-118 A, where 2.76×10^{11} dyne/cm^2. and 600-1,000 erg/cm. were adopted for G and S respectively. On the other hand, we have also estimated the step height to be 109 A on an average by the shadow-casting method. This is of quite the same order as the strength of Burgers vector above obtained.

The Measurement of Particle Size of Ultra Fine Powders by the Air Permeability Method

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Kogyo Kagaku Zasshi (Journal of the Chemical Society of Japan, Industrial Chemistry Section), **63**, 556 (1960)

The particle sizes of ultra fine powders ranging from 20 to 400 mμ have been measured by the air permeability of packed columns. As we leave the co-operative contributions of Poiseuille and Knudsen flows, two kinds of surface areas can be calculated by the application of a proper analytical method.

The experimental result suggests that the surface area deduced from the Poiseuille flow represents the geometric area of the secondary aggregated particles, while that deduced from the Knudsen flow is to be identified with the true surface area of the primary particles. The values of surface areas of various powders obtained from the Knudsen term agree with those calculated from electron microscopic data.

Spiral Growth of Lamellar Single Crystal of Crystal of Colloidal Gold

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Journal of Electronmicroscopy, **8**, 25 (1960)

The lamellar single crystal of colloidal gold, prepaed by the reduction of aqueous solution of auric chloride with salicylic acid at room temperature, sometimes shows a couple of growth spirals, which appear at the same time on two lamellar habit surfaces of a cystal. The three dimensional configuration of the crystal with spiral steps has been confirmed by the replica technique of the electron microscopy. A small hole can be observed at the centre of the spiral on most of the crystals having growth spirals. The equation presented by Frank giving the relationship between the Burgers vector and the diameter of such a hole has also been examined with respect to the crystal of colloidal gold.

A short discussion has also been made about the moiré fringes which appeared on the superimposed growth steps.