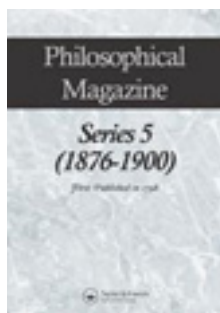


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### Determination of the specific gravity of small fragments of minerals

J. Thoulet

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In exceptional cases it is possible to produce such a thin coating that the extreme edge is fringed with a faint blue.

The other case, lead, is now easily explained. This metal gives a coating of which the colour is a beautiful chrome yellow; and regarding this merely as a repetition of the preceding phenomenon, and the yellow as compounded of rays from the whole range of the spectrum but not in the proper proportion to form white, the line of thought suggested evidently is that, if the layer be decreased in thickness regularly from the centre to the circumference of the charcoal, there ought to be, at some distance from the centre, a zone within which sufficient red should be transmitted to equalize the amount of blue lost by absorption, and the reflected rays should form a yellowish white. Beyond this, as the thickness of layer still decreased, the colour should be blue for the same reason as in the case of antimony. The white zone is easily produced; and the blue border which always surrounds it polarizes the light as before and transmits orange-coloured rays.

The theory, once given, serves to explain nearly all the anomalous colourings of the charcoal coatings, the bluish borders which occasionally skirt almost any of the metallic oxides, the "peacock-tails" of cadmium, etc., and thus does away with the necessity of supposing the presence of impurities (though, by the way, no impurity would solve the problem in the case of the cadmium green.)

From a physical standpoint, the experiments seem interesting as an extension of our knowledge of the action of these small particles upon light. Had not the subject presented itself in this way, we would scarcely have guessed that such a change in reflecting-power could have been produced by so small a change in size and thickness.—Silliman's *American Journal*, September 1880.

Baltimore, Md., July 9, 1880.

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ON AN AREOMETER FOR DETERMINING THE DENSITY OF SOLID BODIES. BY M. BUGUET\*.

The author makes the rod of a Nicholson's areometer thicker and longer than it usually is, denotes by  $o$  and  $n$  the depth to which it sinks when unloaded and when loaded with  $n$  grams, and graduates the interval into parts corresponding to cubic centimetres and their subdivisions. If, when the body to be investigated is on the upper pan the areometer sinks to the division-mark  $P$ , and when on the lower to  $P'$ , the specific gravity is  $\frac{P}{P-P'}$ .—Wiedemann's *Beiblätter*, 1880, No. 7, p. 497.

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DETERMINATION OF THE SPECIFIC GRAVITY OF SMALL FRAGMENTS OF MINERALS. BY J. THOULET†.

A solid body is pressed into a small ball of wax, so that the mean

\* *Journ. de Phys.* ix. pp. 93, 94 (1880).

† *Z.-S. f. Kryst.* iv. p. 421 (1880); *Bull. Soc. Min.* ii. p. 189 (1879).  
*Phil. Mag.* S. 5. Vol. 10. No. 62. Oct. 1880.. Y