meet at the known critical point of 1733°K. Independently, the law of rectilinear diameter leads one to practically the same value. We thus consider the critical viscosity of mercury equal to 0.4_1 cp. at 1733°K. to be a good estimate. To illustrate this further, water has the viscosity equal to 1.00 cp. at 20°; thus mercury, at the critical point, is 2.5 times as fluid as water at 20°.

Since the critical density[2] is equal to 5.0 g./cm.[3], the critical *kinematic* viscosity of mercury equals 0.082 centistoke.

The same method may be used to estimate the critical viscosity of a number of other metals whose η_{liq} and $\eta_{satd\ vap}$ are known over a substantial temperature range. Such is the case of the alkali metals; the critical temperatures and densities of sodium, potassium, rubidium, and cesium have been estimated (see ref. 3).

Self-diffusion is another transport property which is closely related to viscosity. In a number of papers of the author[26] it has been stressed that the values of the diffusion constant, D, of metals can be obtained from η thanks to the Stokes–Einstein relation.

(26) The latest one is A. V. Grosse, *Science*, **145**, 50 (1964).