

of vapours of the van der Waals substances. This is to be expected from theory since the characteristic metallic properties disappear completely in the gas phase; thus, the atoms of mercury or argon in a gas behave as described by simple kinetic theory.

The  $\eta_{red.}$  however, as Fig. 1 shows, demonstrates a varied behaviour.  $\eta_{red.}$  of mercury is close to the curve of steam and argon (which, as saturated vapours, differ

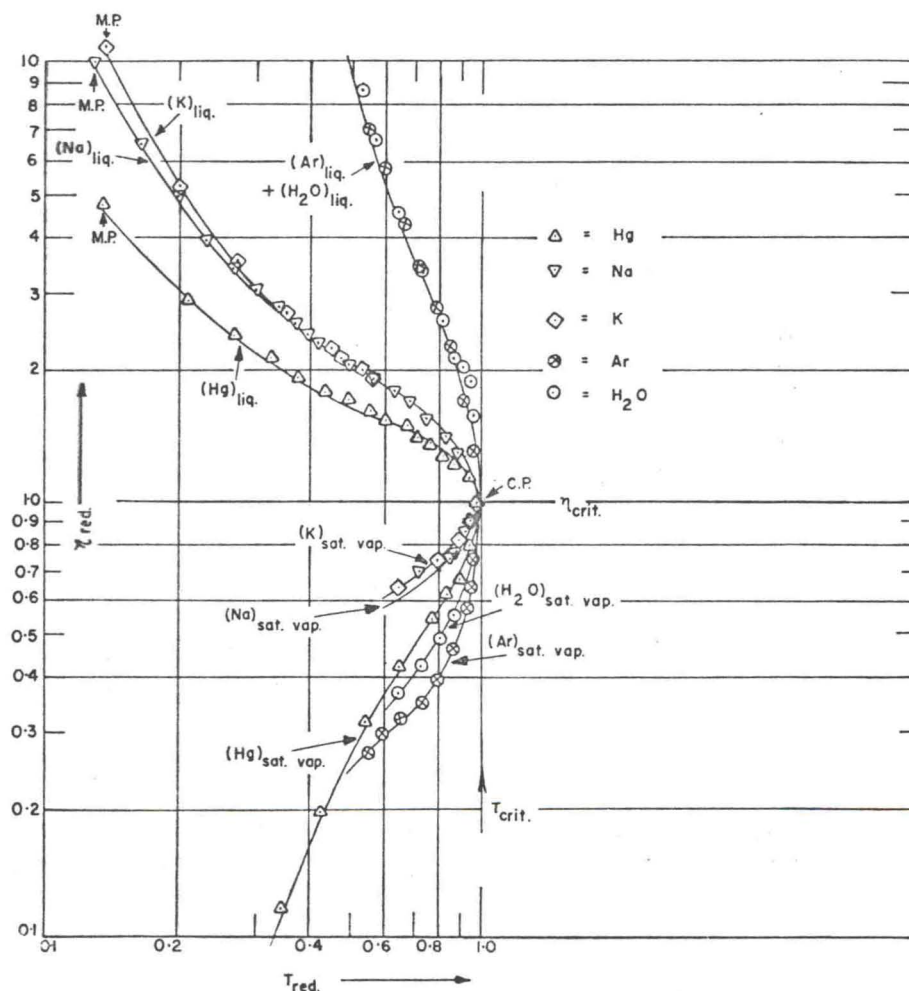


FIG. 1.— $\eta_{red.}$  or reduced dynamic (or absolute) viscosity of Hg, Na and K vs.  $T_{red.}$ .

among themselves much more than when they are liquids—see upper or combined liquid curve in Fig. 1)!  $\eta_{red.}$  of both sodium and potassium, which lie close together, deviate substantially from mercury. It should be remembered that these latter data are not experimental, but are calculated based on simple kinetic theory; direct experimental measurements are highly desirable here.

The characteristic dips or minima in the  $\eta_{red.}$  v.  $T_{red.}$  curves are subject to experimental verification in the near future since they are within the range of present day experimentation methods.