Observations of the pressure dependence of the superconducting transition temperature (T_c) of vanadium and niobium have been made up to a maximum pressure of 10 Kbar. Three samples of vanadium and two of niobium, obtained from various sources and of differing, but high, purities were examined. The analyses, as supplied by the manufacturers, of the samples are given in Table 1. The cylindrical samples, ($\frac{1}{4}$" dia. x 3/8" long) were prepared from the 'as received' material with the exception of sample V3, which was cut from an ingot which we cast in an argon arc furnace. In order to minimize the introduction of strain into the samples during preparation all were cut using spark erosion.

Measurements were made in a Be-Cu alloy pressure capsule similar to that of Bowen and Jones.[1] Superconducting transitions were detected by a standard a.c. bridge technique with a signal frequency of 1 kc/s. Temperatures were measured with a Honeywell germanium resistance thermometer, model MHSP 2401, which was calibrated against the vapor pressure of liquid helium 4 at temperatures below 4.2°K using the 1958 helium 4 vapor pressure-temperature scale. The calibration points were fitted, with no significant deviation, to a function of the form, $\log R = \text{constant} - \log T$. This relationship was used for extrapolation of the calibration to temperatures above 4.2°K. The superconducting transition temperature of pure lead, as determined in the pressure capsule at atmospheric pressure, using the extrapolated temperature calibration was 7.24 ± 0.02°K, as against the accepted value of 7.19°K. The superconducting transition temperature of the vanadium sample V2, determined as 5.00 ± 0.01°K at atmospheric pressure, was independently checked in another laboratory,[2] a value of 4.97 ± 0.01°K being obtained. From these