increased along the equilibrium line, the degrees of 4f character in the wave functions of the two states would appear to approach each other, with the two phases becoming identical above 500°K. It has been suggested that even after the two phases become identical, the amount of 4f character which is associated with the wave function of the cerium ion may be a strong function of pressure and temperature, and that this is what is observed above 500°K, the true critical point being near this temperature (13). In this case, the influence of the transition on the equation of state would be apparent along the extrapolated transition line well beyond the critical point. Such an effect is observed in the behavior of the heat capacity at constant pressure of argon above the critical point (14). One cannot rule out the possibility that the smearing of the transition above 500°K is merely due to the need for subcooling in order to make the transition take place, although the reversible nature of the experimental isotherms makes this seem unlikely.