No attempt will be made to discuss any paper in detail but mention will be made of some of the many highlights that were reported and discussed. A list of the scheduled papers that were presented is appended. The American Institute of Physics has published the abstracts of each of these papers. A 3 volume compilation of the proceedings, edited by Dr. Herzfeld of N. B. S. will be published by Rheinhold Publishing Company.

After the introductory remarks and welcome by Dr. Astin, Dr. Lindsay presented the first paper of the conference in which he discussed the concepts of a thermodynamic system. One of the most important variables which characterizes a thermodynamic system in equilibrium is temperature. He also discussed how temperature may be defined on the basis of the zeroth law of thermodynamics and on the statistical foundation which defines temperature as being proportional to the modulus of the statistical distribution.

Dr. Ramsey then extended the temperature scale to negative values during his discussion of thermodynamic systems where the preferred energy state is the higher state. These have the analogous characteristics of "normal" thermodynamic systems in equilibria. The temperatures of these systems are negative quantities and are "hotter" than any temperature in the positive scale. The usual formulation of the 2nd law of thermodynamics must be altered slightly, to include these additional systems, as follows: It is impossible to construct a heat engine that will operate in a closed cycle and provide no other effect than 1) the extraction of heat from a positive temperature reservoir with the performance of an equivalent amount of work or 2) the rejection of heat into a negative temperature reservoir with corresponding work being done on the engine. Some systems that were referred to as having negative temperatures include masers, lasers and negative resistances; and negative temperature systems in general act as amplifiers whereas positive resistance networks act as attenuators.

Our cryogenic laboratory at M. R. I. is largely concerned with phenomena occuring at temperatures below 90°K and with the measurements of temperature. in this region. This was the deciding factor whenever there was a choice among a number of sessions, which occured almost at each session period. At the moment there is no International Temperature Scale below the boiling point of oxygen (90°K). Thus there were a number of sessions devoted to this and allied problems. Gas thermometers are used by most laboratories as the primary standard in this region. These are based on the gas law $PV = RT(1 + \frac{B(T)}{v} + \frac{C(T)}{v^2} + \ldots)$ where B(T) and C(T) are the virial coefficients. (For an ideal gas these are zero). Other types of gas thermometers, which may be used for very high temperatures were discussed in a session devoted exclusively to this type of thermometer. Dr. Moessen described the