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I shall not dwell on our deep gratitude to the hard working organizers and to the many friends in Japan who have been warm and gracious hosts to the foreign visitors. The sentiment has already been expressed eloquently by many others. I would like to say a few words about the technical program which impresses me as exceedingly well organized. Each session has a central theme and consists of closely related papers. Such grouping facilitates the correlation of the reported results and brings into focus the physics of common concern. In achieving this end, it may have been necessary to exclude some papers which do not fall within the major areas covered by the Conference, but the resulting coherent program is worth the price. Another distinction is that the preprints made available are more extensive than usual. Thus, the audience can be better prepared to appreciate the material and to concentrate on the presentation. This factor may be partly responsible for the very lively discussions witnessed at this Conference. In general, the program is an excellent one for which we owe a great deal to its organizers.

Turning now to the scientific aspect of the Conference, I shall limit myself to making a few scattered observations. Semiconductor physics has undergone two decades of intensive studies. Besides striking developments occurring from time to time, there is steady progress which continues at a rapid rate without signs of saturation. This is borne out by the increasing depth and sophistication in theory and experiment and by the continuous evolvement of new lines of investigation. For example, there are at this Conference practically no papers on conventional studies of transport phenomena. All galvanomagnetic studies deal with de Haas-Shubnikov oscillations or some unusual aspect such as surface conduction. Through the work in the last few years, optical studies of local mode vibrations are now established as an effective means for investigating impurities and defects in the lattice. Studies of plasma have become very active. Fascinating phenomena observed in magnetoplasma are successfully utilized to derive basic information about the semiconductor. Plasma instabilities of various types, some yet to be observed experimentally, are a subject of wide interest. The best known instability, the Gunn effect, has been satisfactorily explained only since the Paris Conference. The recently developed techniques of piezoreflectance and electroreflectance have greatly increased the sensitivity of optical studies, and more detailed information about the energy bands can now be obtained. The use of lasers has opened up studies of various interesting effects such as Raman scattering, non-linear effects, multiphoton excitation, etc..

There is general interest concerning interactions between different kinds of waves. The electroacoustic effect representing a case of plasma-acoustic wave interactions is actively studied and promises to be an effective means for ultrasonic amplification and generation. Plasmon-phonon coupling effects have been observed in Raman scattering and in neutron spectrometry. Polaritons, coupled modes of electromagnetic and polarization waves, give rise to interesting phenomena and challenging problems. It may be expected that in the next step semiconductor physics will come to grips with basically many-particle problems.

For semiconductor physicists, it is encouraging that the scope of the field continues to expand. Already the study of semimetals has been formally incorporated as a part of the field. Four years ago, semiconductor-superconductors have been found experimentally. Also, magnetic semiconductors have recently begun to attract more attention. It is good tidings to have at this Conference a special session devoted to each of the two subjects. The trend is established and work in these important areas of solid state physics may be expected to expand. The reason for the expansion of semiconductor studies is of course the possibility of varying the carrier concentration over a wide range by doping or alloy-

ing. This possibility presents a unique advantage for the investigation of electron interactions. Furthermore, the energy bands can be determined more easily for semiconductors due to the possibility of tailoring the carrier concentration to meet the requirements of different experiments. These facts are amply brought out by the papers presented. The interesting dependence of superconducting transition temperature on carrier concentration in $SrTiO_3$ gives remarkable insight about the important parameters, and the composition dependence of superconductivity in GeTe alloys can be interpreted in terms of the structure of the valence band. Studies of various magnetic semiconductors have been reported in the recent literature. The observed correlation of conductivity and magnetic transition temperature in EuSe and other lanthanide compounds provides evidence for the Rudermann-Kittel-Yoshida coupling mechanism. Similar phenomena in the GeTe-MnTe system have been reported at this Conference.

With the wide range covered by semiconductors, from nearly insulating behavior to metallic conduction, it would be difficult to exclude from semiconductor studies any phenomena in solid state physics. Furthermore, applications of the concepts of semiconductor physics are not limited to matters in solid state. I would like to conclude the brief remarks with this optimistic outlook on the future.