established, in terms of accepted phenomenological theory. Tsuei postulated the presence of 100*Angstrom* linear defects in amorphous films to explain the sharp peak effects due to collective pinning in amorphous Nb_3Ge. The bending of the flux line lattice in V_3Si single crystals as a function of field due to flux-pinning, and the existence of flux line lattice domains were reported by Christen et al.; experimentally, these results were obtained by employing sensitive neutron scattering techniques.

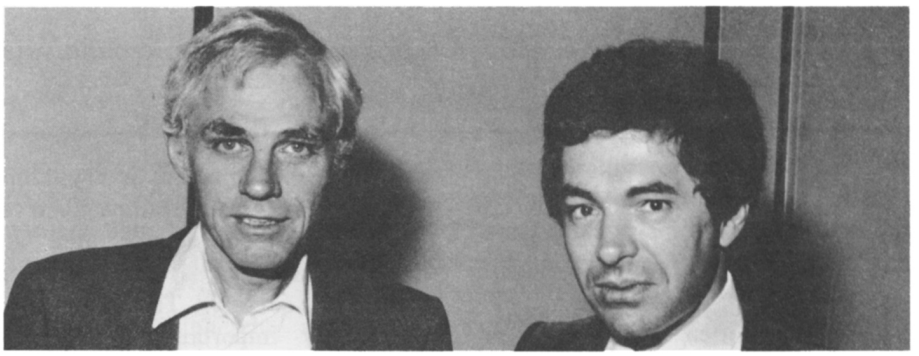
Durbin showed how high vacuum molecular beam epitaxy could be used to deposit single-crystal Nb and Nb-Ta superlattice films for study of orientation dependence of superconducting tunneling.

Hebard showed how film morphology could be controlled from columnar to granular to amorphous by reactive ion etching with consequent changes in superconducting behavior. Batlogg discussed how unusual intrinsic properties of $Ba(Pb,Bi)O_3$ are related to its electronic and phonon structures.

The use of electron beam co-deposition techniques in synthesizing metastable phases was reviewed by Hammond. At least four models concerning the crucial role of oxygen in stabilizing A15 structures were considered in the symposium. Braginski emphasized that composition profiling can give spurious results and presented relevant new data on metal-oxide couples. Novel techniques for synthesizing metastable A15 Nb_3Si by shock compression and Nb_3Ge by undercooling in a drop tube were discussed in detail by Olinger and Robinson, respectively.

The remaining papers addressed a variety of topics ranging from superconducting properties of metallic glasses to lattice instability and preparation of Chevrel phases. Particularly useful and informative was the session on intercalated superconducting materials, held jointly with the symposium on intercalated graphite. The session underscored the need for continuing interdisciplinary exchanges of ideas for wider participation of the materials science community in the field of superconducting materials.

T.H. Geballe
J. Bevk
Symposium Co-chairmen



CO-CHAIRMEN T.H. Geballe of Stanford University (left) and J. Bevk of Bell Laboratories

ORAL HISTORY OF MATERIALS RESEARCH

Origins of the interdisciplinary science to be investigated

The MRS has begun the production of an oral history of materials science under the direction of Rustum Roy, past president and a member of the Education Committee.

"The rationale for this effort is that virtually all of the principal actors responsible for creating the field of materials research are still alive," Roy said. "It would be an enormous pity not to attempt to record all data relevant to the history of the growth of this subfield of science and technology."

Roy noted that materials research is scarcely a generation old, yet it occupies an unique niche in the history of science. "For three centuries as science grew it fissioned into ever smaller and more specialized disciplines," Roy said. But it became evident to some scientists in the 1950s that "some areas of solid state research demanded not a fissioning but a fusion of disciplines. 'Materials research' was born."

Roy said the MRS's initial effort will involve tape-recorded interviews with about two dozen of the scientists most intimately involved in the growth of materials science. They will be asked to concentrate on the period 1956 - 62, although earlier or later events will not be excluded.

Roy said at least three copies of the tapes will be made. One will be forwarded to the AIP History of Solid State Physics project, one will be stored by Pennsylvania State University, and one will be loaned to workers in the field. In addition, the availability of the tapes will be made known in the materials science community and the history of science community.