calculating temperatures reached by a single shock transition from the ambient state, treating the material as a fluid.

The actual temperature rise in the experiments will deviate from the above simple calculation for the following reasons:

1. The final state in the experiment is not reached by a single shock but by a series of shocks because of the sandwich configuration.
2. Since the material has strength, there will be heat generated by the irreversible work of plastic deformation.
3. Porosity, if present, will cause an additional temperature rise due to the extra work of compression done by the shock.
4. Heat flow from the adjacent epoxy (Sec. IV.J).

These temperature deviations, if significant, will affect results for shock isothermal resistivity and defect resistivity. The above contributions will be considered separately in following sections.

1. Reverberation Temperature Calculation

The sandwich configuration (anvil-foil-anvil) causes the final (P,V,T) state in the foil to be reached by a series of shock reverberations (Fig. 7). The amount of deviation from the state reached by a single shock depends on the mechanical shock impedance mismatch between foil and anvil (see Sec. I.A). (There may also be some small reverberation effects due to the thin, epoxy bonding layer.) For silver in sapphire, reverberation causes a smaller temperature rise than a single shock; the P-V state is not significantly affected. The smaller temperature rise by reverberation will affect the correction of shock

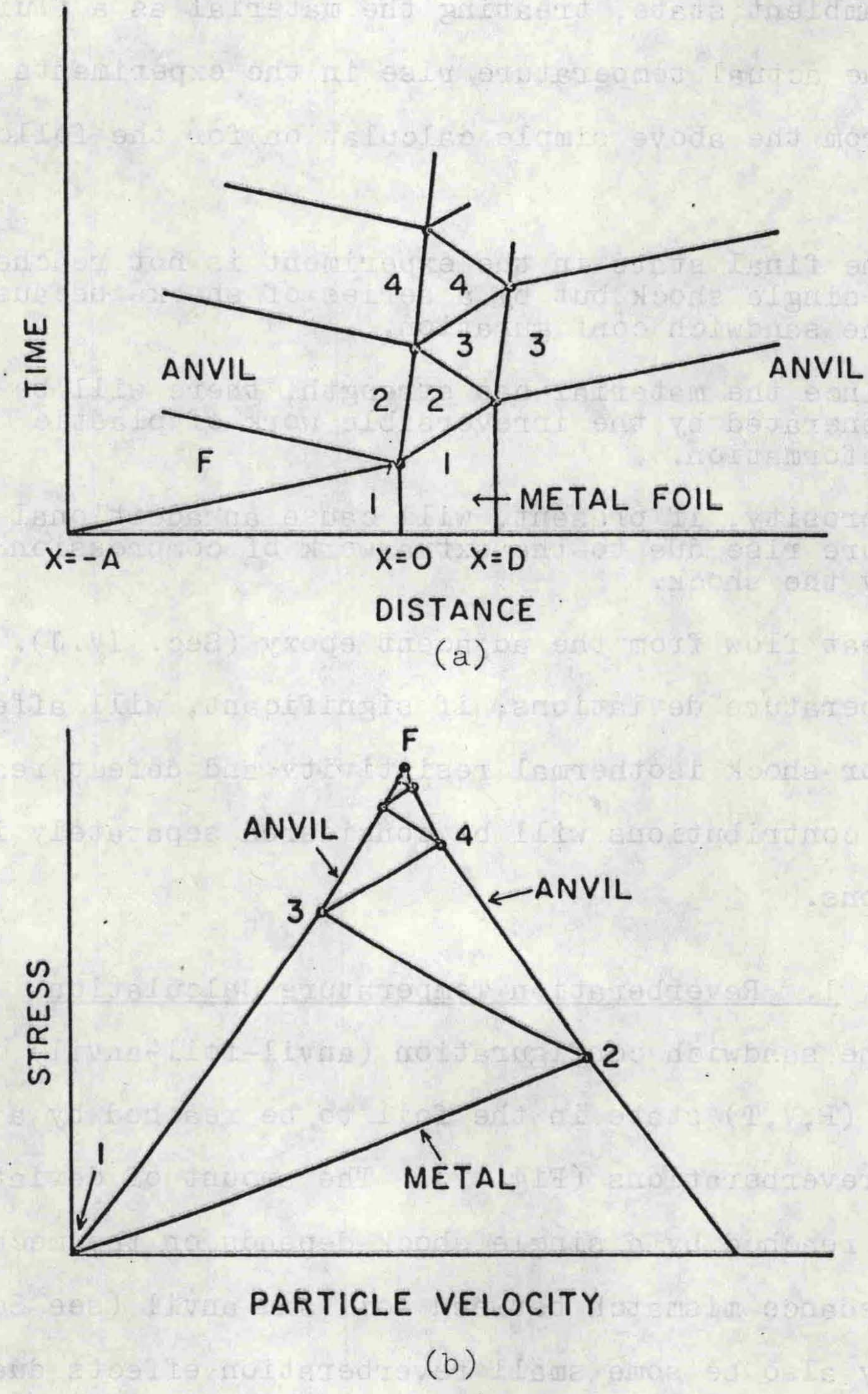

Fig. 7. Reverberation states in (t,x) and (P,u) planes.