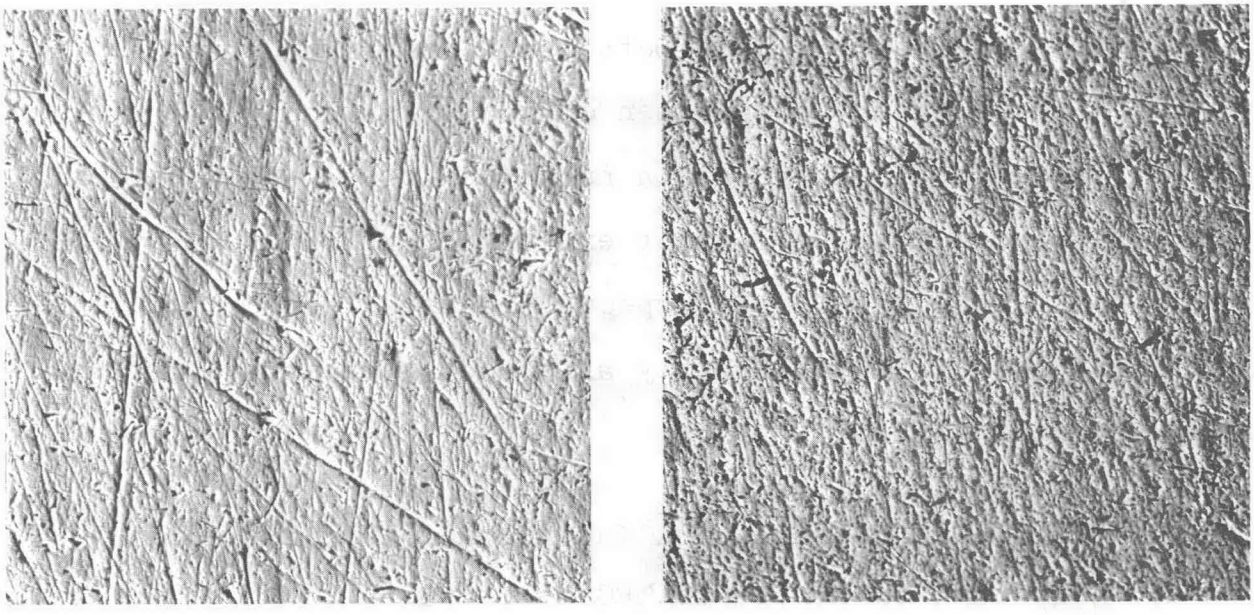
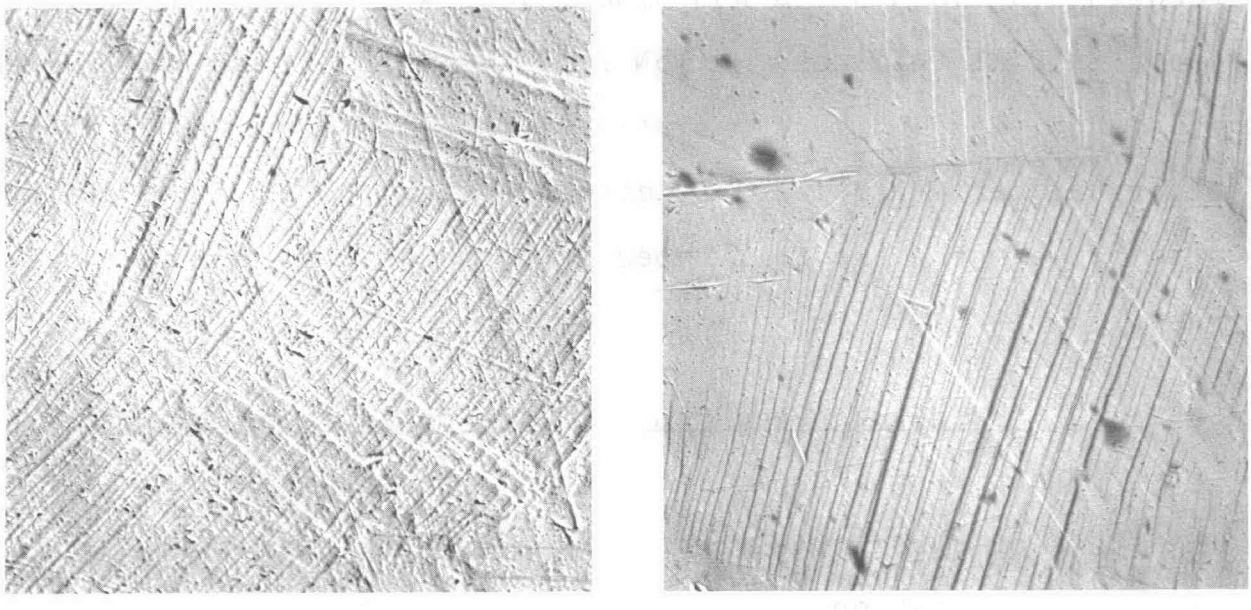


(a) (b)



(c) (d)

Fig. 17. Scanning electron micrographs (1000X) of shocked and unshocked silver foil. (a) Unshocked W3N foil. (b) Unshocked MRC foil. (c) Recovered foil from shot 73-013. (d) Recovered foil from shot 73-009. Note evidence of cross-slip, secondary slip, and grain boundaries.

L. Discussion of Details of Specimen State

Aside from the specimen characterization in terms of purity and anneal, there are a number of other aspects of the foil state prior to the impact experiment which should be discussed. Variations in the aspects discussed here are not believed to have significantly affected experimental results. See Appendix C also.

1. Effect of Foil Thickness Variation on Results

Average thickness of MRC foils was 16.2 μm while for all except one of W3N foils the average thickness was 24.4 μm. In order to check if the observed differences in experimental results between MRC and W3N type silver were due to the differences in foil thickness, a W3N foil was thinned down to 17.6 μm. This shot, 73-047, gave resistivity results consistent with the other thicker W3N foils. We conclude that the observed difference between the two foil types is not due to different thickness.

2. Effect of Specimen Handling on State of Anneal

Most of the experiments were done on annealed foils. The state of anneal was checked by measuring resistance at 4.2°K. The question arises whether the state of anneal was preserved during the handling involved in target assembly. Tests were made on two annealed MRC foils. To simulate assembly they were subjected to screw pressure between two glass plates wetted with acetone. One foil was also accidentally bent during this handling. Resistance at 4.2°K was the same before