DISCUSSION

A. L. Bement—Your last figure demonstrates a strong interaction of dislocations with voids, which is a subject requiring more fundamental study. In particular, the following aspects should be pursued:

1. Do dislocations always end at the void surface normal to the surface?
2. What types of void interactions occur with prior dislocations as compared with dislocations resulting from loop defaulting, especially with regard to network formation during elevated-temperature deformation?
3. What effects do dislocation pileups at voids have on the stress field around a void? How does this stress field affect void growth and dislocation bypassing of the void?
4. What effect does a polyhedral geometry as compared with a spherical geometry have on the interaction force (Orowan force) involved in a planar barrier model for void strengthening?

E. E. Bloom (authors’ closure)—We agree that the interaction of the dislocations with radiation produced voids and dislocations is an area in which additional fundamental study is needed.

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