DISCUSSION

A. F. Conn[1]—From the oral presentation of this paper, I had the impression that cracks were observed in the aluminum specimens. Do these cracks imply the presence of a fatigue mechanism during the cavitation erosion of this aluminum? If so, this would conflict with the observations stated earlier in this symposium, during the paper presented by C. M. Preece. Or, as Dr. Preece has described the process, are these cracks merely the result of large ductile deformations?

C. M. Preece[2]—Are you suggesting that cracks are initiated in the aluminum by cavitation, and proceed to propagate during subsequent exposure, or that material removal is by ductile rupture of the protruding edges of deformation craters, as we observe in our experiments with the vibratory probe?

F. Erdmann-Jesnitzer and H. Louis (authors' closure)—Cracks observed in damaged aluminum specimens were mainly the result of large ductile deformation of the soft material. But in respect to the loading of the specimen, there can be observed also a quasi-static pressure superimposed by an alternating stress which results from the single-bubble-implosions fatigue phenomena.

In opposition to zinc, where cracks can be found without plastic deformation, the aluminum specimen shows large ductile deformation before cracks will be formed. The formation of cracks without plastic deformation is not to be seen in aluminum. This fact accords along general lines with the result C. M. Preece obtained in vibratory tests.

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