only half the whisker is in contrast, Fig. 3c, indicating conclusively the twinned nature of the whisker. The twin plane is clearly parallel to the whisker axis. Unfortunately only limited tilting facilities were available and with the restricted information it is not possible to determine the twinning plane.

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Comments on "Order structures and dislocations in bubble-raft grain boundary" by Y. Ishida

The observations made with the bubble model [1] are in basic agreement with our concept of grain-boundary dislocations [2]. There are, however, some misunderstandings in terminology as well as in the implications drawn in our earlier paper.

Two types of grain-boundary dislocations have to be distinguished. First, there are those required to make up the mismatch between the actual orientation relationship and the exact coincidence angle; these boundary dislocations are usually not able to move conservatively. The second type of grain-boundary dislocation proposed by us [2] are mobile grain-boundary dislocations which originate from sources (e.g. grain-boundary junctions) and move in the originally "perfect" periodic structure of the boundary.

The experimental finding by Y. Ishida suggests that grain-boundary dislocations may have Burgers vectors that are smaller than the lattice vector. This is not in contradiction to our observations and the model proposed of grain-boundary sliding. On page 1056 of Ref. [2] it was explicitly stated that dissociation of boundary dislocations may occur, and may result in a Burgers vector smaller than the lattice vector, even if the vector of the coincidence lattice is large. Hence the results of the bubble raft experiments are in basic agreement with our original model as well as with other results obtained by the same method [3]. It may also be emphasized that we agree with Y. Ishida's ideas on the atomic structure of high-angle boundaries, since a similar model followed from recent computer calculations [4-7].

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