DISCUSSION

**J. C. Russ** (written discussion)—The author should take care to point out that he has used a convention in drawing his CCT diagrams that differs from those presented by many other authors, in particular, those presented in *Metal Progress*. The author shows the nose of the high-temperature transformation protruding in such a way that some cooling lines enter the field and then leave it again. This would imply a retransformation to austenite if taken literally. A less confusing convention is to bring the lower side of the nose parallel to cooling lines and use percent transformation lines to indicate the degree of transformation.

**Y. E. Smith** (author's closure)—I appreciate Dr. Russ’ remarks, since he makes a point which is quite worthwhile, and because, in so doing, he offers Professor Siebert and myself an opportunity to take note of another item concerning the published CCT data which is somewhat overdue for discussion. Dr. Russ has indirectly called attention to the fact that there has been no effort to standardize the presentation of transformation diagrams. Perhaps some effort by ASTM in this direction would be helpful. The convention that we chose was selected on the basis of simplicity. The areas which are formed by connecting the points picked off the dilatation curves are regions of microconstituent formation, rather than microconstituent presence, as in the diagrams referred to by Dr. Russ. This should be obvious, since the points which define the boundaries of these regions are designated “polygonal ferrite start” and “polygonal ferrite finish.”

The second point concerns the amount of scatter that is inherently present in transformation data. When a plotted curve is published for any set of data which involves significant scatter, it is an injustice to the reader to exclude the data points from the published curve. The individual determinations are the facts and the line between the points is, to some degree, fiction. The engineer who is attempting to make use of the transformation data should have the opportunity to distinguish between the facts and the fiction.

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151