Foreword

Symposium on the Cellular and Pearlite Reactions

A symposium held at the Detroit Meeting of The Metallurgical Society of AIME, October 20, 1971, under the sponsorship of the IMD Heat Treatment Committee.

The cellular and the pearlite reactions are morphologically and mechanistically similar transformations. The former reaction, however, usually exerts malign effects upon mechanical properties whereas the influence of the latter tends to be benign. Heat treatment—and composition—therefore need to be controlled so as to avoid the formation of the cellular structure, and (often) to promote the development of pearlite. Such control is, in the long run, best exerted on the basis of a fundamental understanding of the mechanisms of these reactions.

Since the pearlite reaction has been recently considered in some detail in the ASM symposium on the Decomposition of Alloyed Austenite, greater emphasis will be placed in this one on the mechanism of the cellular reaction. However, balance is partially restored by more extensive consideration of the effects of pearlite upon mechanical properties.

The symposium spanned two sessions of the Fall Meeting in Detroit on October 20, 1971, and was sponsored by the IMD Heat Treatment Committee.

Symposium Co-organizers and Co-editors

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