Fig. 2 Detail of the Fe-Ni-W Phase Diagram at 1400 °C (after [81Hen])

In order to obey Schreinemakers' rule, the authors have given the γ phase boundary to the $\alpha\delta\text{Fe}$ phase a strange shape, with an inflexion point.

phase with zero slope if the properties of the liquid vary smoothly and continuously as composition varies across the composition of the melt. As an example, CaMg_2 in the sequence $\text{Ca-CaMg}_2\text{-Mg}$ is an intermediate phase in the Ca-Mg system because the basic character of the liquid at hypostoichiometric CaMg_2 is the same as at hyperstoichiometric CaMg_2 . In comparison, ethane is a component in the methane-ethane-propane ternary system and not an intermediate phase in the methane-propane binary system because the molecular species in methane-ethane liquid are distinguishable from those in ethane-propane liquid.

With regard to which diagram should be reproduced on the tear-out sheets, I am open to convincing. My feeling has been that the tear-out sheet is for the user. Thus, for shop applications, a diagram which is based on experimental measurements seems more likely to correctly predict what will be encountered during physical processing of actual materials. On the other hand, if the diagram is intended

for extrapolative purposes, there is no question that the calculated diagram is the more useful. Our choice of the Rudy diagram was based on the fact that the solidus in that diagram has some basis in experimental measurement, albeit the liquidus is without validity. Again, however, the validity of the calculated liquidus is also moot, since it was based on estimated interaction parameters with a regular solution model. This appears to be the simplest approximation that can be made to yield an azeotropic melting minimum. Incidentally, this approximation also predicts immiscibility in solid alloys at low temperature, for which there is no experimental support.

Above remarks by
J. F. Smith
Iowa State University

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We invite your comments on this or any other topic.
—Editor

Addenda

The Au-Si (Gold-Silicon) System

The Au-Si system, as contributed in a short version by R.P. Elliott and F.A. Shunk, was published in 1981 in provisional form in Vol. 2, No. 3 of the *Bulletin*, on pages 359-362. An evaluation by H. Okamoto and T.B. Massalski was published in 1983 in Vol. 4, No. 2 of the *Bulletin*, on pages 190-198, which reviewed all bibliography and data on the Au-Si system available in the literature through 1982 and included information pertaining to crystal structures, metastable phases, and

thermodynamics. Okamoto and Massalski also performed a thermodynamic assessment of certain phase boundaries, and their evaluation may be considered as superseding the earlier work.

The Au-Tl (Gold-Thallium) System

The liquidus curve in Fig. 3 on page 200 of Vol. 4, No. 2 has been inadvertently omitted; the figure should be corrected by drawing a straight line between the data points at 99 at.% Tl, 297 °C, and 100 at.% Tl, 304 °C.