

mena. The removal of the first two SEM chapters where principles and applications are set out very clearly could be understood on the basis that these matters are already well covered in the literature. However, they serve as a most useful basis for the chapter on channeling patterns as well as providing a most orderly and succinct introduction to SEM use. If it were a question of what to omit, perhaps due to reasons of space, then a more logical candidate for omission would have been the chapter on X-ray and neutron diffraction (Guinier). This general discussion of X-ray diffraction concepts is misnamed in that it deals with neither the advances nor the techniques of X-ray diffraction. Although it is eminently acceptable as a sophisticated discussion of basic diffraction concepts, it does not seem to be particularly essential or even closely related to the following two chapters on X-ray topography (Lang and Authier).

The extent of revision of the body of the text ranges from none as for example the papers on the kinematical theory (Gevers), the dynamical theory of electron diffraction (Whelan) and the description of mirror electron microscopy (Bok) to a complete rewriting of the text. Topics receiving the most changes were planar interfaces (Amelinckx & Van Landuyt), martensitic transformations (Wayman) and the two papers on X-ray topography (Lang and Authier). The contribution by Lang is especially notable not only for its beautiful literary style but also for the care and completeness of the bibliog-

raphy; it was the most comprehensive in the original version and underwent the greatest numerical increase in the second. This has been a very active area! The three contributions by Professor E. W. Müller on field emission and field ion microscopy were reduced to two with the two papers on the latter subject being combined to one more coherent presentation. Several of the remaining chapters were modified only to the extent of the addition of a section or an appendix. These include identification of defect clusters (Williams), phase transitions and Kikuchi effects (Thomas) and computed electron micrographs (Humble). The contribution to the theory of high-energy electron diffraction (Howie) was partially augmented both in text and references. High-voltage applications (Cosslett) showed a modest increase. Of the topics where there is still much that is not known the area of low-energy electron diffraction (Estrup) appears to have been most static. It is interesting that this author in the first edition concluded that 'LEED is in a stage of rapid development...'; the extent of changes in his review (*Surface characterization by LEED*) does not support that statement, especially since there was only one additional reference.

In summary, those who have the first edition will find that the principal value of owning the second is in the updated bibliography and the three additional chapters. However, in consideration of value, it is lamentable that the cost of special technical books such as these has effectively priced them out of most in-

dividual researchers' private libraries. For sponsored research, the question of whether the grant money is more wisely spent on these books or on the computerized bibliographical searches that most technical libraries now provide has become an open issue because of the cost of the two volumes. For those who do not have the earlier work this new edition can be strongly recommended if there is serious interest in mastering the details of electron diffraction and microscopy. Libraries will find acquisition of this series useful, even necessary, despite the steep price tag.

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Books Received

The following books have been received by the Editor. Brief and generally uncritical notices are given of works of marginal crystallographic interest; occasionally a book of fundamental interest is included under this heading because of difficulty in finding a suitable reviewer without great delay.

CALPHAD: Computer Coupling of Phase Diagrams. An international journal edited by *L. Kaufman*. Pergamon Press, from 1977. Price, US \$ 75.00 p.a.