

## Notes and News

*Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. The notes (in duplicate) should be sent to the Executive Secretary of the International Union of Crystallography (J. N. King, International Union of Crystallography, 13 White Friars, Chester CH1 1NZ, England).*

### LEED: Surface structures of solids

The Proceedings of the International Summer School on the investigation of the surface structures of solids by LEED

and supplementary methods, sponsored by the IUCr and held in Smolenice, Czechoslovakia, 6–15 September 1971, will be published by the Publishing Centre of the Union of the Czechoslovak Mathematicians and Physicists in June

1972. These Proceedings, edited by M. Láznička, are in two parts (299 and 266 text pages, 234 figures) and may be ordered from JČMF, Spálená 26, Praha 2, Czechoslovakia. The approximate price is U.S. \$16.00.

## Crystallographers

Mr M. C. Escher, the well-known Dutch artist, died on 27 March 1972. He made his first periodic woodcut in 1922 and subsequently designed about 150 tessellations. Many of his periodic drawings have been reproduced in the monograph *Symmetry Aspects of M. C. Escher's Periodic Drawings*, with accompanying

text by Professor C. H. Macgillavry, published for the IUCr by A. Oosthoek's Uitgevers Mij.

The first graduate of McGill University's new undergraduate programme in Crys-

tallography is Miss Suzanne Fortier, who received the degree B. Sc. in Crystallography, with honours, at the 7 June 1972 Commencement. Launched by Professor A. J. Frueh in 1968–69, the programme is thought to be North America's only undergraduate programme leading to a degree in Crystallography.

## Book Review

*Works intended for notice in this column should be sent direct to the Book-Review Editor (M. M. Woolfson, Physics Department, University of York, Heslington, York YO1 5DD, England). As far as practicable books will be reviewed in a country different from that of publication.*

**Crystal Growth and Epitaxy from the Vapour Phase.** Edited by E. KALDIS & M. SCHIEBER. Pp. xiii + 317. Amsterdam: North Holland, 1971. Price: f 100,00 (\$31.25).

Crystal growth is perhaps less of a black art than was once the case (although even in the best regulated crystal growth laboratories, gremlins are known to invade on occasions). In the past, crystal growth from the vapour phase has generally occupied the odd corner of a conference on crystal growth. This volume, reprinted from volume 9 of the *Journal of Crystal Growth*, contains a selection of 55 of the 117 papers given at the first international conference devoted *exclusively* to growth from the vapour phase. Running as it does to some 350 pages, it poses a problem in summarizing. Of course immense progress has been made in the last few years in this subject, after the fog of the first few decades of observation of this phenomenon. With the impressive battery of new methods of examining specimens, and the vast improvement in the control of conditions of deposition, this is to be expected. And yet one is struck by the

way in which uncertainties remain at surprisingly basic levels. Thus, whereas most approaches to the description of heterogeneous condensation assume a sequence – nucleation, growth of nuclei, coalescence, growth – the nagging skeleton of mobile nuclei tends periodically to fall out of the cupboard. Although the decreasing grain density in regions between crystallites can, with some ingenuity, be explained away without the need for crystallite mobility, and although the interpretation of ciné micrographs of this effect may be open to question, the results of Kern and coworkers, although tantalizingly briefly reported, do appear to be difficult to ignore. Similarly, the results of Distler, reporting further examples of epitaxy on a polycrystalline layer deposited on a single crystal, appear to imply a mechanism quite distinct from those assumed in the various models which have been proposed to account for epitaxial growth. The mechanism suggested by Distler, invoking an electret-like behaviour of the intervening layer between the substrate and the orientated deposit accounts plausibly for observations of orientated growths on disordered layers as much as 200 Å in thickness.

The term 'interdisciplinary' is at once

a vogue word and one that tends to be overworked. However it is abundantly clear that the problems which arise in any attempt to understand this subject are such as to require a broader span of understanding and approach than is normally found among individuals trained in the particular disciplines involved. At the root of the problem is the initial surface, which appears as a different animal depending on whether it is viewed by the physicist or the chemist. Matters are certainly improving: the terms 'Bloch waves' and 'dangling bonds' are even heard mentioned in the same discussion group, and the bridges which are proving necessary in subjects such as this are gradually appearing. They have important implications for the shape of future courses in the subjects involved.

The selection of papers reprinted in this volume give a good, balanced view of the state of development at the time (September 1970) of the conference.

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