

sequence"<sup>8</sup>. It is obvious that one has to extend our concept of crystallinity to mean the degree to which identical components of a structure are in a similar environment. It has now been shown that by pursuing recursive relationships, it is possible to produce an infinite variety of structures which are regular but "non-crystalline". There can be no doubt that a new era in solid state architecture has been opened up.

### SOME IMPLICATIONS

This new type of architecture presents many challenges. The structural scientist has not only to determine the structure of the molecular or ionic conglomeration, but also the Penrose pattern—a problem more complex than that of conventional crystallography. Does a glass (or even a liquid) consist of microregions consisting of Penrose tilings distributed at random? Are there other modes of non-periodic tiling which are different from the ones discovered so far?

To the solid state physicist this non-periodic architecture presents a new class of solids with very peculiar band gaps (probably having special properties). To the organic chemist the Penrose

tilings may suggest new possibilities of molecular structure in two and three dimensions.

When one looks at this new architecture one cannot but be reminded of something G. K. Chesterton said:

"The world looks a little more regular than it is. Its exactitude is obvious, but its inexactitude is hidden. Its wildness lies in wait. There is a sort of treason in the universe."

11 March 1985

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## ANNOUNCEMENT

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### BIOTECH '85-INTERNATIONAL CONFERENCE AND EXHIBITIONS

The Biotechnology International Conferences and Exhibitions will be held at three different continents scheduled as follows: (1) Biotech '85 Europe-Geneva, May 21-23, 1985, (2) Biotech '85 Washington DC, October 21-22, 1985, (3) Biotech '85 Singapore, November 27-29, 1985.

The important topics for the Conference are: Developmental programmes, Strategic challenges, Starting business, Technology transfer, Key technologies, Current Markets and new niches.

Intending participants wishing to present papers should send a short summary (200 words) and a biography immediately.

Further particulars may be had from the following addresses: 1. *Europe*: Online Conference Ltd., Pinner Green House, Ash Hill Drive, Pinner HA5 2AE, Middlesex, UK; 2. *USA*: Online Conference Ltd., Suite 1190, 2 Penn Plaza, New York NY 10121, USA; 3. *Online Conferences Ltd.*, Singapore Branch: 6-8 Scotts Road, No. 01-21 Scotts, Singapore 0922.