beam analysis techniques and equipment. The activities of
the Society should promote this branch of science and
stimulate technical and scientific developments on a
European scale. In order to achieve these goals the Society
will be active in the development and operation of technical
and scientific education programs. Further the Society will
stimulate communication and cooperation between scientists
and will try to act as a counselling agent for its members
whenever there is a general interest to promote. The Society
is operated on a non-profit basis and is run by an Executive
Board which is assisted by an international Advisory Board.

The Secretary is Professor Dr R. Gijbels, Department of
Chemistry, University of Antwerp (UIA), B-2610 Wilrijk-
Antwerp, Belgium, to whom requests to join the Society
and receive its newsletter, or inquiries about the Society,
should be directed.


Nobel Prize for Chemistry

Dr J. Deisenhofer, Howard Hughes Medical Institute, Dal-
las, Texas, USA, Professor R. Huber, Max-Planck-Institut
für Biochemie, Martinsried, Federal Republic of Germany,
and Dr H. Michel, Max-Planck-Institut für Biophysik,
Frankfurt/Main, Federal Republic of Germany, have
jointly been awarded the 1988 Nobel Prize for Chemistry
by The Royal Swedish Academy of Sciences for their work
on the determination of the three-dimensional structure of
a photosynthetic reaction centre.

They were the first to succeed in unravelling the full
details of how a membrane-bound protein is built up,
revealing the structure of the molecule atom by atom. The
protein is taken from a bacterium which, like green plants
and algae, uses light energy from the sun to build organic
substances. All our nourishment has its origin in this pro-
cess, which is called photosynthesis and which is a condition
for all life on earth.

The organic substances serve as nourishment for both
plants and animals. Using the oxygen in the air, they con-
sume these nutrients through what is termed cellular res-
npiration. The conversion of energy in photosynthesis and
cellular respiration takes place through transport of elec-
trons via a series of proteins, which are bound in special
membranes. These membrane-bound proteins are difficult
to obtain in a crystalline form that makes it possible to
determine their structure, but in 1982 Hartmut Michel suc-
ceded in doing this. Determination of the structure was
then carried out in collaboration with Johann Deisenhofer

Photosynthesis in bacteria is simpler than in algae and
higher plants, but the work now rewarded has led to
increased understanding of photosynthesis in these organ-
isms as well. Broader insights have also been achieved into
the problem of how electrons can, at enormously high
speed, be transferred in biological systems.

Book Reviews

Works intended for notice in this column should be sent direct to the Book-Review Editor (R. O. Gould, Department of
Chemistry, University of Edinburgh, West Mains Road, Edinburgh EH9 3JJ, Scotland). As far as practicable books
will be reviewed in a country different from that of publication.


Morphology of crystals: Part A (Series in materials
science of minerals and rocks). Edited by I.
SUNAGAWA. Pp. xii+365. Dordrecht: Kluwer
Academic Publishers, 1988. Price Dfl 220.00,
US$ 99.00, £74.00.

Crystal morphology is a relatively easy property to observe
and describe, but it is much more difficult to understand
and explain, since it results from an interplay of structure,
thermodynamics and kinetics. In this book, the first of a
series of three, a group of outstanding scientists, well known
to most people interested in crystal growth, have each
written a chapter on a particular morphological topic. They
are: P. Bennema and J. P. van der Eerden (Crystal graphs,
connected nets, roughening transition and the morphology
of crystals); R. Kern (The equilibrium form of a crystal);
A. A. Chernov and T. Nishinaga (Growth shapes and their
stability under anisotropic interface kinetics and theoretical
topics for solution growth); P. Hartman (Modern PBC
theory); and I. Sunagawa (Surface microtopography of
crystal faces).

These chapters cover the fundamentals of crystal mor-
phology quite well. When several authors make individual
contributions to a book, there is a risk of inhomogeneity
and overspecialized treatments. The former is more evident
in this book than the latter. Kern's chapter on equilibrium
forms is very important, since the subject has not often
been treated in recent literature. However, the chapter is
significantly longer than the others and is in some places
rather difficult reading; in particular, I feel a little uneasy
about some of the thermodynamic considerations. Hart-
man's chapter on PBC theory is closely related to that of
Bennema and van der Eerden, and I would have found it
more logical if it had come first. The chapter by Chernov
and Nishinaga on growth shape stability, unlike the others,
contains no experimental illustrations; these have to be
looked up in the literature cited. Otherwise, the treatment
is clear and logical, and the theory should prove useful in
practice. Finally, Sunagawa's chapter on surface micro-
topography is the shortest one and is more of the character
of a survey than are the others. The subject is, however,
crucial to the understanding of crystal growth and dissolu-
tion kinetics.

The reader of this book should be familiar with the
principles of crystallography (geometrical, structural and
physical) and crystal growth theory, and should possess
some basic knowledge of graph theory and differential
geometry.