

Cutaneous matter

Sam Shuster

Skin.

By P.F. Millington and R. Wilkinson.
Cambridge University Press: 1983.
Pp.224. £35, \$69.50.

DERMATOLOGY is still practised as a visual art. Why not, if the eye is still the best instrument available. Is it the clinician's problem that visual classification is a cliché no longer capable of advancing the subject? Of course the clinician's eye is short-sighted, but that myopia won't be corrected until clinical science is clearly shown to have inescapable consequences for the day-to-day business of clinical practice.

I therefore welcome the new interest in skin biology of which this book is a reflection. But it was not just the acuteness of need and intensity of anticipation that made the inadequacies of this book so stark: it fails in its own right, and badly.

I never judge a book by the word-dust on its jacket but the clap-trap of "interaction and dependence on cell turnover, nutrition, control, mechanisms and disease" is the only reference to purpose. The preface opts for an "overview" by "selecting" to

"illustrate"; but for whom? The book is too slight for the expert and too unbalanced for the novice, both faults being unmitigated by interest or novelty. The attempt to inform about skin structure and function is dated, inaccurate and confusing — the incredible attribution of cutaneous pain to histamine; the primitive account of epidermal kinetics; the confusing juxtaposition of historical with contemporary views on the Langerhan cell; the embarrassing references to discredited work on sebaceous glands; the recommendation that "primary stimulation [of sweat glands] may be achieved by drugs such as 0.5–1.0mg acetyl salicylic acid followed by copious quantities of water or tea". My list of comic quotes is not much shorter than the text itself.

These serious deficiencies go far beyond the book itself and raise a number of questions about the sorry state of biomedical writing and publishing. Inevitably texts get written by people better able to make science than write about it. It does

not help that we are encouraged, if not importuned, by text-hungry publishers who make little or no attempt to be sure we know our subject or can write about it, and who accept almost anything on the nod. This uncritical and unselective role of biomedical publishers is the most important reason for the existence of so many poor books.

Ultimately it is the technical publishers' responsibility to maintain quality just as their colleagues do with works of fiction. To do this they must increase their technical understanding to match their literary and publishing skills, or take more advice. Until biomedical publishers make greater efforts to improve the appalling standards of their craft, more books will fail than succeed and our libraries will continue to be choked with expensive irrel-evancies. □

Sam Shuster is Professor of Dermatology at the University of Newcastle upon Tyne.

At the interface

Frank H. Stillinger

Molecular Theory of Capillarity.

By J.S. Rowlinson and B. Widom.
Oxford University Press: 1983. Pp.327.
£30, \$59.

WHENEVER substances can undergo first-order phase change, coexistence of distinct macroscopic phases becomes possible with a separating interface in evidence. This monograph is devoted to selected aspects of the theory for such interfaces, specifically those between fluids.

This subject is now large, though it is pedagogically still incomplete. As a result, the authors wisely have limited themselves to a relatively unified portion of the field that closely fits their own recent research interests. Thus little emphasis is placed on quantitative measurements (e.g. surface tension) of real substances; rather the goal has been to clarify general theoretical principles and to explain interfacial phenomena qualitatively in terms of rigorous thermodynamics and statistical mechanics. No kinetic phenomena are considered, only static behaviour.

The density distribution of matter through an interface and the associated surface tension are manifestations of intermolecular forces, a fact appreciated long ago by Laplace. But even today these forces are known with precision only for the simplest of substances such as the noble gases. For that reason, Professors Rowlinson and Widom have restricted their discussion principally to those simple substances and their liquid mixtures, as well as to a few equally simple theoretical models (e.g. the Ising model and the

"penetrable sphere" model) in which interactions are given by fiat.

The book thus has a mildly reductionist flavour: unless it is possible to comprehend these elementary examples it is hopeless to undertake more complicated cases. Unfortunately, this excludes discussion of many fascinating and important phenomena such as the preferred orientation of polar molecules at interfaces, the structure of liquid-crystal and molten metal surfaces, and the nature of amphiphile aggregates in solution (micelles, microemulsions, membranes).

The authors have provided a solid historical background for their subject, a useful guide to recent research papers, and a tour through basic concepts and theoretical techniques of both phenomenological and molecular character. In addition to summarizing arguments and presenting useful formulae, they indicate points of weakness in the field. One concerns reconciliation of formulae for position of the so-called "surface of tension". Another and more serious issue involves definition of an inherent density profile for an interface that is free of the influence of thermally-driven capillary waves which cause the interface width to diverge in the zero-gravity limit.

Because of rapid progress in interface theory, the case for a revision of the present text will eventually become compelling. In particular, greater attention will have to be given to renormalization group techniques (briefly sketched in this edition) and to computer simulation (now one very short chapter). In the meantime anyone serious about research on interfacial properties should own, or at least have direct access to, this monograph. □

Frank H. Stillinger is at Bell Laboratories, Murray Hill, New Jersey.

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