

Mixed tachykinins

Michael R. Hanley

Substance P: Metabolism and Biological Actions. Edited by C.C. Jordan and P. Oehme. *Taylor & Francis: 1985. Pp.260. £30, \$54.*

OVER THE past two years, the substance P field has experienced an upheaval with the recognition that there is not one mammalian peptide, but rather a family of three or more substance-P-like "tachykinins". Moreover, there has been a gradual acceptance that pharmacological differences in the activities of tachykinins are attributable to a family of related receptors. Thus we have come to the sobering realization that much of the earlier work (of the past 50 years!) will have to be re-done. This book, based on a symposium held in Maidstone, UK, in August 1984, is the first to gather the new ideas together. Consequently, it is disappointing that while the book as a whole is adequate it is hardly exciting.

The problems arise from two of the generic hazards of symposia volumes: widely different quality in the contributions and lack of a coherent style or format. For example, Chapter 1 is essentially an unrefereed journal article, whereas Chapter 7 is, at two-and-a-half pages, barely an extended abstract. The editors have elected to throw in the unedited abstracts of the meeting posters which, because of their brevity, are little more than souvenirs for the participants. Their inclusion is a distraction and the editors would have been better advised to expand the 14 contributed chapters.

Nevertheless, several of the contributions stand out and are worth special mention. Chapter 5 by Sandberg is excellent, bringing together a diffuse literature on the physical structure of substance P and relating it to its interaction with a single, precisely-defined target site (the smooth muscle of guinea pig ileum). Much is said and written about structure-function analysis, but rarely does the analysis go beyond interminable lists of structural analogues. Here, the clarity of the exposition and Sandberg's evaluation of the literature make the chapter both fun and illuminating.

Although "metabolism" appears in the book's title, only two chapters are devoted to it. Chapter 2 by Krause is the better of them. Beginning with a critical account of the concept of regulatory peptidases, the author proceeds to a generally useful dissection of the substance P literature concerned with peptidase action. This is a nice summary of an area that is difficult to follow in the primary literature. Chapter 10 by Lembeck focuses on the peripheral pharmacology of substance P and how it

relates to the effector actions of sensory nerves containing peptides. This chapter is a broad compendium of diverse actions, which are clearly explained, and culminates in a unique and thought-provoking summary of conditions or disorders in which tachykinins might be involved. Each of these three chapters is well crafted, unlikely to date quickly and accessible to a general audience. They contrast with most of the other contributions, which are rather pedestrian in style and content even though some of the work presented has been of great importance.

One aspect of the volume which is bound to irritate the general reader is the confusing nomenclature to tachykinins and their receptors. This is particularly ironic in as much as the book begins with a section on the topic! A standardized nomenclature has not yet been adopted,

but the introduction here of two new terms, "neurokinin A and B", for tachykinins named twice already doesn't help.

The final chapter, looking into future, encapsulates some of the drawbacks of the volume as a whole, in that it emphasizes certain aspects of the interest in substance P while neglecting others such as the genetics, receptor-linked biochemical events and regulation of cell growth, immune cell function and transporting epithelia. Indeed, in spite of the title, the emphasis of the book is on the pharmacology of substance P and its structural relatives. Overall, then, it can best be considered in the same way as a journal supplement, with its natural audience limited to the specialist. □

Michael R. Hanley is in the Medical Research Council's Molecular Neurobiology Unit, University of Cambridge Medical School, Hills Road, Cambridge CB2 2QH, UK.

Physics in fiction

Peter Kemp

Einstein as Myth and Muse. By Alan J. Friedman and Carol C. Donley. *Cambridge University Press: 1985. Pp.224. £25, \$39.50.*

ALBERT Einstein was once invited to appear for a three-week season at the London Palladium. He declined. But, as Alan J. Friedman and Carol C. Donley's lively book reveals, he has turned up post-humously in equally unlikely contexts: on Chinese postage stamps, among the paranoid outpourings of lunatics, in advertisements for hosiery, business computers or beer. It is Einstein's infiltration of literature, though, that the authors are most interested in. Direct depictions of him are occasionally sighted, usually of a less than inspired kind: "Einstein has come among the daffodils/shouting/ that flowers and men/ were created/relatively equal", William Carlos Williams carols in one poem; in another Archibald MacLeish reports that "He is small and tight... And he terminates/In shoes". What the book mainly surveys, however, is the influence of Einstein's ideas upon literature.

In brisk preliminary chapters, the authors offer accounts of relativity theory and quantum physics that are concise and compulsive feats of intellectual exposition. Where things become less gripping is with the attempt to prove that the discoveries of modern physics have affected literature profoundly. One awkwardness Friedman and Donley keep encountering is that writers using or claiming to use Einstein's insights tend to be either obscure or obtuse. What is cited as "the most detailed, accurate, and knowledgeable parallel to the quantum theory that we have found in literature", Robert

Coover's novel *The Universal Baseball Association, Inc. J. Henry Waugh, Prop.*, is a name unlikely to leap instantly to many lips. Lawrence Durrell's *Alexandria Quartet* is more familiar: but, though Friedman and Donley pounce on the author's announcement that, with it, he's "trying to create a four-decker novel whose form is based on the relativity proposition", they ultimately have to admit that Durrell doesn't understand the difference between relativity theory and quantum theory, and harbours the elementary misconception that the "inescapable relativity of truth is an accurate reflection of the theory of relativity".

The authors are takingly keen to establish links between art and science, and are good at demonstrating the various impacts of Aristotle's and Newton's beliefs on literary imaginations. Their ingenious efforts to establish that Einstein's theories have likewise left their mark don't always carry the same degree of conviction, though. "Physicists found there was no universal frame of reference, and multiple viewpoints showed up... in novels", it is declared, implying some direct connection: yet multiple viewpoints were the speciality of the epistolary novel, in its heyday in the Newtonian eighteenth century. Quantum theory's revelation that "disintegration, violence, and derangement appear even on the sub-atomic level" could be responsible for contemporary literature's fascination with such phenomena, it is suggested — by-passing social, political and personal factors closer to hand and far more likely to have been influential. *Einstein as Myth and Muse* is an appealingly ambitious and stimulating study. Some of its musings, however, have a distinctly myth-like look themselves. □

Peter Kemp is an Associate Lecturer in the Department of English, Middlesex Polytechnic, All Saints, White Hart Lane, London N17 8HR, UK.