

All this led to ruined health and spiritual impoverishment. Haber's personal and political travails, described by Stoltzenberg in a surfeit of detail, reached their climax when the Nazis came to power in 1933. Despite Haber's patriotic war efforts and his scientific leadership, the Nazis drove him into exile (he worked for a while at the Cavendish Laboratory in Cambridge, England) and finally to his death. They unwittingly forced him to confront his Jewish heritage and his treatment of his family: he seriously considered moving to Palestine and hoped that his sons would become Englishmen. He died in Basel in January 1934, a broken, confused, lonely and bitter man.

Yet the ultimate contradiction and tragedy of Haber's life and work was yet to come: during the Second World War, the Nazis used the gas Zyklon B, studies of which were first done in Haber's own institute around 1920, in Auschwitz and other concentration camps. Members of Haber's own family were among the vast numbers of people murdered with this poison.

Stoltzenberg has written a fine biography of this deeply flawed individual. Graced as it is by nearly a hundred excel-

lent photographs, it will appeal to a wide variety of readers and deserves to be translated into English. To be sure, only those with a basic knowledge of physical chemistry will be able to take the full measure of Stoltzenberg's treatment of Haber's scientific work. But the sympathetic and comprehensive account of Haber's personal life and friendships (especially with such important personalities as Albert Einstein and Richard Willstätter), his organizational activities in science, his efforts to develop industrial and political support for German science in general, his development of gas warfare and his application of chemistry in general, his receipt of the Nobel prize, his involvement with many of Germany's scientific, industrial and political leaders, and his Jewish ancestry and ambivalence towards the Zionist cause, should appeal to general readers as well as to historians and all those interested in the social responsibility of science. □

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## Organizing entomological miracles

Tristram D. Wyatt

**Insect Hormones.** By H. Frederik Nijhout. Princeton University Press: 1994. Pp. 267. \$35, £27.50.

INSECT metamorphosis is one of the most spectacular phenomena of the living world, but controlling it is only one of the many roles for hormones in the biology of insects: almost all insect activities are mediated by hormones, from the control of reproduction to internal homeostasis, through polyphenism (for example castes in termites) and diapause, to behaviour in spinning a cocoon. As model biological systems, including investigations of animal development, receptors and second messengers, insect hormones and their targets have an important influence far outside entomology.

The study of insect hormones offers many classic examples of the power of choosing the 'right animal'. To study diuretic hormones, for example, use the blood-sucking bug *Rhodnius prolixus*, which can excrete urine in quantities of up to a prodigious six times its body weight in the hour after a blood meal. Unfortunately, investigating just a few species has disadvantages. Insects show great variations in the hormone molecules involved in many processes. The patterns offer a fascinating paradox. Not only are there the unifying characteristics revealed by new molecular approaches showing similarities between some verte-

brate hormone sequences and insect neuropeptides (for example bombyxin and vertebrate insulin-like growth factors); there is also enormous adaptive radiation among insects, with different hormones used for the same function, or the same hormone used for quite different ends in different species or at different life-stages by the same insect. The hormone-receptor-intracellular signalling system offers great scope for flexibility in evolution.

It is this complex situation that Nijhout tackles well: he gives a clear outline and helpful synthesis. He emphasizes areas where answers are still unknown or unclear, without leaving the reader at sea (although a few more diagrams would help). The book successfully offers students and researchers (including those in other fields) a lucid overview, although some may wish for more detail here and there; half the text is devoted to metamorphosis and development, for example, whereas caste determination in ants is covered in just four pages.

Molecular investigation of hormones is becoming ever more sophisticated and productive. While covering these recent advances, this timely book returns the focus to the way in which these molecules work in the insect as a whole organism. □

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## New Journals

This year, *Nature's* annual new journals review supplement will appear in the issue of 21 September. Publishers and learned societies are invited to submit journals for review, taking note of the following criteria:

- Journals that first appeared during or after June 1993 and issued at least four separate numbers by the end of April 1995 will be considered.

- Journals covering any aspect of science are eligible, although those dealing with clinical medicine and pure mathematics are excluded, as are publications of abstracts.

- Frequency of publication must be at least three times a year. The main language used must be English. Translation journals in English are, of course, eligible.

- Deadline for submission is the end of May.

When submitting journals for review, please send at least four different issues (the first, the most recent and any two others) of each title, together with full details of subscription rates (personal and institutional) and frequency of publication to: Peter Tallack, *Nature*, Macmillan Magazines Ltd, Porters South, Crinan Street, London N1 9SQ, UK. Tel: +44 (0)171 843 4567.

## New in paperback

- Oxford University Press has just reissued paperback editions of James Lovelock's influential books on his Gaia theory, which views the Earth as a self-regulating system or 'superorganism'. Lovelock first sketched out his theory 15 years ago in **Gaia: A New Look at Life on Earth** (£6.99). He amplified his ideas several years later in **The Ages of Gaia: A Biography of Our Living Earth** (£7.99; also published in the United States by Norton at \$12). He has now fully updated this volume and reluctantly revised it to make it "scientifically correct". In vivid and often poetic prose, he assures us that it is in no way the guide book of a New Age cult. He also rails against the narrowness and dogma that he believes have prevented modern scientists from accepting Gaia.

- **Abduction: Human Encounters With Aliens** by John E. Mack. Simon and Schuster, £5.99. In this bestselling book, a professor of psychiatry at Harvard Medical School presents his 13 case studies of "authentic and disturbing mysteries" that he claims cannot be dismissed simply as psychological phenomena. His work is now rumoured to be at the centre of a special investigation by a faculty committee set up by Harvard University (see *Nature* 375, 5; 1995).