

Recognized at home and overseas as an authoritative palaeontologist, taxonomist and bibliographer, Hopwood was much consulted by individuals and scientific societies. He served the Zoological Society of London on its publications committee (1944-61), as co-editor of the *Nomenclatur Zoologicus*, vol. 6 (1966), and as delegate to the zoological nomenclature colloquium held under the auspices of the Fifteenth International Congress of Zoology (1958). His long service to the Linnean Society of London saw him council member (1946-56), zoological secretary (1948-52) and twice vice-president (1947-48, 1955-56). His interest in the Mollusca gave the Malacological Society his services as council member (1930-49), secretary (1933-36) and president (1943-45). After retirement from the museum his faculty for attractive and lucid exposition found a decade's fruitful exercise as *professeur* at the Lycée Français.

Hopwood's natural endowment included a gentle, considerate disposition, a well developed artistic sense and a markedly philosophical turn of mind, much attracted to Teilhard de Chardin's concepts of natural phenomena. If occasionally, and wholly superficially, a trifle portentous, Hopwood was fundamentally a modest, merry-hearted man, perennially fascinated by the wonder of living things. An accommodating colleague and a staunch friend, he was prodigal of time and effort in assisting those who sought his counsel or his expertise. Many therefore remember him with affectionate gratitude.

Correspondence

Attitudes to Conservation

SIR,—*Nature* is right, of course, and Eliot Slater (*Nature*, 225, 773; 1970) is wrong. All scientists in biology and medicine know, or should know, that there *is* a creed. It was stated by Pasteur as follows,

"You bring me the deepest joy that can be felt by a man whose invincible belief is that Science and Peace will triumph over Ignorance and War, that nations will unite, not to destroy, but to build, and that the future will belong to those who will have done most for suffering humanity.

Young men, have confidence in those powerful and safe methods, of which we do not yet know all the secrets. And, whatever your career may be, do not let yourselves become tainted by a deprecating and barren scepticism, do not let yourselves be discouraged by the sadness of certain hours which pass over nations. Live in the serene peace of laboratories and libraries. Say to yourselves first: 'What have I done for my instruction?' and, as you gradually advance, 'What have I done for my country?', until the time comes when you may have the immense happiness of thinking that you have contributed in some way to the progress and to the good of humanity. But, whether our efforts are or not favoured by life, let us be able to say, when we come near the great goal, 'I have done what I could'."

Since there is a creed, it is appropriate for scientists to accuse of heresies those who would thwart the needs of humanity for food and the prevention of disease. It is true that these needs both fall in the category of "Short-term expediency" in the terminology of Slater.

Slater asks, "What is the present rate of genocide, in terms of species per century?" But genocide refers to the extermination of racial, political, or cultural groups of *human beings*! Is Slater trying to extend the term to, let us say, *Salmonella typhi* and *Treponema pallidum*?

Certainly, a biologist could write, "human beings . . . may be more like ants and bees than laboratory rats"! In terms of social behavior, this is quite true. The *Hymenoptera*, and human beings, unlike rats, seldom devour their

newborn young. However, perhaps human beings are changing. Slater, who has four children, says, "Right now, every new child born is an entry for the debit page, acceptable only if required for replacement".

Yours faithfully,

THOMAS H. JUKES

Division of Medical Physics,
Donner Laboratory,
Berkeley, California, 94720.

Information Explosion

SIR,—It is refreshing to read Mr Bruce Sanford's letter (*Nature*, 225, 979; 1970) which departs from the usual attitude of burying one's head in the sand in the hope that computers will solve the information explosion problem. Far too often the use of computers is voiced in the context of information retrieval but this is only part of the problem and the easiest part at that. The real problem is, as Mr Sanford implies, in the assimilation of information and the means of its conveyance to the storage media.

In this area, publishers could be of immense assistance by including in their journals informative summaries, compiled with the assistance of authors, which would enable the documentation expert to make a quicker assessment of the importance and application of an article without having, in the first instance, to read it in detail.

A genuine attempt to do this may be seen in the Ministry of Technology's TECHLINK Service. This relates to government research reports and enables the recipient to make a quick assessment of the value of a report before actually acquiring it.

No one can dispute the efficacy of computers for information storage but if they are to be used to advantage it is vital that greater attention is paid to the input stage which is still a manual operation.

Yours faithfully,

A. JOHNSON

"Sandown",
The Serpentine North,
Blundellsands,
Liverpool 23.

Light Carrying Electrons

SIR,—In connexion with our observation (*Phys. Rev. Letters*, 15, 349; 1969) of the modulation of an electron wave by light (see *Nature*, 225, 15; 1970), I would like to point out that Harris and Smith (*Nature*, 225, 502; 1970) propose an explanation of electron bunching which, among others, we also mentioned in our paper as a possible mechanism and which was even briefly reported by your Solid State Physics Correspondent in his earlier note. In the meantime, however, even when disregarding the fact that the numbers do not check, we have come to the conclusion that the theory cannot be so simple because, if bunching were the explanation, the effect should also be observed without the presence of the thin crystalline film. However, this is not the case. There is also a continuous decrease in intensity of the light spots on the nonluminescent target with increasing distance between the thin film and the nonluminescent target.

With further experimental and theoretical studies under way, it appears that only a quantum mechanical theory can explain the effect.

Yours faithfully,

HELMUT SCHWARZ

Rensselaer Polytechnic Institute,
East Windsor Hill,
Connecticut, 06028.