

Moreover I wonder if he might be secretly glad that these commercial contacts exist, for the *ad hominem* technique is a powerful one: if there is no evidence against a scientist's research, look at who paid for it.

It is this question of the validity of research that is the missing heart of *The Politics of Food*. The food and health debate is complicated because it is about probabilities not truths, but discussion of the issue of how such scientific evidence should be evaluated is squeezed into the end of the book. Cannon's treatment of this problem, though valuable, is sketchy. His proposal that expert committees should function in a quasi-judicial capacity, because their "job . . . is to produce a verdict based either on the standard of proof required in a civil court (balance of probability) or else in a criminal court (beyond reasonable doubt)", is sensible but too skeletal. How is the presumption of innocence to work: is a theory, or a set of experiments, to be assumed true until falsified, or to be assumed false until the burden of confirmation overwhelms administrative conservatism? Given that scientific evidence is to be incorporated into policy with far less objective political judgements, perhaps the very criteria for proof should be reconsidered.

One cannot help but suspect that in this respect Cannon lacks a feel for what scientists actually do. What he seems not to appreciate is that all scientific evidence is not equal, that even the unprejudiced reviewer does not give equal weight to all scientific reports, but rejects some as isolated, unconfirmed or even implausible.

This lack of scientific expertise is evident in the discussion of the technical as well as the political aspects of food policy, in what is by far the weakest section of the book. Here Cannon is sometimes in error — as when he states that the azo-dye amaranth is inorganic — or he misinterprets as in his idiosyncratic, and invalid, use of recommended daily allowances. And he is an ardent consumer of the unconsidered fragments of the scientific literature which he uses, for example, to argue that anorexia nervosa is in fact a manifestation of widespread zinc deficiency. This armchair science, which is largely presented in the manner of a pulp detective story, detracts from his more valuable socio-political critique.

Faults such as this, together with the lapses into an irritating, journalistic prose style, mean that this potentially valuable book has to be counted as a wasted opportunity. Sadly, it is likely to receive much less serious attention than it, or its author, deserve. □

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Island progress

Ernst Mayr

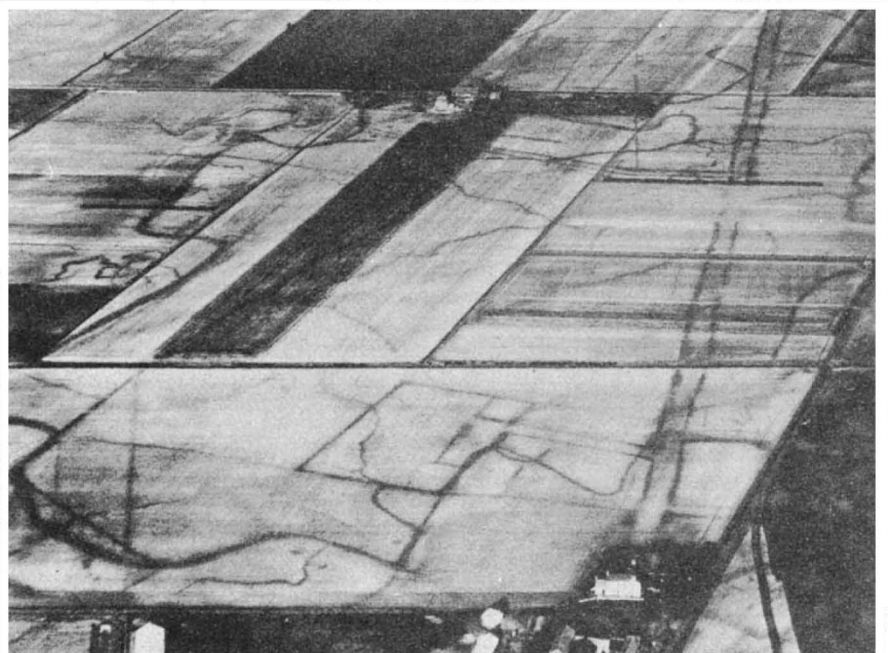
The Malay Archipelago. By Alfred Russel Wallace. Introduction by John Bastin. Oxford University Press: 1987. Pp. 638. £27.50, \$35.

THAT Alfred Russel Wallace was the co-discoverer with Charles Darwin of the principle of natural selection is now known to every educated person. That he was also one of the greatest travelling naturalists the world has ever seen, deserves, however, to be known far more widely. To reprint *The Malay Archipelago*, his famous travel book, was therefore a happy idea. For eight years (1854–62) Wallace criss-crossed the archipelago between Borneo and Java in the west and New Guinea and the Aru Islands in the east. No modern explorer can conceive of the hardships and dangers of travelling in small native boats among usually unhelpful, if not hostile, people. Having myself once sailed for nine months in these waters in a motorless boat, I know how it feels when the wind suddenly dies down and the current carries one's boat rapidly toward the breakers on the rim of a coral reef. It is a miracle that Wallace did not perish on one of these occasions. After reading *The Malay Archipelago* Darwin was moved to write him: "Of all the impressions which I have received from your book, the strongest is that your

perseverance in the cause of science was heroic".

With an unquenchable enthusiasm and dogged determination Wallace continued to explore island after island, not only discovering thousands of new species, but revealing for the first time the intricate intermingling of the Asiatic and Australian faunas in this island region, appropriately now called Wallacea by the biogeographers. It was Wallace who discovered the sharp break between the rich faunas of the continental islands (for example Borneo, Sumatra) on the continental shelf and the impoverished faunas on islands such as Sulawesi, the Lesser Sunda Islands and the Moluccas, which had never had any continental connections. Being strictly isolated and receiving only occasional immigrants by across-the-water colonization, these islands are extraordinarily rich in endemics. Because he was the first naturalist to visit many of the islands, or at least the first to make systematic collections, Wallace was able to make an astonishing number of new discoveries, including 212 new species of birds, 900 new kinds of beetles and hundreds of new butterflies, ants, other insects and snails.

But Wallace, the naturalist, was of course far more than a collector. He constantly searched for the meaning of what he observed, and wrote two of his most important scientific papers while in the archipelago. In his 'Sarawak paper', written and published in 1855, he advanced abundant evidence in favour of



Ghostly shadows — two eras of Fenland farming are seen superimposed, to the south-west of Spalding, Lincolnshire. The modern landscape is of arable farming and drainage ditches, the Roman pattern emerges in the form of soil marks visible from the air. Above and to the left of the modern farm is a rectangular Roman house plot, connected to the through-road by a short, straight access drive. The illustration is taken from History from the Air by Richard Muir, originally published in 1983 and just issued in paperback by Mermaid Books, with photographs from the University of Cambridge collection of air photographs. Price is £10.95.