

senting the change in references-per-item (not the crude changes in references) with age. The terms item-consultation decay rates and item-citation decay rates have been suggested³ for suitably corrected factors.

Similar considerations apply equally to the data for obtaining a Bradford set. One citation in 1970 to a periodical first published in 1965 is much more significant than to one first published in 1960 because there are twice as many volumes of the latter available to be cited. Applying a correction to the Bradford sets in the *Journal of Ecology*, to allow both for the age of the periodical title and for an item-citation decay rate of 0.95 (a preliminary value obtained from citations in the same journal), raised the Kendall rank correlation coefficient to 0.25: but this is still not high enough to place much reliance on the predictive value of a Bradford set for ecological literature.

Scientists and librarians would therefore be wise to approach an optimum $P\%$ library with caution and to check that the data they use for measuring the relative value of parts of their stock are suitable for the purpose and consistent

from one occasion to another. Until they have done so they should not take any irrevocable decisions on the basis of Bradford sets or ageing factors.

Yours faithfully,

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¹ Brookes, B. C., *Nature*, **232**, 458 (1971).

² Krauze, Tadeusz K., and Hillinger, Claude, *J. Amer. Soc. Inf. Sci.*, **22**, 333 (1971).

³ Sandison, A., *J. Doc.*, **27**, 197 and 189 (1971).

Sex Discrimination

SIR,—We were startled to read in your issue of October 29 (*Nature*, **233**, xxii; 1971) an advertisement, placed by the Australian Atomic Energy Commission, describing a research post and ending with the statement "Female rates slightly less than male rate quoted". The fact that sex discrimination is still an official policy of the Australian government does not,

in our opinion, absolve a private journal such as yours from the responsibility not to abet discrimination based on race, national origin, political or religious belief, or sex. We presume, for example, that *Nature* would not now accept advertisements that were discriminatory with respect to colour or religion. We look forward to a prompt and public statement by *Nature* of a new nondiscriminatory advertising code.

Yours faithfully,

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Obituary

Dr Colin Cadman



COLIN HOUGHTON CADMAN, plant pathologist and Director of the Scottish Horticultural Research Institute, Dundee, died on September 27, aged 55.

After graduating from Liverpool University with First Class Honours in Botany he first worked at the Scottish Plant Breeding Station, Edinburgh, on the genetic control of the reaction of potato plants to virus infection. This work, which formed the basis of his PhD thesis, was the origin of his interest in plant

viruses, and he devoted the rest of his productive research career to their study.

In 1943 the Scottish Raspberry Investigation, directed from East Malling Research Station, was set up at Dundee and Cadman became its resident pathologist. The main aim of this unit was to tackle the problems posed by the degeneration diseases of the raspberry, a crop more intensively grown in the area than anywhere else in the world. During the next eight years, by shrewd observation and simple experiments, he differentiated and identified many new viruses affecting raspberry and showed that some were spread by aphids. He began to propagate healthy stocks and became the foremost expert in raspberry viruses.

When the Scottish Horticultural Research Institute was founded in 1951, he became the head of its Plant Pathology Department and his research entered its most imaginative period. He discovered that a virus could be transmitted experimentally to herbaceous test plants by inoculating them with sap from raspberry plants affected by the important leaf curl disease. This led to the recognition of a group of viruses which cause ringspot symptoms in plants, have wide host ranges including numerous weed and crop species in many countries, and which spread through the soil. Following the American report that grapevine fanleaf virus has a nematode vector he showed

that arabis mosaic virus, one of the soil-borne ringspot viruses found in Britain, is similarly transmitted; and that grapevine fanleaf virus can be sap-transmitted to herbaceous test plants and is serologically related to arabis mosaic virus. Other kinds of nematode-transmitted viruses were also found and one, tobacco rattle virus, was consistently obtained from potato tubers affected by sprain, a common disease that had previously defied efforts to determine its cause. A new field of plant virology was opened up and Cadman's laboratory became a centre of international repute for the study of soil-borne viruses.

He also did other pioneering work. He showed how to avoid the effects of substances that hindered the detection of viruses in woody species; he found a virus that was spread between raspberry plants, not by vectors but in pollen; and, independently of German workers, he showed that some isolates of tobacco rattle virus existed in plants as ribonucleic acid that was not protected by a protein coat.

His research having been the main foundation of the scientific reputation of the Scottish Horticultural Research Institute, he became its second Director in 1965. During the next six years he achieved a transformation. Research was reorganized to stimulate scientific productivity, and a comprehensive build-