

erosion. The likely cause of the improvement is the increased cohesion of the jet stream, rather than any change in physical property of the fluid—such changes in density and viscosity are negligibly small in the concentrations used—or solid particle behaviour of polymer and associated solvent. That this is so is shown by the increasing effect of the polymer on jet cutting ability as the target is moved away from the nozzle (Fig. 2). Photographic evidence of the improvement in cohesion is available⁴ for

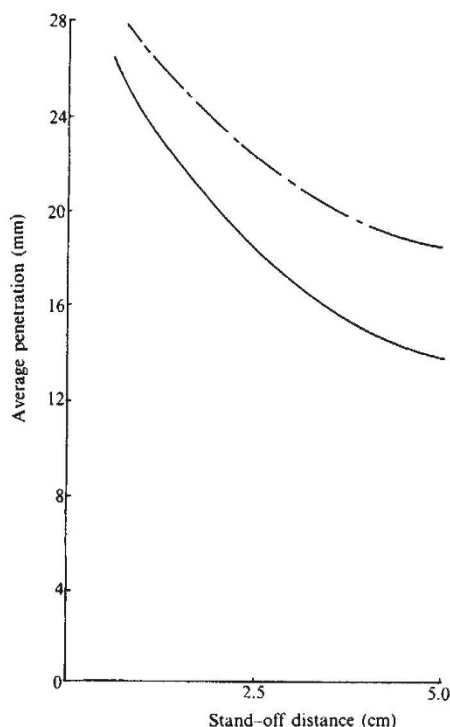


FIG. 2 Comparison between penetration of a water jet and a jet containing Polyox into sandstone with increase in target distance (after ref. 2). —, Ordinary jet; ----, with 0.1% Polyox.

studies where the surrounding fluid is air and this improvement may be enhanced when the jets are submerged as apparently was the case in ref. 1. The presence of the central core on the surface of the target during the erosion process (Fig. 2c of ref. 1) is a further indication that the impacting fluid, rather than a series of solid impacts as suggested¹ is the cutting agent since such a cone is a feature of water jet erosion⁵.

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The individual and the information problem

THE skewness of the distribution of journals in which individual scientists and research institutes as a whole publish their findings, shown by Blaxter and Blaxter¹ in their recent paper, will come as no surprise to most research librarians. A similar phenomenon of the distribution of journals relevant to particular specialities has been known for a number of years.

As long ago as 1927, Gross and Gross², studying chemical literature, developed a theory of evaluating periodicals based primarily on the assumption that the value of a periodical to a scientific worker is in direct proportion to the number of times it is cited in the scientific literature. The results obtained showed this typical distribution, with a relatively small number of periodicals containing a high percentage of the papers thought to be relevant to the subject, but with the subject's total literature widely dispersed through many journals. A similar conclusion was arrived at by Bradford³ and later by others working on Bradford's Law^{4,5}. Over the past 25 yr the literatures of many different subject fields have been analysed, and all show similar distributions⁶⁻¹⁰. Garfield¹¹ has recently shown this same skew distribution to be a property of the scientific literature as a whole, important work being concentrated in relatively few journals.

Blaxter and Blaxter's estimations for the optimum size of a working library satisfying 90% of the needs of 90% of its users could probably be reduced even more, as it is very likely that several of the twenty-five journals relevant to each of the five subject fields would be the same. The 25 yr estimated working life of the library stock only holds true if the current research interests of the workers do not change appreciably during this time. When major new fields are entered new journals are needed. Similarly, journals supporting superceded research work should be pruned from the library stock long before they are 25 yr old.

All librarians are very well aware of the costs of subscribing to, and maintaining long back-files of journals, and much bibliometric work has been carried out in an attempt to minimise these costs. This indication that users appreciate these points too makes a welcome

alternative to their more usual requests for yet more new journals.

Yours faithfully,

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[1013] The Measurement of Frequency and Time Interval. By Dr L. Essen. (National Physical Laboratory.) Pp. v + 55. (London: HMSO, 1973.) £1 net.

[1112] *Annals of Human Biology*, Vol. 1, No. 1, January 1974. Edited by O. G. Edholm, G. A. Harrison and J. M. Tanner. Pp. 1-136. (Journal of the Society for the Study of Human Biology.) Published quarterly. Annual Subscription price (payable in advance) £12, postage paid. Subscribers in the USA, Canada and Mexico (air-freight) £13.50; \$33.75 postage paid. (London: Taylor and Francis, Ltd., 1974.) [1312]

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