

correspondence

Biased reporting of East European science

SIR, — There should be little doubt nowadays that science needs extensive, systematic and friendly international ties for its own progress, for positive service to humanity and for contributions that such ties make toward safeguarding peace and avoiding the world-wide devastation which advanced science and technology have guaranteed to be inherent in a war between major powers. Even arms limitation and, hopefully, arms reduction are not only general human concerns but also professional issues affecting the direction of science and the question as to whether its major efforts will be oriented toward destruction or toward human welfare.

The near catastrophe this year at the nuclear plant at Three Mile Island, Pennsylvania, has underscored dangers which could arise even in the absence of war, and leads one to be grateful for the existence, since 1973, of the US-USSR Joint Committee on Co-operation in the Peaceful Uses of Atomic Energy. Its fifth meeting (Washington, April 1978) gave prominent attention to work on 'Light-Water Reactor Safety' — the type of reactor used in the US — and to plans for intensifying work on this topic, whose importance the whole world now appreciates.

A sense of responsibility to science, to peace, to mankind would require the encouragement of such co-operation and its substantial expansion.

It is, therefore, very sad to observe *Nature's* failure to exercise this responsibility, and its degeneration into a propaganda sheet for those anxious to whip up an hysterical ill-will against East European science. In what has assumed the dimensions of a campaign, it seems to be doing what it can to encourage those seeking to destroy co-operation, or even contact, between the scientific communities of Eastern Europe and those of the US and its allies. News articles do not conceal their bias and editorialising. For example, a news report (7 September 1978, page 3) under the headline "Boycott of Soviet contacts is for individuals, says NAS [National Academy of Sciences]" stated early on "This reaction would appear to substantiate the case for boycott, a case most ably put by Valentin Turchin". The rest of this 'report' is similarly tendentious and argumentative. Incidentally, the Turchin letter and similar ones were published, not in the space normally reserved for letters, but more prominently, in larger type and with conspicuous headlines.

The author of that article is a regular contributor to *Nature*, Vera Rich. Her numerous articles are chiefly propagandistic, lacking in analysis, highly selective, crowded with sneers and sarcasm, ill-mannered and disruptive, and contemptuous of Soviet science. They do not offer the reader any well-rounded picture of East European scientific life and developments, to say nothing of the fruits of international scientific cooperation.

Underlying all the sarcasm and the jibes is the unwarranted assumption that Soviet science and the science of other socialist countries is very much the junior partner in any cooperation. Occasionally this is stated explicitly, and such views given more or less unchallenged publicity. One anonymous letter (14 December 1978) asserts that in 1965 the US and the USSR had about the same number of scientists, but that the former did one-third of world science, the latter only one-sixth. Leaving aside measurement

problems, one might ask why *Nature* didn't point out that through its money the US has fortified its science establishment by visiting upon other countries a 'brain drain' which has caused even its closest allies to complain and which has damaged developing countries, while the USSR has relied almost exclusively on its own population. As a perhaps atypical example, it might be noted that the School of Mathematics of the Institute of Advanced Study at Princeton has normally been staffed at the professional level by a majority of great imports.

In any case, Soviet and other socialist scientists are no 'junior partners' in international science, no matter how *Nature* portrays them.

But the blame for this destructive campaign cannot be placed on Vera Rich's pen alone. *Nature*, itself, has weapons in its arsenal. Some day a doctoral dissertation will analyse headlines, positioning, type-sizes, linguistic techniques and much else, to the amusement of the author and the embarrassment of the editor.

Without awaiting such refinements, I am concerned about such things as an anonymous full-page article (13 October 1977, page 548) by what *Nature* calls "a correspondent with some experience of East European countries. . . . [who] returned [from the GDR] with these impressions". No explanation is given as to why this correspondent was permitted a cloak of anonymity to shelter an ungracious guest's snide barrage. *Nature's* editorial introduction to this piece declared "Scientific exchanges with the German Democratic Republic (GDR) are rare, and our knowledge of the state of its science is consequently sparse". It neglected to mention that NATO countries refused until recently to recognise the GDR, excluded it from the UN, and were unwilling to negotiate exchanges earlier, or even to permit GDR citizens to visit under their own passports. Every effort was made by NATO to isolate the GDR. For years the International Mathematical Union allowed its FRG-affiliate to act for both German States.

In passing, let me mention that I have made three brief scientific visits to the GDR (in 1965, 1972 and 1978), and that the colleagues I met there were well-trained, skillful, enthusiastic scientific workers who were far from conveying the "frustration and pessimism" which your anonymous correspondent claimed to be the prevailing mood.

I hope that the editors will not await future doctoral candidates to analyse the myriad ways in which *Nature* demeans itself today. *Nature* is an important voice in the international scientific community. Its editors should take cognizance of the grave responsibility this implies, and should bestir themselves to establish some objectivity, balance and reason into its activities impinging on the crucial field of scientific co-operation between the countries of Eastern Europe and other major scientific centres.

Yours faithfully,

LEE LORCH

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Uranium use in fast reactors

SIR — R.D. Smith in his letter on fast reactor safety (23 August, page 630) says, "remember the fast reactor will produce about 60 times more energy than a thermal reactor for the same quantity of uranium".

I thought this particular piece of nuclear

nonsense had been scotched for good. It might be true in 200 years time, but certainly is not for any period which is significant for our present situation. When challenged by Leslie Granger and David Merrick (*Energy Policy* December 1976, and *Nature* 16 December 1976, pages 596-8) Bart Cutts, Head of Technical Services at UKAEA eventually (*Energy Policy* September 1977) presented a "notional programme of electrical installation". One is justified in assuming that it was the best case he could produce, especially as he found it necessary to assume a very low growth rate for electrical energy of 2½% p.a. Even so the ratio of utilisation of uranium for a programme based on the maximum development of FBRs and one based only on thermal reactors was 1.1 by 2000 and only 1.7 by 2020, compared with this absurd figure of 60 times which might be achieved by 2200.

For the sort of increases in electricity production that used to be achieved and were projected at least until 2000, i.e. anything over 5½% p.a., Granger and Merrick have shown that the ratio cannot exceed 1½ times as long as this rate of increase continues. The reason is simply that, as Walter Marshall has said, fast breeder reactors are really breeder fast reactors, or perhaps better, slow breeder fast reactors. To achieve even the rate of increase, modest by historical standards, of 5½% p.a. it is necessary to build large number of thermal reactors to provide most of the increase and furnish plutonium to start up the FBR series. These gradually breed more plutonium, and the process goes asymptotically to the use of 1½% of the uranium instead of the 1% for thermal reactors. The higher the annual increase is above 5½%, the more slowly is this figure of 1.5 approached, never to reach any higher unless the annual increase comes below 5½%. As we have seen, even for an annual increase as low as 2½% p.a. it only goes to 1.7 by 2020.

On a related point, in order to reach a stage when further supplies of uranium are no longer required, the rate must be below 3% p.a. Above that the need to import uranium never ceases.

It is to be hoped that R.D. Smith's corrections of Norman Dombey (other than the misprint) are rather more relevant than his reference to the improved utilisation of uranium.

Yours faithfully,

J.W. JEFFERY

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Defending science and rationality

SIR, — I have just read your editorial (23 August, page 619), on 'Science, nonsense and responsibility'. I do so with that slightly sour amusement always induced by the spectacle of Satan denouncing sin. Having read your editorial and review columns for many years, I find your pose as a defender of science and rationality decidedly unconvincing. However, if you should now switch to opposing the major as well as the trivial superstitious movements of our time, no one would be more pleased than I.

Yours faithfully,

M. HAMMERTON

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