

CORRESPONDENCE

Bad BBC Science

SIR,—Since I advised on the Horizon programme "Science is Dead—Long Live Science" variously described in your leader (*Nature*, 241, 490; 1973) as "disastrous", "witless", and "dangerously infected with heresy", I would be grateful for the opportunity to make a few comments.

First, I must remark on the distressingly high proportion of gross errors of perception on which your writer based his judgments. The Vietnam films were very far indeed from "the most gruesome of the gruesome"; the "defoliant" scientist was interviewed but not the "napalm" scientist; nowhere was there a claim that science made the Vietnam war possible; the scientist-turned-printer was not "offended" by the FBI, but described quite clearly how he was hounded out of his job; the interview in West Virginia had as its whole point the complete corruption of the local government by the strip-miners and the effective disenfranchisement of the public; Jonathan Beckwith neither gave alarming tales of genetic engineering nor said when civilization would end; the New Alchemist made no claim to secret knowledge; and it was a quite different group who have gone over to Sun worship.

Perhaps there were some deeper failings in presentation that enabled your reviewer to become so confused. If so, I and the producers would be very grateful for help. It seemed abundantly clear to us that each of the very different sorts of scientists presented in the programme were a small minority—the general indifference at the AAAS meeting was, we thought, a sufficient reminder of this. We thought also that the difficulties and contradictions in each reaction, systematically and sympathetically described by Beckwith, were made clear in nearly every case.

If I were to help in modifying the programme for a re-issue, I would start by putting more emphasis on one particular still shot. This is of a proud advertisement by North American Rockwell. It describes their development work on the B-1 bomber, the planned successor to the B-52 of saturation-bombing fame. Their triumphant slogan is "North American Rockwell—where Science Gets Down to Business". This phrase, so cleverly combining a straight description with an American idiom, has rich overtones in the political and moral dimensions. I strongly suggest that your reviewer reflect on that slogan; from

that could come an appreciation of what the programme was all about.

Finally, I hope that your reviewer will, on reconsideration, regret that personal sneer at the physicist persecuted by the FBI, and also the most unfortunate arguments on the responsibilities of civil servants by which the reviewer justified himself. This lent neither strength nor dignity to his criticisms of the programme, and a retraction and apology would seem appropriate.

Yours faithfully,

J. R. RAVETZ

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SIR,—It is unfortunate that your attack (*Nature*, 241, 490; 1973) on the BBC for irrationality in science programmes was itself so irrational. It used a device much favoured in debating societies, but surely to be abjured by a scientist with any pretensions to objectivity, namely falsely accusing the opposition of having made a certain statement and then proceeding to demolish it.

In stating that the Horizon programme "Science is Dead—Long Live Science" implied an absurdity, namely that the profession of science, not the political climate, made the Vietnam war possible, you underestimate the average viewer's intelligence and good sense and negate your own. "Implication" is in the brain of the beholder, and I for one caught no shadow of such an implication. The programme was making a quite different point, clear enough to an unbiased viewer, that the scientific weapons being used were based on investigations made for peaceful ends, not specifically developed by government scientists aware of their mission. Almost all your allegations are similarly off beam. To take just one more example, it is simply not true that the programme used Beckwith "as an excuse for alarming its audience with tales of genetic engineering". The programme was, in fact, making exactly the opposite point, namely that when Beckwith tried to interest the community in a (note) rational consideration of the possible consequences of chemical synthesis of a gene, he was so distressed by the alarmist furore that his action set off in the popular press that he desisted.

What impels me to write, rather than ignore such ill-founded criticism, is that your editorial castigated a courageous and original attempt to explore a real and important facet of the scientific world, namely the constant and insidious

worry about the hideous uses to which the most innocent scientific discovery may eventually be put. What gives Horizon programmes their continuing vitality is precisely these qualities of courage and originality. It is easy to make programmes which are aimed at blinding the public with science and how marvellous it all is; it is easy too (as your editorials frequently demonstrate) to rail at the Establishment, and even easier to ridicule the thoughtful and rebellious young. It is not so easy to describe, quietly and objectively, an uncomfortable phenomenon in our midst—scientific heretics—and to discuss without hysteria a profound problem that troubles us all; whether to continue to wrest secrets from nature that may be perverted to evil ends. In my opinion, this Horizon programme did just that, and did it extraordinarily well.

Yours faithfully,

F. PETER WOODFORD

Creation vs Evolution

SIR,—The decision of the State Board of Education in California to preach the doctrine of creation rather than to teach the theory of evolution in the state high schools has not only created a stir among the intellectuals of the world, but thrown a challenge to the entire scientific world to dispel myths about certain phenomena of the universe which are considered as status symbols of transcendental edicts of present day society. The letters of G. Vanderkooi, E. C. Lucas, and A. R. Smith (*Nature*, 240, 365–366; 1972) and A. J. J. Hayward (*ibid.*, 492) support the existence of supernatural power which controls the universe. It is unfortunate that a plant taxonomist, A. R. Smith, could not visualize the process of evolution, which he ridiculed as a "tissue of lies". I, as a botanist, do not agree with him.

The concept of evolution is based on scientific facts, and reveals the truth of nature, although problems such as the origin of life and man's origin are still open for further studies. It is necessary to realize that evolution does not always mean the tracing out of the ancestry of organisms, but as a natural process that has been operating in the universe. Within the living organisms it is an essential natural process taking place as a result of interaction between the genomes and the ever changing environment. Genetic recombination, mutation and selection are the main wheels on which the vehicle of evolution is