LETTERS

Construction of Human Tumor Viruses?

A by-product of experiments that have already been conducted in several laboratories may be new viruses capable of producing malignant diseases in humans. Our concern has been initiated by a description of the work of S. S. Kalter and his colleagues (*1*). It appears that an extract derived from the cocultivation of cells containing a murine sarcoma virus and cells persistently infected with a baboon type C RNA virus is capable of producing tumors in dogs, marmosets, monkeys, and chimpanzees. Neither the murine virus (a mouse virus with an exceptional efficiency for inducing "malignant transformation" in culture) nor the baboon virus alone is capable of causing tumors in these animals. The production of malignant tumors in such a variety of primate species suggests the possibility of creating viruses that are oncogenic for humans. Given the perilous consequences, we see no compensating scientific justification for these experiments.

We recognize that at present there is no conclusive evidence for a viral causation of any human malignancy. However, it has been clearly demonstrated in all animal species so far examined that viruses manufactured in the laboratory can be oncogenic. It seems only reasonable to assume that humans may be similarly affected. Indeed, it is important to make sure that current experiments do not prove this assumption to be correct.

Informed officials at the National Cancer Institute have stated that the above experiments were carried out in appropriate facilities. We ask whether any facility is adequate to meet the possibility, even if remote, of containing an artificially created virus that is potentially a human tumor virus.

Concern has been expressed in the scientific community about the safety of the construction of DNA's involving bacterial plasmids and segments of mammalian genomes. In this case, the danger rests on the possibility of inadvertently picking up and amplifying unwanted genetic information that might alter in some way the natural bacterial flora in man and somehow be transmitted into human cells. We believe that the biohazards resulting from such bacterial cloning experiments are minimal when compared to the apparent success in selecting for oncogenic viruses capable of producing tumors in a wide spectrum of primates. Therefore, we urge that all experiments involving cocultivation of known oncogenic viruses with primate viruses be immediately halted until the safety of such experiments are extensively evaluated.

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References

1. H. M. Schmeck, Jr., *New York Times*, 28 May 1976, p. A14.

Government Talk

I always enjoy Philip H. Abelson's editorials, but "More laws, more complexity" (25 June, p. 1291) was a highlight. Abelson opens by quoting the inscription on the front of the National Archives building, "What is past is prologue." I add the story of the Washington cabbie who was asked by his tourist passenger what that meant. He answered, "Lady, that's government talk for 'You ain't seen nothin yet!' "

So true. And so government of the people, by the lawyers, for the lawyers progresses to the end, described by T. S. Eliot as coming "not with a bang but a whimper."

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The Ames Assay

The issues raised by Gina Bari Kolata (News and Comment, 18 June, p. 1215), Harry Rubin and Bruce N. Ames (Letters, 23 Jan., p. 241), and Bridges (*1*) with respect to the use of microbial mutagenesis assays for detection of chemical carcinogens invite further discussion. There is no question that the measurement of backmutation frequencies in certain bacterial strains has value as a component of testing programs seeking to identify substances potentially harmful to humans. What can be seriously questioned is the implication that either a frameshift or base-pair substitution mutation in a haploid prokaryote has any equivalency with the multistep, multifactorial process of carcinogenesis in eukaryotic organisms.