Letters

Medical Experimentation on Humans

Various newspaper and magazine writers have attempted to minimize the seriousness of the invasion of human rights of which Chester Southam and Emanuel Mandel were recently found guilty by the Board of Regents of the State of New York. In my opinion, Elinor Langer's account (News and Comment, 11 Feb., p. 663) has this effect.

As part of a series of experiments sponsored by Sloan-Kettering, Southam and Mandel had arranged the injection of live cancer cells into 22 seriously ill, elderly patients at the Jewish Chronic Disease Hospital in Brooklyn. The Board of Regents found that this had been done without the "informed consent" of the patients and that Southam and Mandel were therefore guilty of "fraud and deceit in the practice of medicine." In mitigation of this judgment, Langer discusses a matter which was not at issue in the trial, namely, whether there was any harm or risk of harm to the subjects of the experiment. In law, we separate a legal problem into issues in order to enable a judge to decide a point of law. The rule that evolves may be cited by another judge and may soon become a rule of law, governing man's relations with his fellow men. The issue here was whether the experimenters had the right to inject live cancer cells—harmless or not—into the patients without the patients knowing that they were doing so; the ruling was that the experimenters did not have this right. No other consideration should be permitted to obscure the importance of the principle represented in this judgment.

Secondly, Langer quotes Southam's views regarding the harmlessness of the injections, without mentioning the contrary views of other medical men. At the New York Supreme Court trial in my action to examine the secreted hospital and medical records [see News and Comment, *Science* **143**, 552 (1964)], Bernard Pisani, past president of the Medical Society of the County of New York, testified, "The known hazards of such experiments include growth of nodules and tumors and may result in a metastasis of cancer if the patient does not reject the cells." Southam himself, in Langer's earlier account in *Science* (*ibid.*, p. 551), admitted that he and his colleagues had never injected themselves because "there are relatively few skilled cancer researchers, and it seemed stupid to take even a little risk." Any implication that all doubts in this matter have been safely resolved is misleading.

To minimize the wrong-doing of Southam and Mandel is to encourage the belief that scientific zeal may be permitted to override the rights of individuals. It would be better to encourage the view that scientists have the same responsibility to obey the law as the rest of us.

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Sonic Boom

I do not believe that the annoyance values of sonic booms and noises of subsonic aircraft can be compared in the manner described by Kryter in his review "Psychological reactions to aircraft noise" (18 March, p. 1346). The unexpectedness of a sonic boom elicits a reaction of a type difficult to reproduce under the experimental conditions he reports. An unexpected house-rattling thump is *fearsome*; the hearer's mind is momentarily unhinged by sudden pressing questions (BANG! What is it? Do I duck? Where are the kids? Is this IT?). The full emotional and physiological shock of the unexpected is difficult to produce in a laboratory subject comparing noises through earphones.

The loudest sounds from subsonic aircraft reach the listener after a warning—the warning of a noise becoming louder. This early-warning system removes the shock due to unexpectedness. Communities underlying the routes of supersonic aircraft could be protected from this shock by ground-based crescendo-noisemakers, which would be radioactivated by the oncoming aircraft a few moments before the blast hit. The listener might well be annoyed, but he would not be afraid, and the saving to his adrenalin supply should be appreciable.

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Foreign Aid

Abelson's statement (25 March, p. 1485) that U.S. foreign aid "is in effect almsgiving" is an unfair generalization. I have no doubt that one can find many instances of "fish-throwing," and it is possible that the "fish" outnumber the "hooks and lines." But a great deal of effort—in financing, programming, and fieldwork—has been and continues to be directed toward the establishment and support of the scientific and technological hooks-and-lines that Abelson finds lacking.

There is a multitude of social, economic, and technological problems to be faced in each of the underdeveloped countries. These problems are naturally interrelated, and they combine to form an aggregate obstacle which can make hash out of any foreign aid program, no matter how well conceived. The aggregate obstacle is different for each country. When you consider, also, that the problems faced by these countries and peoples are, to say the least, unfamiliar to most Americans, and the resolution of a problem may require methods and thinking totally foreign to both parties, the magnitude of the required effort becomes more apparent. The chances for frustration, discouragement, and failure are numerous, and the success or failure of an aid project will usually be difficult to evaluate. It also becomes difficult to distinguish between what is a fish and what constitutes a hook-and-line.

When a people is finding it difficult to survive, let alone have the benefits of a higher standard of living, science and technology are apt to be neglected. You can give money, equipment, and training, but, if the recipient group is unable to perform the necessary follow-