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-

up (and the reasons can be many), the benefits will not be realized. It is important to understand that what begins as a hook-and-line can end up as a fish, and sometimes vice versa.

I think that there has been a great deal more "truly charitable" effort, as distinguished from "almsgiving," in our foreign-aid program than Abelson's editorial would imply.

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. . . There is little doubt that India and other countries would benefit by having more science. Further, studies in anthropology and sociology indicate that it is easier to export technology than either social organization or ideology. But I would like to suggest that it is not a simple matter to transplant any particular item of culture, and some items would have no meaning in the new environment. What might be more important is that the more advanced culture should not be guilty of operating from the outmoded theory of technological determinism. There must be significant social, economic, political and educational reforms in the less advanced country in order to provide at least a minimally fertile environment for the new technology.

Professionals in social work in the United States have learned that financial assistance is necessary. They have also learned that it is useless in changing persons or the way they live. We must give the people the "hook and line." In this case, it is going to be skills and attitudes. I suggest that the fundamental research that is most immediately needed in underdeveloped countries might be on social problems rather than in electronics.

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. . . The terrible weakness of our so-called foreign aid is that it is based not on what underdeveloped countries want but on what we wish to give them. Many representatives of foreign governments have pleaded for scientific equipment so that they could handle their problems directly. Most of these appeals have fallen on deaf ears or are sidetracked by red tape. Pakistan, for example, is planning a university at Islamabad with a curriculum centered upon technical education. It has already allocated funds for instructors (some of whom only the U.S. can supply) and buildings. What it wants is technical and scientific equipment. Scientists and equipment manufacturers who have been approached in this country evince most favorable attitudes, but our government people are ambivalent. Indeed, Pakistan has been excluded from conferences on Asia, and at this writing that slighted nation is entering into treaties with China. . . .

The press in this country is almost unanimous in stressing what it calls the social, political, and economic problems in Asian countries. The State Department is much concerned with persuading those countries to change their policies. But the nationals regard this as interference. They desire help from our skilled technicians, and tools and equipment, but they want to make their own policies. The lack of sympathy abroad with our aims in Viet Nam arises almost entirely from the observation that we insist on giving countries what we think is good for them rather than what they ask for. If we gave them the technical assistance they desire, we would make friends all over the world, and we should then not have to bother about anything else.

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Abelson opens his editorial with a proverb: "An alms-giver throws a starving man a fish, whereas a truly charitable man gives him a hook and line." Eight hundred years ago another scientist-philosopher, Moses Maimonides (1135–1204, Spain-Egypt), systematically elaborated on this profundity. In a chapter on "giving to the poor" in his *Mishneh Torah* (Recapitulation of the Law, 1180), he erected an eight-rung ladder of intelligent philanthropy: (i) giving grudgingly, (ii) giving graciously but inadequately, (iii) giving after solicitation, (iv) giving before solicitation, (v) giving to an unknown beneficiary who knows not the donor, (vi) giving to a known beneficiary who knows not the donor, (vii) giving and receiving in absolute anonymity, (viii) giving not a grant but a loan or a job—an opportunity to emerge self-reliant. Maimonides' catechism, designed for guidance of individuals, has implications for the few rich nations luxuriating and blundering amid the impoverished family of man.

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