Letters

Animal Care in the Laboratory: Who Should Regulate It?

In a recent letter a laboratory worker of some "20-odd years" of experience (M. Goldman, 17 Dec., p. 1536) asks if scientists are prepared to disregard the inhumaneness to laboratory animals that still continues in some places. Furthermore, he says that the biomedical community should actively cooperate in the drafting of suitable laws for the protection of laboratory animals, and that "careful and sensible legislation to protect vertebrate laboratory animals against abuse is absolutely necessary." The implications are that some or many scientists are inhumane and that biomedical scientists are fighting against legislation that would force them to be humane.

The fact of the matter is that the biomedical community would strongly support sensible and constructive animal-care legislation. The Roybal Bill (H.R. 5191) has been subjected to virtually no serious criticism by the scientific community. The problem is mainly that the various interested groups have differing ideas as to what sensible legislation is. So there are a number of bills up for consideration with varying support.

Actually the scientific community has come up with a better plan than legislation. It has, through the Animal Care Panel (ACP), developed a realistic and commendable voluntary accreditation program to be administered by the American Association for Accreditation of Laboratory Animal Care (AAALAC) to assure that laboratory animals will be properly treated. The ACP began to develop this program in 1960, and in 1963 published objective criteria for animal care in a booklet, *Guide for Laboratory Animal Facilities and Care.* (A revised edition, prepared in 1965 by a committee of the National Academy of Sciences–National Research Council and published by the U.S. Public Health Service, is available from the Government Printing Office, Washington, D.C.) Widespread support of the AAALAC program will enable biomedical researchers to continue to contribute to betterment of both animal and human health and welfare in a far more effective way than most of the legislation currently proposed, and perhaps at far less cost to the taxpayer.

Development of the AAALAC program has required busy and dedicated scientists, who understand the need for humane treatment of laboratory animals, to contribute much time and effort. If their critics among the scientists would offer a little positive support for their effort instead of negative speculation, we would be a lot closer to solving the problem of providing adequately for the care of all laboratory animals.

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Goldman chides the biomedical research community in general and me in particular for an "indignant response . . . to proposed federal regulation of the use of laboratory animals in research." He concludes by saying, ". . . careful and sensible legislation to protect vertebrate laboratory animals against abuse is absolutely necessary. The biomedical community should accept this as a responsibility, not as an indictment, and should actively cooperate in the drafting of suitable laws for the protection of laboratory animals against frivolous and cruel usage, for improving knowledge concerning the handling of these creatures, and for improving the facilities in which they are kept."

Goldman apparently failed to read the last part of my letter (23 July, p. 375) in which I urged support of the measure (H.R. 5191) introduced by Representative Edward Roybal, a bill also endorsed by the National Society for Medical Research (Letters, 27 August, p. 917). The Roybal bill is careful and sensible legislation which does provide for improving the facilities in which animals are kept. It also empowers the Surgeon General of PHS to set standards for the operation of animal facilities. Finally, there are state laws which prohibit frivolous and cruel usage of animals.

The objections of the biomedical research community have been directed against prohibitive and restrictive proposals whose provisions are primarily aimed at censoring research and not toward either human or animal welfare.

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. . . If we accept the assumption that animal abuse is an overriding concern requiring federal legislation, then we must of necessity include all forms of animal abuse in such legislation. Therefore, hunting, fishing, horse racing, and dog racing must be included. The numbers of animals used and abused in the pursuit of these activities far exceed the numbers used and abused in the laboratories; and for less reason. The instances of cruelties—of pain, maiming, and fear—associated with these sports far exceed the limited number of laboratory instances which the "humanitarians" continually and repetitiously parade. I have not seen any effort by these "humanitarians" to protect game animals from cruelty, or sport animals from abuse. Anyone, from moron to genius, from midget to giant, can buy a gun or a rod, buy a license, and go hunting or fishing. No "humanitarian" protests the whipping of race horses or the maiming of steeplechasers.

I believe Goldman when he says he has never "heard a [laboratory] director caution his people on humane treatment of animals. . . ." Neither have I; but I submit that I would hardly expect my boss to do so. He has a perfect right to assume that his subordinates will treat laboratory animals properly—and by Goldman's calculation, his assumption would be correct 99 percent of the time. That's a pretty good record. Hasn't Goldman seen the printed rules on animal care which are widely distributed at NIH? Has he chosen to disregard them?

"Humanitarians" constantly attack scientists for the presumed sins of the dealers. The horrible example Gold-

man cites as occurring in Virginia in 1963 can hardly be attributed to the activities of scientists; and even that situation, deplorable as it was, was not quite as Goldman describes it. The fact remains that collection, care, and animal use are three separate endeavors and the faults of one should not be translated to be the faults of all. The fact remains that upon investigation almost every one of the reports of the evils of collection, care, and experimentation described by the "humanitarians" involves either a half-truth, a nonsequitur, or ignorance.

Regardless of the category of "humanitarianism" from which it issues, the constant barrage of attacks, some of them scurrilous, is in the greatest degree anti-intellectual and in the know-nothing tradition. It is not a coincidence that from time to time we find these "humanitarians" embracing other fringe causes. The little old lady in sneakers wears mink, rides a chauffeur-driven Rolls Royce, and supports a Cause. These people probably distrust any intellectual effort in any field. The evidence for their opposition to any animal experimentation rather than their concern for proper treatment may be seen in the provisions of their proposed legislation, which would limit the numbers of animals used in any experiment, limit the species used for any experiment, and limit the experiment itself. A federal official would determine whether an experiment was a repetition of a previous one, and if it were, it would be forbidden. The implication is that experiments are repeated solely to satisfy the sadistic urge of the scientists. . . . It is disconcerting to find Goldman and a very few other trained people being duped into aligning themselves with such groups. . . .

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It is true, as Goldman says, that laboratory-animal care and use is imperfect. If there were preponderant evidence that legal restrictions on animal research are more beneficial than otherwise, they should be applied, regardless of the partisan outcries of scientists. But the case against a federal police solution to the problem has nothing to do with the feelings or personal convenience of scientists. Laws and other social remedies should be evaluated pragmatically, like drugs. It is as foolish and dangerous to judge a law by its statement of purpose as it would be to judge a drug in advance of tests, simply on the basis of what it is hoped it may do.

Thirteen states in the United States and a number of municipal governments regulate scientific use of animals more closely than other uses of animals. In addition, all state anticruelty laws apply to scientific use of animals. National laws in several European countries are similar to regulatory proposals now before the U.S. Congress. It is a fact that there is no correlation between the laws governing animal experimentation and the quality of animal care. There are more differences within jurisdictions than between jurisdictions. Factors other than laws—money, cultural development, personalities, manpower, available technology—are the important factors. The scientific community, represented by nearly 1200 organizations and institutions that are members of the National Society for Medical Research, is recommending to Congress the adoption of legislation providing for technological development, manpower development, informational exchange, and the provision of facilities that make the big differences.

What about the problem of moral perversity? Is there nothing that can be done about that? Yes, but not very effectively, it would seem, by annual visits of a federal inspector. Imagine, for a moment, the use of such a preposterous device for the control of crime. I would imagine that government functionaries could inspect the headquarters of the crime syndicate year after year and never find anything wrong. Unpleasant as the task is, disciplinary control of the rare misdeeds of scientists is the duty of other scientists. One has to be in relatively intimate contact in order to discover offenses.

Turning the task over to the federal government is not only irresponsible, it might even be deadly. If Congress votes to encumber and censor scientific study of animals, an incalculable number of our friends, relatives, and descendants will die sooner because discoveries come later. Consider what even a brief delay in an effective new treatment means to the 550,000 Americans who die annually from coronary thrombosis. Consider, for perspective, the *daily* toll of more

than 750 lives lost to cancer in this country alone. Any law complicating the solution of health problems should be required to offer great and certain benefits before being adopted.

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Paleomagnetism and Evolution

"An obscure Cambridge scientist wrote a book in the 1850's; and, although Darwin shaped no national policy in those ten years, the book altered, for ever since, the way in which educated people look at any question." So wrote T. R. Glover, the Cambridge historian (*The Ancient World*, Cambridge University Press, 1935); but as far as I know, no one has looked at paleomagnetism in an evolutionary kind of way.

The earth began as a homogeneous mass. It is now a highly differentiated mass with nickel-iron core and silicate crust. Of significance for paleomagnetism is the iron core. But since the earth began as a homogeneous mass, there has been an evolutionary process by which the mantle has gradually differentiated from the heavier iron-rich core. With the iron of the earth dispersed, or in local centers, the magnetic qualities of the earth must have been different from the present.

But there is a second component in the magnetic phenomena of our planet —the Van Allen belt. Over a century ago Balfour Stewart put forward the idea of the earth as a dynamo, and forecast the presence of the ionosphere (*Encyclopaedia Britannica*, ninth edition), although the idea was not accepted at the time. The present Van Allen belt could hardly have been there when the earth was formed, and so it also has, apparently, an evolutionary history.

A study of the evolution of the earth as a magnet could throw light on the subject of paleomagnetism. In that the earth is not yet fully differentiated, it may well be that this is a continuing process, and it would be interesting to consider how this continued evolution will affect the magnetic qualities of the earth.

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