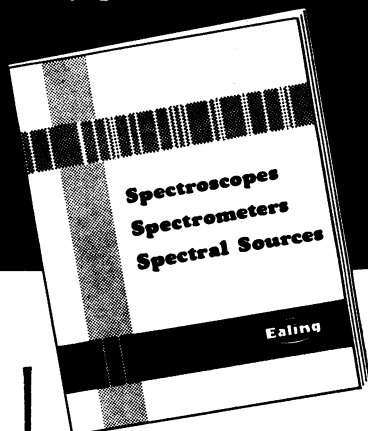


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mand or hardship on any individual or university. It does not. At the same time, it sets aside college students as exceptions to the rule and, in this respect, is unfair.

In spite of the mild furor to the contrary, there is nothing basically wrong with the requirement as it stands, or contrary to our American way of life. However, unless it is applied in an indiscriminating manner, it should be abandoned. Let us hope that our legislators see fit either to make this requirement uniformly applicable, or to disqualify it completely.

FRANK W. WOODS
School of Forestry, Duke University,
Durham, North Carolina

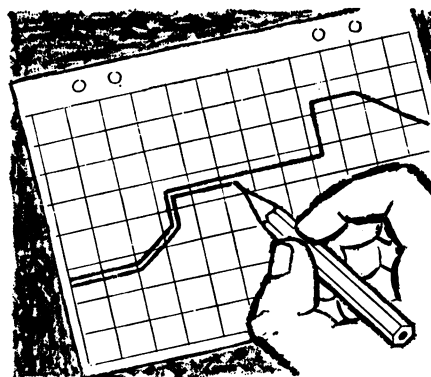
Soviet Commitment to Lysenkoism

From time to time, Soviet press releases relating to the status of Trofim D. Lysenko and his beliefs are republished in the United States, with home-grown "interpretations" frequently extended to predictions about all of Soviet agriculture, the economy of the U.S.S.R., and even international relations. In these conjectural pieces the ignorance of the authors about communism shines through more clearly than the scientific milieu for Soviet biology.

While traveling with the Comparative Education Society in the U.S.S.R. for 5 weeks in 1958, I made the following observations.

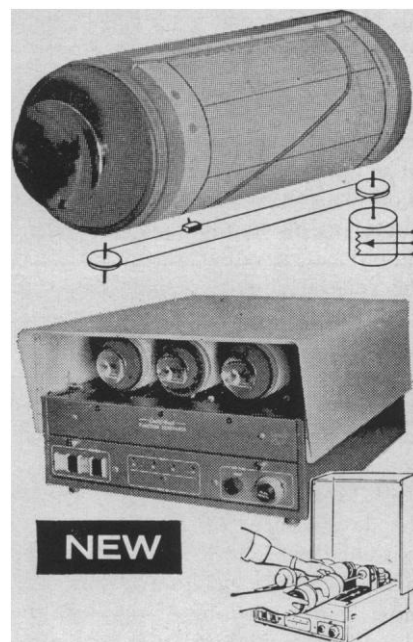
1) Young Soviet biologists have been thoroughly steeped in the assumptions of Michurin and Lysenko—a kind of neo-Neo-Lamarckism. They seem to be proud of a view which "opposes the 'Western' gene concept," and they cite the DNA's as evidence to support Lysenkoism. It is impossible to discuss in a brief space the level of their sophistication.

2) Academician Lysenko is, and has been, without interruption, a very important figure in the Communist Party and in Communist biological science for 20 years, and during that time his outlook upon the inheritance of acquired adaptations has been thoroughly embedded in every biology textbook and reference book to be seen, besides appearing frequently in books on philosophy and natural science in general. Lysenko is one of the eight editors of a five-volume encyclopedia of agriculture, and his 600-page *Agrobiologia* was revised in 1952. [For additional



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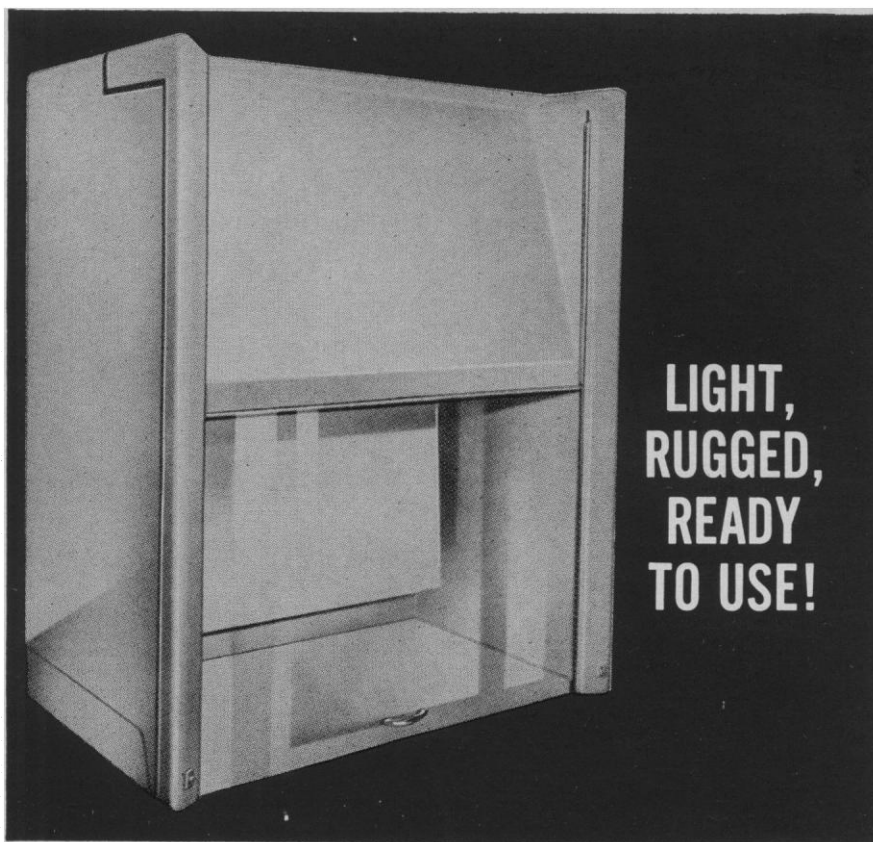
observations along these lines, see *Ohio J. Sci.* 61, No. 3, 147 (1961).] Lysenko's views harmonize perfectly with all aspects of Communist philosophy; to remove his ideas would leave a void which the gene theory could fill only lamely, if at all.

3) Application of Lysenko's ideas has produced results, much in the way that Burbank's methods have, and techniques based on these ideas are used today in the mass cultivation of unusual roses in Arizona. Where there are results, irrespective of questions of theory, there is a certain gain: greater energy is expended to test to its limits the potential adaptability of the germ plasm in environmental situations not normally encountered by a given plant or animal. Lysenko's initial success with millet—a grain considered to be of no small importance in the war years—has been followed by other successes, and his latest attempts, in which as director of the Institute of Heredity in Moscow, he is seeking to improve milk production, appear to follow the previous pattern. That V. P. Dubinin and a cluster of old-guard geneticists are "conducting a critical review of Lysenko's work," to quote a Soviet university professor, should be viewed in the perspective of the general climate of satisfaction with Lysenko's achievements; Dubinin is available, yes, but he is needed and prepared to replace Lysenko about as much as the Greenback Party is needed and prepared to take over Congress and the White House.

4) Most puzzling to us who follow the development of genetics is the co-existence of Mendelism and Lysenkoism in the U.S.S.R., yet this is perhaps the most significant observation of all in dispelling conjectures that Soviet biologists are about to embrace modern genetics. For example, one of the two colored plates in the 532-page, 1956 college textbook *Obschaya Biologia* (Everyday Biology) illustrates the familiar 1:21:1 ratio of red, pink, and white F_2 flowers, with this qualification: "... but Soviet scientists have improved upon this."

One naturally asks to what extent rejecting the gene concept affects plant and animal breeding and other areas of knowledge. As regards the latter, in the fields of education, psychology, and medicine, inheritance is ignored. Aptitude tests are unusable; deafness, mental disorders, and low intellectual capacity are attributed, respectively, to accidents, birth trauma, and laziness.

To comprehend changes in plant and



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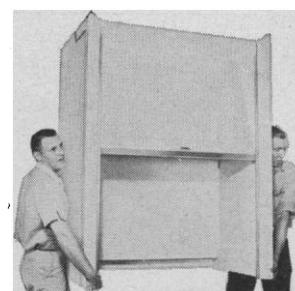
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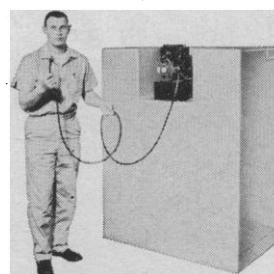
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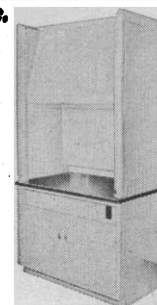
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animal breeding, one must first fully comprehend the Communist maxim, "Truth is absolute, but not final"; after this, one can realize that the Lysenkoist view, in the U.S.S.R., can be made to cover the situation in agriculture. If hybrid corn is being used, it is safe to say that a way has been found to explain the results in Lysenkoist terms, and the same hedging maxim allows for change if, for some reason, the gene has to be "recognized" to correct a desperate situation in agricultural production.

What has escaped most writers on the subject of Lysenkoism is the depth of the Soviet commitment to environmentalism.

LINCOLN PETTIT

Department of Natural Science,
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Fluoridation of Water Supplies

Leo Levine, in a recent letter [*Science* 133, 1674 (1961)], deduced from the recent political reverses on fluoridation of water supplies that the relationship between the scientific community and the public at large is growing more attenuated and unsatisfactory.

It is difficult to see how such a con-

clusion can be drawn from the particular issue which he describes. There are many prominent scientists who disagree entirely with fluoridation, though not because there is no evidence that in controlled circumstances and for certain young children there is a benefit to be gained thereby. The reason is that from a purely scientific point of view the evidence is entirely inconclusive regarding the deleterious effects that may occur over long periods of time in parts of the body other than the teeth of young children. This doubt has been thoroughly aired during the various political campaigns on fluoridation, and it is a most legitimate doubt to which a good answer has never been given.

It is difficult to see how the public can be blamed for being concerned about this question, and it is the fault of the scientific community itself that it has not come to grips with so basic an issue. The greatest danger that faces the scientific community in its dealings with the public is to assume a holier-than-thou attitude in which it is presumed that what is stated by the scientific community to be good for the public is thereby holy writ. I think, in general, our citizens are much more intelligent than they are given credit for being,

and it is particularly true that the recent unfortunate episodes regarding food additives, such as the famous cranberry scare of several years ago, have left the public with the feeling that there is a great deal of experimentation going on by industry and by the scientific community at their expense.

The groups who have opposed fluoridation include, of course, a number of fanatics, but their success or failure is largely tied to the correctness of the stand that they take, and I think it is important for all scientifically trained people to recognize that one should be very cautious and conservative in recommending the use of drugs and medicines for the public. We have too many incidents of side effects coming up when drugs have been used, which are well known to all people, and I do not think that the issue is a political one at all, as Levine indicates.

RALPH LANDAU

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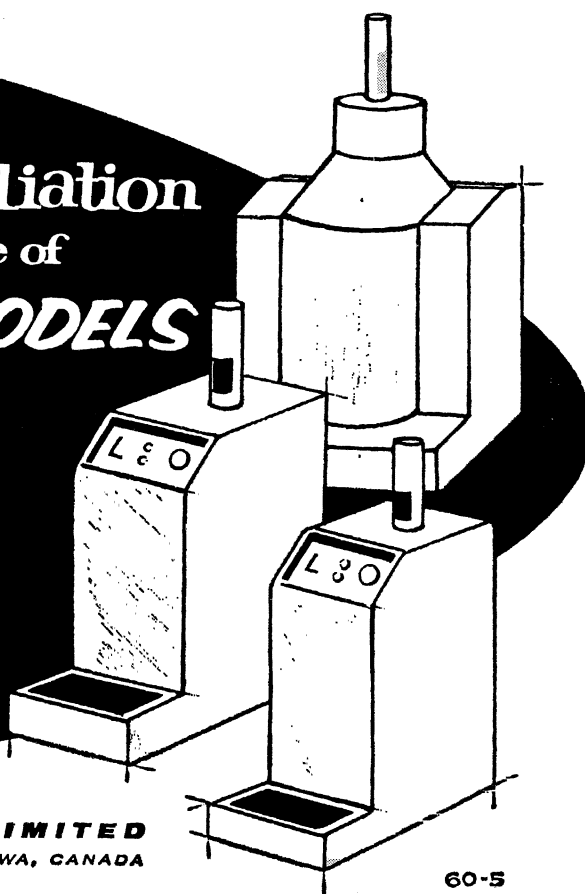
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