the first edition of Pavlov's *Complete Works* (*2*, vol. 5, pp. 309–312) and again in the second part of the third volume of the second edition of the *Works* (1951, pp. 428–432). And it was only then, at the height of Lysenkoism, that Soviet experts on Pavlov—as well as those not so expert—began beating the drum loudly and repeatedly in exultation over the alignment of Pavlov's views and proofs with those of Michurin and Lysenko (the sounds of the drums have weakened considerably in the last two or three years, but, as noted in the aforementioned review by Gantt, they have by no means been wholly silenced). The writings of Y. P. Frolov, a conditioning experimenter and Pavlov popularizer of no mean magnitude, are a particularly appropriate example of this Soviet interplay of *Zeitgeist* and scholarship. In Frolov's 291-page *Pavlov and His Work*, published in 1937 (translated into English), there is not a word about Pavlov and heredity. But in Frolov's 78-page pamphlet *The Great Physiologist, I. P. Pavlov*, published in 1950, a whole section on "Higher nervous activity and creative Darwinism" appears, and Pavlov is quoted to have said:

"For if no one may affect your substance, your gene, Mr. [(*8*)] Morgan, then all that is left for us to do is to merely observe nature, nothing else. What we have then is not a laboratory but a prayer house. But what we wish to do is to actively interpose in [the workings of] nature. And this we will do, Mr. Morgan, your disapproval notwithstanding" (p. 70).

And in the second (1952) edition of the pamphlet there is an additional final phrase ". . . and we will produce the facts to prove our claims."

Oral Comments

The quotation from Gantt given in Kleitman's letter contains also the sentence: "Pavlov remarked to me that one of the biggest scientific errors of his life was his assertion that acquired habits could not be inherited." And to this I would like to add that, while spending a summer afternoon with Pavlov in 1934, I asked him specifically what his present views on the problem were. His answer was a shoulder shrug coupled with the sound of a typical Russian "Ekh" which to me meant "Don't ask," and I preferred not to pursue the question.

Conclusion

Though there is no evidence that I. P. Pavlov ever formally renounced Lamarcks' *doctrine as such* (only a personal statement to Gantt and my own "Ekh" impression), Pavlov certainly retracted specifically the positive results of his experiment—and the fact that he never repeated the experiment, as intended, and shunned any discussion of the topic, may well be construed as evidence that he did not expect positive results to be obtained. Soviet theorists' wholesale alignment of Pavlov with Lamarck, Michurin, and Lysenko is thus a gross misrepresentation of a great and careful experimenter and of a critical and discriminating discoverer and blazer of new truth and evidence. Let us hope that this practice of subserving exact science to social dogma is on the wane. There is some reason to believe that it is.

References and Notes

1. I. P. Pavlov, *Complete Works* (Akad. Nauk S.S.S.R., Moscow, ed. 1, 1949), vol. 3, p. 217; *Lectures on Conditioned Reflexes* (International Publishers, New York, 1928), p. 236. My translation differs somewhat from the one published in the *Lectures on Conditioned Reflexes*.
2. ———, *Complete Works* (Akad. Nauk S.S.S.R., Moscow, ed. 1, 1949), vol. 3, p. 222.
3. ———, *Lectures on Conditioned Reflexes* (International Publishers, New York, 1928), p. 242.
4. The statement in *Science* [58, 45 (1923)], reprinted from the *New York Times*, that "Pavlov was refused a British visé to his passport . . . and will not be able to attend the Edinburgh Congress of Physiology," should be emended. The British Consulate in New York did refuse Pavlov a visa. However, the Central Government in London yielded to protests from American and British scientists and finally granted him the visa while he was on the high seas. The Pavlov address was read in English by his son, Vladimir Pavlov, while, according to A. N. Richards and J. T. Wearn (*New Yorker*, January 20, 1951), "Professor Pavlov stood before a huge audience in Edinburgh . . . following every word, now and then nodding his head vigorously and muttering, '*Da, da.*'"
5. I. P. Pavlov, *Bull. Battle Creek Sanitarium* 19, 1 (1923).
6. ———, *Science* 58, 359 (1923).
7. ———, *Conditioned Reflexes*, translated by C. V. Anrep (Oxford Univ. Press, London, 1927), p. 385.
8. The word *Mr.* occurs in the original Russian, presumably as an extra index of dissension.

News of Science

Traveling Science Library

This year the American Association for the Advancement of Science and the National Science Foundation, cooperatively with book publishers of the United States, will provide about 1400 of the nation's senior high schools with 350 "circulating libraries," each consisting of 200 carefully selected science books. The AAAS Traveling High School Science Library Program is being supported for the fourth year by an NSF grant. The current award, announced today, amounts to $500,000.

During its first year of operation the Traveling Science Library circulated 11 sets of 150 books among 66 senior high schools. Last year demand was so great that the AAAS could honor only a fraction of the applications it received. The new NSF grant makes possible the current expansion of the program. The library will go to schools in all 48 states, Alaska, the Canal Zone, Hawaii, and Puerto Rico. Fifty books will be sent at a time, with an exchange approximately every 2 months, so that each school will have use of a complete set during the year.

Evaluation studies made by the AAAS disclose that on the average only 5 percent of books in most high-school libraries concern science and mathematics. The studies also indicate that the traveling libraries provide an effective incentive for participating schools to take action to satisfy, in varying degree, the appetite for science reading stimulated by the AAAS books. Publishers, almost without exception, have provided the books at cost.

Objectives of the Traveling High School Science Library Program are as follows:

1) To develop in high school students

an interest in reading general books about science and mathematics, other than textbooks.

2) To provide, on an experimental basis, a collection of carefully chosen books as a basis for developing the reading interests.

3) Stimulate an interest in choosing a career in science.

4) Offer science teachers an opportunity to broaden their subject-matter knowledge and encourage them to stimulate collateral reading on the part of their students.

In addition to the 350 sets of books that are a part of the regular program, this year an additional seven sets are being lent to the Department of the Army for circulation among the 20 senior high schools that are operated in France, Germany, Italy, and Okinawa for the children of United States citizens serving overseas. Furthermore, four sets will be lent to county library systems for circulation in bookmobiles as an experiment on the appeal of science books to adults and students in rural areas where high schools are too small to participate in the program.

To facilitate use of the books, the AAAS has each year published an annotated catalog, *Books of the Traveling High School Science Library,* popular not only with high-school librarians and teachers but also with community and university librarians and the general public. Demand has increased each year, from 3000 copies in 1955–56 to 22,000 copies in 1957–58.

The AAAS hopes to publish before year-end *A Comprehensive List of Science and Mathematics Books for Secondary School and Community Libraries.* Book publishers of the nation have sent to the AAAS free of charge copies of all books on the preliminary list of 1000 books. These are being evaluated by representatives of AAAS-member scientific and professional organizations.

To encourage young people to read science and mathematics books and to call their attention to the many good books available in paperbound editions, the AAAS published as an experiment in September 1957 a list of these paperbacks entitled *"An Inexpensive Science Library,* with a first printing of 12,000 copies. The list proved so popular that the first printing was exhausted by December 1957 and an additional 10,000 were printed; these were all distributed by April 1958. A new and enlarged edition has been published.

FAS Urges Halt to Test Series

The Federation of American Scientists Executive Committee has addressed an open letter to the President urging him to halt the new series of ten nuclear tests scheduled to take place in Nevada, just before the test-ban negotiations begin with the U.S.S.R. on 31 October. The letter reads in part:

"We were . . . encouraged by the recent agreement between nuclear experts of the East and West on the technical feasibility of policing a nuclear test ban, followed by your Aug. 22nd proposal to halt nuclear testing for a one year period, providing the Russians continue to abstain from testing for the same period and agree to start discussions October 31.

"Barely a week later, on Aug. 29, the climate of encouragement engendered by your statement was unfortunately dispelled by the startling Pentagon-A.E.C. announcement that the US would carry out a new series of ten tests in Nevada just before the Oct. 31 deadline on the very eve of the vital negotiations. In the eyes of the world, this announcement casts considerable doubt on our sincerity in desiring a workable test ban agreement.

"The Federation of American Scientists urges you, Mr. President, to stop the proposed Nevada test series. Such action on your part would emphasize our earnest desire that an agreement be reached to halt nuclear weapons testing as a first step towards disarmament and world peace. Even if extensive preparations have been made and important information will be gained from these tests, the adverse propaganda effect must be seriously considered. A declaration on your part that these tests will not be held would reestablish our high purposes in the eyes of the world and insure all concerned of our true desire to take steps aimed at achieving a stable peace."

National Science Youth Month

October has been designated National Science Youth Month by the President's Committee on Scientists and Engineers. During the month, many national organizations, including the AAAS, are taking an active part in stimulating the interest of high school students throughout the country in scientific studies. A science youth organizations working group appointed by the President's Committee is leading the activities for the Month, with Science Service, Washington, (D.C.) as the coordinating agency.

During October, science teachers are being asked to start science projects to be carried out during the school term. Other suggested activities include: PTA, professional and civic meetings in October devoted to science subjects; science fairs; affiliation of local science clubs with Science Clubs of America; registration by school principals for qualifying tests for National Merit scholarships and for Science Talent Search examinations; student assemblies featuring scientific or technological speakers; personal contacts between scientists, engineers, and students through "project nights" devoted to work on science-fair projects, or through "career sessions" when engineers and scientists discuss career opportunities and interesting experiences in their fields.

A poster-calendar for science classrooms and school bulletin boards provides a check-list of important dates and actions to be carried out during Science Youth Month. The poster has been distributed to the nation's 25,000 science teachers. (Additional single copies can be obtained from the President's Committee on Scientists and Engineers, Washington 25, D.C.)

Reading Machine for the Blind

Development of a new device with which the blind can read ordinary printed material, such as books and magazines, was reported recently by the Veterans Administration. The portable unit, called an "aural reading machine," was designed and is being evaluated by the Battelle Memorial Institute of Columbus, Ohio, under a VA contract.

At the present stage of development of the reader, the sounds it produces do not resemble those of speech but are patterns of musical tones similar to chords played on an organ. By interpreting these tones, trained users ultimately should attain a reading speed of from 15 to 30 words per minute. Advantage of the machine over Braille is that the blind user can read material in normal print, including typewritten business correspondence.

The reader is about the size and shape of a portable radio. Weighing about 9 pounds and housed in a wooden case measuring about 7 by 9 by 8 inches, it has knobs for volume, light intensity, and the electric power switch.

The machine has three essential parts —a small probe which is held in the hand and moved over the printed material to be read, a chassis containing transistorized oscillators and an amplifier, and earphones through which the user listens.

The probe contains two tiny lights and a lens that projects an image of the printed letter upon a row of photocells. Each photocell, when it "sees" black, turns on an oscillator in the chassis that generates a specific pitch proportional to the height of the black portion of the letter "seen." These pitches are translated to sound patterns by the earphones.

Blind persons, chiefly students and faculty members from the Ohio State School for the Blind at Columbus, have been trained to interpret sounds of the Battelle machine during the past year.