

GENERAL SCIENCE

Party Line Difficulties

Soviet scientists trying to follow the country's leaders have difficulty toeing the line. Scientific council acts as watchdog on physiological research.

► IT IS difficult for the Russian physiologist these days to toe the party line in his research even when he tries his best to go along with the Soviet leaders.

This is revealed by rebukes published in recent Soviet scientific literature and newspapers as well as by interviews with Russian refugees. Results of a study of these sources are reported in the journal *Science* (July 11) by Dr. Ivan D. London of the Russian Research Center, Harvard University.

The late I. P. Pavlov is, by political edict, the standard and scientific model of all physiological research in Russia. The USSR Academy of Sciences has set up a scientific council to act as watchdog over all physiological and related research to hold the scientists to the Pavlovian line.

One decree of the Scientific Council criticized plans for research submitted by the scientists Fol'bert and Protopopov, of the Ukraine. Both were condemned for their tendency to "skirt the central problems of Pavlovian theory in favor of peripheral or 'associated problems.'" At the same time they are admonished to "bring their investigations into line with practical needs, even as they engage in fundamental research."

Prof. Fol'bert is especially recommended to tie his investigations more closely to the tasks of medicine and physical education. How the two scientists were to accomplish this contradictory assignment was not indicated.

Academician L. A. Orbeli, who was once a figure of importance and power in the Soviet scientific world, was unseated and discredited by Lysenko for failure to stay in step with Soviet "science," even though he was diligent in affirming his Pavlovian orthodoxy.

He was confirmed in his ignominy by another decree of the Scientific Council which charged him with holding on to his former anti-Pavlovian positions and for trying to represent Pavlov as an empiricist and revealing a pro-Morganist bias in behalf of formal genetics.

Nevertheless, he was urged to pursue his research on the physiology of the sympathetic nervous system on condition that he eliminate his errors.

In each case the scientist under attack was required to "confess" to the justness of the criticism and to recant his anti-Pavlovian views.

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EPIDEMIOLOGY

Polio Cases Jump 70%

► POLIOMYELITIS CASES took a 70% jump for the week ending July 12, state telegraphic reports to the U. S. Public Health Service have shown.

The total for that week was 1,047 compared to 621 for the previous week. The July 12 total, however, may include some cases unreported during the week ending July 5 because of the July Fourth holiday.

The outbreak this year, which seems to be spreading all over the nation, may rival that of 1949. Then, as now, weekly totals went over the 1,000 mark by the end of the second week in July, whereas last year the weekly total did not reach the 1,000 mark until the last days of July and the first of August.

Texas is still the hot polio spot of the nation, with 296 cases, compared to 186 the previous week. California, another early hot spot, reported 46, not much of an increase over the 43 of the previous week.

States besides Texas showing big increases are: Iowa from 27 to 72, Illinois from four to 33, West Virginia from five to 17, Florida from 10 to 38 and Oklahoma from 26 to 47. New Jersey had a large percentage increase,

from two to 10 cases, but the total number is not large for a state with so big a population. New England and New York State so far have been spared from the general polio increase.

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GEOGRAPHY

Death Valley Lowest In Western Hemisphere

► DEATH VALLEY is the lowest area in the western hemisphere, with a ten-mile area which is 280 feet below sea level. Two spots are officially charted by the U. S. Geological Survey as even lower—282 feet below sea level. This is two feet lower than the previously acknowledged lowest-down point.

The elevation of the valley floor may vary from time to time, because the rough surface of salt may be floating on brine about three feet beneath. The floor of Death Valley therefore may rise and fall slightly with the condition of the water table.

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ANCIENT BRONZE CAT—Sacred to the Goddess of Joy was this bronze Egyptian cat, believed to be over 2,000 years old. The old Egyptian word for cat was "miu."

PHYSICS

Siren's Sound Intensity Equals 2,000 Orchestras

► A SIREN whose intensity of sound equals 2,000 symphony orchestras hitting the peak of a crescendo simultaneously or the combined population of Los Angeles sounding "C" below middle "C" fortissimo has been designed by two University of California at Los Angeles physicists.

Drs. Isadore Rudnick and Robert W. Leonard, who want to learn more about how sound energy is converted into heat, designed what is thought to be the world's largest siren, producing one of the world's most intense sounds.

It was built and is now being operated under contract with the Office of Naval Research by the Sounddrive Engine Company of Los Angeles, under the technical supervision of Drs. Rudnick and Leonard.

An initial result of the study, say the scientists, is the observation that the greater the frequency or intensity of sound the greater the percentage of sound energy that is converted into heat energy.

The research has also demonstrated that sound waves of high intensity after a short period take on a shock wave characteristic. This emphasizes a correlation between acoustics and aerodynamics, a relationship heretofore little explored.

While these observations are of more immediate concern to scientists, there are practical aspects to the study.

For example, greatly improved mufflers for testing facilities of jet engines may be developed. This promises some relief to those who work in or live near plants producing the engines.

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