

No radio waves from galactic center

Ever since Joseph Weber of the University of Maryland announced his discovery of gravitational waves in 1969, other observers have searched for bursts of other kinds of radiation—radio, X-rays, neutrinos—coming from the same apparent source, the center of the galaxy. The reasoning is that the gravitational waves Weber is apparently recording would be evidence of very cataclysmic processes going on in the galactic center, and it is likely that such events would be the sources of other kinds of radiation.

None of the searches for radio bursts has been successful. The latest negative result is reported in the Sept. 24 *NATURE PHYSICAL SCIENCE*. It is especially significant because it represents collaboration between two radio astronomy stations 10,000 kilometers apart. The stations are the Bell Telephone Laboratories at Holmdel, N.J., and the Argentine Institute of Radio Astronomy at La Plata, Argentina. Participants in the

work were R. B. Partridge, G. T. Wrixon, Hugo Peña and Kenneth C. Turner.

The two receivers looked for simultaneous bursts of radio waves of about 1,500 megahertz coming from the center of the galaxy. It was the first search that used two telescopes, and this is one of its claims to high accuracy. In searches using one telescope spurious events caused by local occurrences could cloud the data. It is highly unlikely that local events could make signals simultaneously at two telescopes 10,000 kilometers apart.

If such radio signals had been found, they would have been a kind of indirect support of Weber's work since they would have indicated some highly energetic goings-on in the galactic center. On the other hand, because the kind of event that would produce Weber's gravitational waves is poorly understood theoretically, it is possible to argue that Weber is right even in the absence of radio waves. However, Weber's results have come under increasing criticism on other grounds, and their credibility is now rather widely questioned (*SN*: 5/26/73, p. 338). □

Soviet psychiatrists defend detainment

Soviet psychiatry is finally attempting to defend itself. For years Western and Soviet critics have charged that the U.S.S.R. misuses psychiatry by forcibly detaining social dissenters on trumped-up psychiatric grounds (*SN*: 2/17/73, p. 107). Last week, for instance, outspoken Soviet scientists Andrei Sakharov and Grigory Podyapolski charged that an "increased number of nonconformists are being diagnosed as mentally sick and sent for forced treatment. We are firmly convinced," they said, "that in the overwhelming majority of cases, there are no medical grounds for such measures."

In an unprecedented move, 21 members of the presidium of the All-Union Society of Neuropathologists and Psychiatrists answered back. In a letter in the *LITERARY GAZETTE* they stated that "in any country . . . there is a number of psychiatric patients whose illness—the consequences of mental disturbance, delirious ideas or other psycho-pathological symptoms—can cause antisocial actions which are considered to be violations of the law, for instance violation of public order, spreading of slander, the display of aggressive intentions, etc."

This explanation is not likely to silence critics, but in another unexpected move Soviet psychiatrists have agreed to discuss their position with Western psychiatrists. Last month Alfred M. Freedman, president of the American Psychiatric Association, sent a cablegram to A. V. Snezhnevsky, director of the Institute of Psychiatry of the Academy of Medical Sciences of the U.S.S.R. "Repeated charges," wrote Freedman, "that involuntary psychiatric confinement has been used unjustly and without regard to human rights, including the suppression of political dissent, cannot be ignored. . . . If such abuses exist, they should be publicly exposed and corrected with all possible dispatch. We very much hope that Soviet colleagues will join us in this effort, especially in the light of the joint agreements between our nations on scientific cooperation." Freedman suggested that delegations of Soviet and United States psychiatrists meet to discuss the charges. Snezhnevsky agreed and the meeting is scheduled to take place this week in Yerevan and Tbilisi in the U.S.S.R. after an international meeting on biologic and genetic aspects of schizophrenia.

Freedman noted that similar requests have gone unanswered in the past. "We are therefore much heartened by Prof. Snezhnevsky's reply and are most hopeful that it will prove an opening wedge to a meaningful dialogue with our Soviet colleagues." □

Would you buy a used car from a physicist?

Physics has always been somewhat of an elitist science, but between 1950 and 1970 the percentage of high-school students taking physics dropped from about 25 percent to less than 20 percent. Andrew Ahlgren of Harvard University and Herbert J. Walberg of the University of Minnesota in Minneapolis suggest that the declining interest in physics may be of concern to scientists in general because of its implications for the willingness of young voters and taxpayers to support science. They examined the attitudes of adolescents toward physics in the hope of finding ways to rekindle interest in that science.

One cause of the unpopularity of physics is that high-school physics teachers tend to be among the most severe graders. One study, for instance, found that A and B chemistry students are discouraged from taking physics because their physics grades will be (on the average) lower by three letter grades. This hurts the grade average, and the chances of getting into college are damaged.

But much of the aversion for physics courses, the authors point out, may stem from students' perceptions of the nature of physics and physicists. To check this attitude, they had 96 high-school physics students rate each of eight different occupations on various scales. Physicists were rated as very important and mature but very unfriendly and even more remote than scientists in general.

What is it about physics that makes the students feel that way? To find out, the researchers had 1,011 students rate the concept of physics. The students had taken either a traditional physics course or one of two developed by Government-sponsored curriculum programs—the Physical Science Study Committee (PSSC) or Harvard Project Physics (HPP). The HPP course was designed to stress historical and philosophical ideas in physics. The students who took it rated physics higher in historical, philosophical and social values than did those who took either the traditional or PSSC course. The PSSC course was designed to increase the accuracy and integrity of reasoning in physics. Those who took it rated physics low in historical, philosophical, social, humanistic and artistic value. It is this type of course, the researchers conclude in the Sept. 28 *NATURE*, that gives physics and physicists their bad image. The authors therefore suggest an "Aquarian emphasis on the humanities." They conclude that relating physics to people (by being more social, artistic and humanitarian) seems to offer the best chance to regain lost interest and a lost audience.