SOCIOLOGY

Both Rebellion and Strike

➤ THE UNIVERSITY of Mississippi situation has similarity to both a rebellion against constituted authority and the kind of disturbance that characterizes a strike that has developed into disorder.

Psychologists and behavioral experts point out that when disorder occurs the underlying causes go back into past time by months and years. In the case of the Mississippi riot, there was the opposition by state authority as well as community sentiment against the Supreme Court integration decision. This can be dated as far in the past as the Civil War or over a hundred years ago.

The successful handling of the desegregation situation in other universities and communities quite as "Deep South" as Oxford, Miss., shows that nonviolent methods can be effective in the solution or the mitigation of such a situation.

The open or tacit approval of opposition to the entrance of a Negro into the University of Mississippi was an invitation to the mob violence that occurred. The prevention of violence and mob action was made ineffective by the state government action and in a large sense the prevalent mores of the people of the state. Analogous with a strike settlement technique, there had been in the case of the University of Mississippi a relatively long "cooling-off" period. The difficulty was that this cooling-off period was relatively ineffective because the factors involved did not promote a peaceful solution satisfactory to both the law of the nation and the state stand.

When violence did develop, relatively modern methods of controlling the actions of men out of control undoubtedly saved lives. The utilization of tear gas has become an effective method in the hands of both legal and military authorities to disperse mobs and make violence ineffective.

Other gas weapons which render people ineffective have also been developed. Among these are nauseating gases and chemical agents which will produce unconsciousness. Such weapons are much less damaging than pistols, rifles, and shotguns. From the standpoint of loss of life or maiming of the victims, these chemical agents will undoubtedly be utilized in the case of further disturbances from whatever cause.

One of the advantages of chemical agents is that the civil and military authorities utilizing them can be protected by gas masks at relatively low cost. The United States marshals and soldiers in the University of Mississippi campus engagement were so protected.

Most of the nations of the world, particularly the United States and Soviet Russia, have had extensive programs in so-called "unconventional" weapons. These include chemicals and germ warfare, in addition to atomic warfare.

Chemical and biological agents are less recognized or discussed that atom bombs and other such nuclear weapons but since the days of World War II an arsenal of gases and germs has been built up and made ready for possible use.

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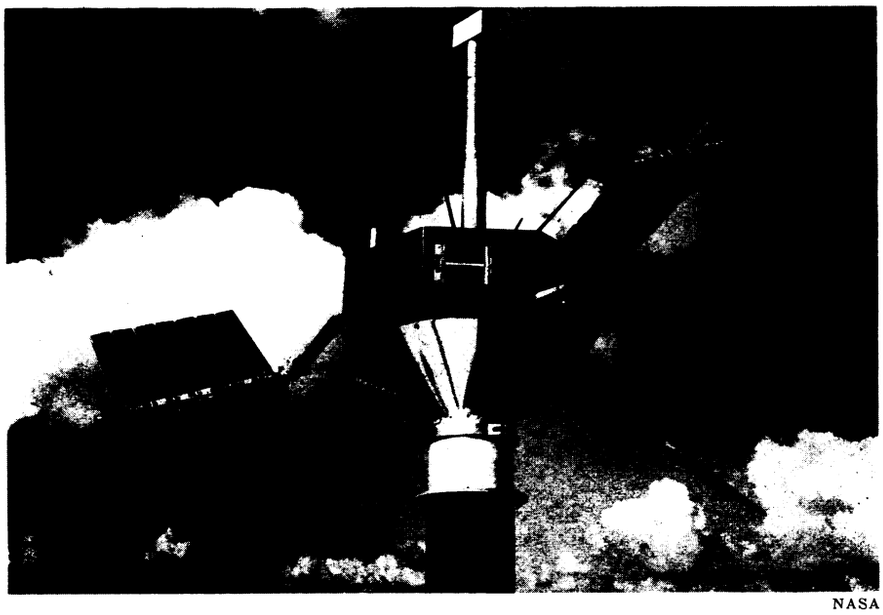

NASA

SATELLITE S-3A—The S-3a satellite that is now making refined measurements of energetic particles and their relationship to the magnetic fields of earth and interplanetary space undergoes checkout of its antennas prior to mating to the Delta launch vehicle. Successfully launched by the Delta rocket from Cape Canaveral, it is also monitoring solar activity and cosmic ray phenomena.

SPACE

Satellite Probes Effects Of Radiation Belts

➤ A U.S. SATELLITE is probing both the earth's natural and artificial radiation belts to determine exactly how much damage they inflict on men and instruments.

An unusual and hard-to-achieve orbit was attained by the satellite, known as S-3a. It takes 31 hours to complete one earth orbit, traveling as far as 53,000 miles from earth and then back to within 185 miles.

Although all of the electrons in the artificial radiation belt created by the U.S. nuclear blast last July 9 combined have a mass less than one-tenth of an ounce, they can harm man and damage his instruments in space exploration. The artificial belt is much smaller and its particles less energetic than the natural belt.

The S-3a will determine the particle population and energies not only of the natural belt but of interplanetary space beyond it. It carries a solar cell experiment to measure the effects of both radiation belts on the solar cells used to power satellite instruments. These cells convert about 15 per cent of the sun's energy into usable electricity. The solar cells on three U.S. satellites were knocked out by the unexpectedly high intensity of the artificial belt.

A second satellite, called S-3b, is scheduled to be launched before the year's end. It will be instrumented to tell how fast the artificial belt is dying and to assess the effects of the belt on future satellites.

The S-3a is an 89-pound satellite, similar to the highly successful Explorer XII placed in orbit last year. It was launched from Cape Canaveral, Fla., on a Thor-Delta rocket. It was the 12th straight successful launch for the Delta.

The satellite has an inclination of 33 degrees from the equator. Its eccentric orbit will make the spacecraft visible for about 23 hours each day at stations on its apogee side.

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EDUCATION

$230 Million Granted For Education in 1960

➤ PRIVATE FOUNDATIONS poured more than $437 million into education, scientific research and other activities in 1960, the National Science Foundation announced. The largest chunk—more than $230 million—went for education. A total of $89.4 million was spent for scientific research by 177 of the 277 private organizations included in the survey.

Within the U.S., $42 million was spent for basic research, chiefly in the physical and life sciences. Medical and public health projects accounted for $38 million of foundation expenditures. In the social sciences, $23.8 million was spent for studies of urban migration and teacher utilization.

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