

# Technology Notes

## PUBLIC POLICY

### Safety too Hasty for Automen

French, British and German automakers, as well as the U.S. Big Four, have threatened dire consequences that may even include shutting down altogether, unless the government's proposed auto safety standards are drastically cut back.

The maker of France's Renault charged that the standards "most deliberately" ignored attempts at unified international regulations. Volkswagen said that its air cooled engines would be "outlawed" under the proposed defrosting and defogging regulations. The company objected to a total of 14 of the 23 standards. England's Standard-Triumph Motor Co. declared that if cars have to conform in every detail to the standards as they are now proposed, Triumph cars will not be sold in the U.S. in 1968. The Rover Motor Co. asked for time extensions and said that "country-by-country diversification" of standards greatly complicates worldwide auto marketing.

The biggest objection from U.S. companies was at having so little time to make the changes. Two or three years at least would be required, they said. Ford Motor Co. and General Motors both said that they could meet only 10 of the standards, while Chrysler accepted only eight. American Motors Corp. flatly said that it would have to shut down its factories if the standards are not eased, which is possible (SN: 12/31/66).

The final required standards will be issued Jan. 31. The traffic between Detroit and Washington is fierce in the meantime.

## ROCKET FUEL

### Propulsion from Trash, Sewage

A new rocket fuel which uses human wastes and sewage collected aboard a manned spacecraft is being investigated for the National Aeronautics and Space Administration.

Rocket engines have already been test-fired with the fuel, which includes as ingredients feces, paper, food waste, wash water and carbon. Urine could also be used, but it would probably be needed to be distilled into drinking water, says Rocket Research Co. of Seattle.

## METEOROLOGY

### Australian CAT Research

The war against clear-air turbulence has spread to Australia, following a shaking-up received by a 727 jet which ran into CAT at 27,000 feet over the Queensland border.

Manned bombers and robot target drones are both being used to hunt CAT through Australia's jet stream, which seems to concentrate at about 35,000 feet, but extends some four miles above that.

# Physical Sciences Notes

## ASTRONOMY

### Effects of Orbiting Mirror Studied

The National Academy of Sciences' Space Science Board is studying the possible harmful effects to astronomy and other disciplines of a proposed project to orbit a large reflecting mirror that could light up large portions of the earth at night.

The orbiting mirror would catch light from the sun and bounce it back to earth over a relatively small area, conceivably illuminating battle areas in Vietnam or locations where search and rescue operations were being undertaken.

The Academy review will continue for an indefinite period until the group is satisfied that the interests of the scientific community will be protected. Astronomers are concerned that the lighting of any large area of the night sky to a brightness several times that of full moonlight could seriously jeopardize their observations.

## BIOPHYSICS

### Enzymes Termed Crucial to Heredity

Most scientists now agree that the origin of life depends at some stage on simple hereditary reactions in single chain molecules. Although the current biological interpretation is that the nucleic acid molecules are the basis of heredity, the quantum laws of physics suggest that protein enzymes are the crucial molecules for any

hereditary or memory process in all living matter.

There is no question that nucleic acids serve as memory storage materials, but without the fundamental description of catalysts like enzymes, heredity and memory are not understandable by the basic laws of physics. Dr. Howard H. Patee of Stanford University told the American Physical Society meeting at Stanford that physical laws make the biologists' point of view "difficult to support" and urged instead that hereditary traits are transferred only when enzymes are present.

## BATHYMETRY

### Sea Mountains in North Pacific

The discovery of dozens of previously uncharted undersea mountains, mountain ridges and sea basins in the North Pacific and Bering Sea was disclosed by the U.S. Department of Commerce when six new maps of the sea floor surrounding the Aleutian Islands were published. The maps cover about 400,000 square miles of seabed where thousands of earthquakes are spawned each year.

The bathymetric charts are the culmination of nearly 25 years of painstaking work and are the most detailed ever made of this region. They were produced by the Environmental Science Services Administration using information gathered from more than 275 hydrographic surveys by vessels of the Coast and Geodetic Survey between 1943 and 1964.