

SPACE

Laws for Space Debated

► THE NEED for an international code of space laws brought divided opinion among lawyers at the Conference, World Peace Through Law, in Washington, D.C.

In a panel on space law, most participants from the United States, Brazil, Ceylon, Nationalist China and France, among others, expressed the need to codify laws to assure the peaceful use of space.

However, Dr. Myres McDougal, Yale University, told his colleagues that "you are deceiving yourselves if you think by formulating a code, you can do anything on this problem" (possible conflicts in space).

The best laws will develop from custom, as they have in maritime law, said the Yale professor.

Martime law is not a written code but a body of customs born of tradition and convenient international agreements. Dr. McDougal expects that the same cooperation which exists on the high seas will develop in space.

Some customs already established are: freedom of access to space; national responsibility for spacecraft and liability for damages; freedom to pass over foreign countries.

Dr. McDougal thinks military activities in space can also be governed by laws of custom.

Taking issue with Dr. McDougal, Stephen E. Doyle, a Washington lawyer, said the analogy with maritime law is "extremely limited." Mr. Doyle presented the views of lawyer Andrew G. Haley, absent from the conference.

Martime law has developed from the prac-

tices of powerful shipping countries, said Mr. Doyle. Space will require a new set of rules based on Western "natural" laws of right to life and property, and freedom from oppression.

He remarked that the conference is steering clear of the military aspects of space law. Whatever decisions have been made in this area are "under lock and key," in any case, he noted.

Brazil's Dr. Dunshee de Abranches called for an immediate code to cover damage caused by objects falling from space. Current practices of limited liability do not provide adequate compensation, he said.

A United Nations committee is studying the problems of liability with indications that it will recommend a limit similar to the present maximum liability for aircraft, about \$7,000.

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ASTRONAUTICS

World's Experienced Observers Make Report

► THE WORLD'S TWO most experienced observers of earth from space made a full-dress scientific report to the public on their eight-day, earth-circling journey.

Before presenting their report to an audience of some 450 persons in the Great Hall of the National Academy of Sciences, Astronauts L. Gordon Cooper Jr. and Charles Conrad Jr. were each awarded the Exceptional Service Medal by President Lyndon B. Johnson. Dr. Charles A. Berry, senior medical officer for the manned space flight

program, was also awarded the Exceptional Service Medal.

Vice President Hubert H. Humphrey praised the nation's space explorations in a talk preceding the scientific and engineering report by the two astronauts and the doctor.

The three award recipients agreed that man has a significant role to play in space exploration. He can help geologists learn more about earth's surface features, oceanographers study ocean depths and currents, and meteorologists spot and track weather patterns and severe storms, among other tasks.

More importantly, perhaps, man's eyes can serve as very acute and very accurate observers of earth. Astronaut Conrad showed one photograph of the Salton Sea area in which he said irrigation ditches only six feet wide could be detected.

As a weather observer, a man on a satellite can be more accurate than a camera on a Tiros satellite in discovering hurricanes and typhoons. He can be even more so in the future by careful alignment of the spacecraft and by taking at least two pictures of a storm system from different angles, Astronaut Cooper predicted.

The astronauts and Dr. Berry were introduced to the audience by Dr. Harry H. Hess, Princeton University geology professor, who is chairman of the National Academy's Space Science Board. The Board has worked closely with the National Aeronautics and Space Administration in planning the U.S. program of space exploration.

Because cameras cannot photograph astronomically dim features such as night glow, daytime air glow and Gegenschein as the human eye sees them, man is the only possible observer, Astronaut Cooper reported.

The Gemini 5 twins were saluted by both the House and the Senate. On Sept. 15 they departed on a 12-day goodwill tour during which they will visit Greece, Turkey, Ethiopia, the Malagasy Republic, Kenya, Nigeria and the Canary Islands.

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SPACE

Gemini 6 Will Not Have GT-5's 'Biggest Problem'

► THE NEXT GEMINI FLIGHT, which will last only a few hours, will not face what Astronaut L. Gordon Cooper called the "biggest problem" of his recent eight-day ride aboard Gemini 5—housekeeping.

The GT-5-astronauts stowed gear in every available nook and cranny during their flight, including the already-crammed foot wells. Equipment was kept in storage lockers, plastic bags, and even sticking to the walls on strips of Velcro, a nylon material containing thousands of tiny, almost invisible hooks which stick like burrs to similar hooks in another piece of the same material.

The biggest test of the astronauts' housekeeping ability will come on the flight after next, GT-7, which is scheduled to be in orbit for 11 days. This is the last long Gemini flight. Round-trip time to the moon in an Apollo spacecraft will only be about a week.

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AVCO

APOLLO HEAT SHIELD—The finishing touches are being put on the ablative heat shield for the main crew compartment of the National Aeronautics and Space Administration's Apollo Command Module at Avco Corporation, Lowell, Mass. Special guns are used to inject the ablative material, a phenolic epoxy resin, into each of the more than 350,000 honeycomb cells.