

ASTRONOMY

Four Observatories Scan Jupiter's Radio Waves

➤ FOUR OBSERVATORIES are tuning in on radio waves from Jupiter to try to learn more about the planet's atmosphere and what causes the radio emission.

Jupiter is the first and only known planet in the solar system to send out radio signals picked up on earth. The "noise" is believed caused by large-scale thunderstorms in Jupiter's atmosphere.

Discovery that the giant planet was broadcasting radio waves of 22 megacycles, or 22,000,000 vibrations a second, was made last year by scientists at Carnegie Institution of Washington. (See SNL, April 16, 1955, p. 243.)

They are coordinating their continuing observations with the National Bureau of Standards' Central Radio Propagation Laboratory, Boulder, Colo., where Jupiter is being scanned at 18 and 20 megacycles.

Australian radio astronomers in Sydney are "listening" to Jupiter at 19.6 megacycles. Scientists at Ohio State University are planning to make radio observations at the same time Jupiter is photographed with the 69-inch reflecting telescope at Perkins Observatory, Delaware, Ohio.

Studying Jupiter at various wavelengths is expected to help solve the problem of exactly how the radio waves originate.

Jupiter can be seen in the eastern sky nightly in clear weather. It is brighter than any other planet or star except Venus, which appears low in the western sky in early evening.

Science News Letter, February 18, 1956

How to Advance Yourself by "Firing" People

THERE are two ways that you, as a business executive, can "fire" the people in your organization who are not doing too well.

One way is to discharge them for their weaknesses—even though you may really be underestimating their strengths. That means breaking in new people, who often turn out to be no better.

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The Melancholy Sloth

➤ FOR MANY YEARS now, crossword puzzle enthusiasts have searched for a two-letter word for the three-toed sloth. Well, the word is "ai," used by Brazilians, and they in turn picked it up from Tupi Indians.

If you have ever seen a sloth, you will suspect how that name must have come about. While there is no record of the event, the "ai" surely must have been named for a deep sigh—"ay, ay, ay."

There is probably no face on earth that looks more woebegone than that of the sloth. Melancholy seems to emanate from this somber visage, and the viewer must sigh in sympathy as he looks at it, or erupt into laughter.

GEOPHYSICS

Ocean Temperatures

➤ FEVER CHARTS of the world's oceans over the last 40 years show so little change it is hard to fit them to temperature increases of the air since 1900.

If earth's climate is actually getting warmer, then ocean temperatures should have warmed more than the one-fiftieth of a degree reported by Dr. Roger Revelle, director of Scripps Institution of Oceanography, La Jolla, Calif.

He told the Conference on Theoretical Geophysics held in Washington that warmer air would have melted sufficient ice to raise ocean levels more than has been recorded, only about four inches in 100 years.

Learning how heat is transferred by ocean circulations may help to solve this contradiction. An analysis that shows the main features of circulation in the Atlantic Ocean, including the Gulf Stream, was reported by Dr. Henry Stommel of Woods Hole Oceanographic Institution, Woods Hole, Mass.

Many of the early explorers and naturalists of South and Central America actually believed that sloths are in constant suffering. They reasoned that the sloth is certainly unfitted for life on this earth as they looked at a captive specimen try laboriously but unsuccessfully to shuffle away on the ground, wearing that look of pain and resignation.

In a sense, they were quite right; for the sloth is unfitted for life on earth. It is almost completely an arboreal, or tree-dwelling, animal, and for that life it is admirably suited.

Those long, spidery legs with their great recurved hook-like claws make ground travel a feat of will and endurance for the sloth. But once in his tree home, those legs and claws are great assets.

Hanging securely by these mighty hooks from tree limbs, the sloth can eat, sleep, mate and travel in his upside-down position. His food is the leaves and fruit of trees. The less he moves and the slower he moves, the fewer are the chances of his being seen and made a meal of by large carnivores.

As part of his camouflage, the sloth lives in a remarkable relationship with an alga. The long, coarse hairs covering the sloth have a fluted or roughened surface, on which live the algae. These tiny plants give the sloth a definite greenish hue, which helps him blend in with his leafy surroundings.

There are two genera of sloths, *Bradypus*, having three claws, and *Choloepus*, with two claws, on each front foot. They are only found in the American tropics.

An additional note for crossword fans: a four-letter word for three-toed sloths is "unau," when you run across that one.

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Electronic "brains" may soon be used to test models of ocean circulations, just as they are now used to learn about weather patterns.

The "essential difference" between the general circulation of the atmosphere and of the oceans is that continents hem the oceans in, Dr. Stommel said, forcing water to flow mostly north-south rather than west-east as the atmosphere does.

One mathematical model tested out on an electronic computer by Dr. Jule G. Charney of the Institute for Advanced Study, Princeton, N. J., resulted in a flow pattern much like the real Gulf Stream. (See SNL, Aug. 28, 1954, p. 131.)

Its success showed, Dr. Stommel said, that frictional processes are limited to the relatively small areas of meanders and eddies found near the continents.

The conference was sponsored jointly by the Carnegie Institution of Washington and the National Science Foundation.

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