

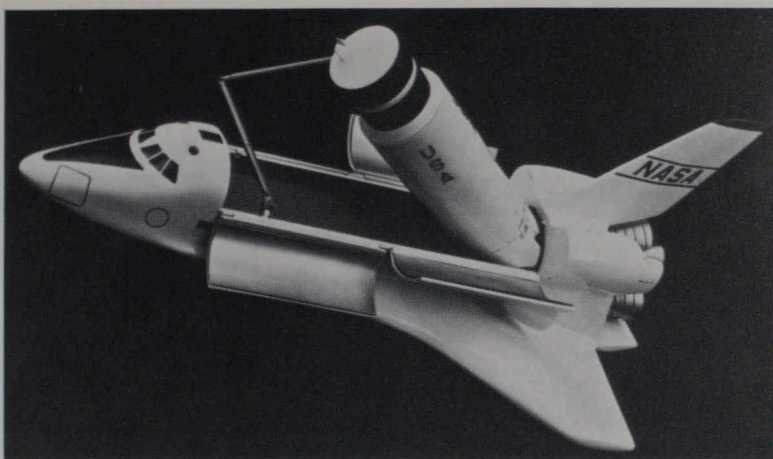
fingers on two gold-plated sensing surfaces. The machine, which is encased in walnut, responds to the electrical conductivity of the subject's skin and converts the flow into sound. Hearing his own tension the subject can learn to lower the pitch. The GSR won a silver medal for design excellence at the Fourth International Exhibition of Inventions and New Techniques in Geneva and is used in several hospitals. If you would like to tune in and turn down, get in touch with Thought Technology, Ltd., 2193 Clifton Avenue, Montreal, Quebec, H4A 2N5. The device costs \$60, plus \$2 for handling, and purchasers receive a 12-page manual and a 20-minute cassette of instruction in either English or French.

## Energy Breeze

You will have to wait a bit longer for your own vertical-axis wind turbine. The National Aeronautical Establishment of the National Research Council of Canada has successfully developed a new, efficient energy-producing wind machine. The Council is about to round out its research by erecting a 200-kilowatt turbine on Quebec's isolated Magdalen Islands in the Gulf of St. Lawrence. The turbine will augment electricity produced by conventional diesel-electric generators. (The NRC, incidentally, will celebrate its sixtieth birthday in December. It began in 1916 as an offshoot of the Honourary Committee for Scientific and Industrial Research.)

## Easy Biking

If you like to bike, but not up hill, a battery-powered, sometimes motorized bike may be just



the thing for you. Pedalpower-Canadex International makes a motor that can be attached to any bike and used at will — up hills, for the last block home or all of the time. It will zip you along at 18 to 20 miles an hour for as far as 40 miles without recharging. The electric drive unit does not pollute the air nor disturb the peace. (It hums, but only faintly.) The battery has a charger, and the charger has an automatic two-amp shut-off to prevent overcharging. A special case prevents leakage of battery acid if you and the bike take a spill. The whole works (bike, motor, battery and charger) costs \$139 and can be found at many, if not all, sporting goods stores. For information, write the company at 1601 Matheson Boulevard, Mississauga, Ontario, L4W 1H9.

## The Long Arm of Science

Canada has been involved in space in a modest way since almost the beginning. Now Spar Aerospace Products and a few coordinated companies are about to build a Remote Manipulator System for NASA's upcoming reusable shuttle craft. The system will first lift satellites from the craft and drop them into orbit, and later it will reach out

and grab them back.

The shuttle craft, the Orbiter, will be about the size of a DC-9 and will use solid-fuel booster rockets. When it returns to earth, it will make a conventional airplane landing.

The remote manipulator will have a delicate arm 50 feet long, with shoulder, elbow and wrist joints, plus fingers for gripping. The arm will be too light to operate against earth's gravity, so its first real test will be out in space at zero gravity. When fully operable, it will be able to drop and retrieve a manned space lab 66 feet long, weighing 65,000 pounds.

## Plastic that Melts in the Sun

The trouble with most plastics is that they last forever and can become, in time, a permanent blotch on the landscape. Professor James E. Guillet of the University of Toronto has solved that. He has developed a new plastic which is photodegradable and then biodegradable — which means that after lying in the sun for awhile it crumbles into dust which bacteria can break down into elements. The professor and his students spent 12 years studying the effect of light on the long chains of molecules which give plastic its strength. They found