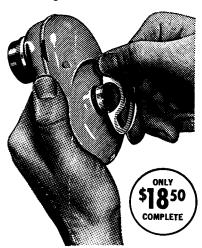
"They laughed when I wound up my shaver.."



That's liable to happen to you when you first use the RIVIERA in front of anyone. A wind-up shaver may seem a plaything. Or at best an emergency type of shaver (because it needs no cords or batteries). After all, how can a hand-cranked shaver rotate fast enough to do a clean and close job? And how many times do you have to wind the darn thing to finish one shave?

to finish one shave?

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your face and gently guide it in circular motions. We could go on. But we don't expect to sell you with words. We just want to get you open-minded enough to tie up \$19 for two weeks. We'll give you that long to put the RIVIERA to the test. If it disappoints you (if you want to return it for any reason), send it back. Your money will be in the return mail. Obviously, we have reason to believe that this won't happen and that you will want to keep your RIVIERA for the office, club, cabin or in a permanent place in your bathroom cabinet. It's that kind of a thing. Once you've tried it you won't let it go. P.S. You not only save the cost of an electric motor, but you save the cost of repairing it. The money that it leaves in your pocket; the dependability; the good, fast, clean shaves that you'll get—they'll give you the last laugh.

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require an antenna whose diameter approached that of the earth.

A single antenna that big is impossible, but the technique known as interferometry can simulate one. Interferometry works by combining the signals received simultaneously at two telescopes, in this case, 8,000 miles apart. Proper analysis of the combined signal yields positioning information as good as would come from a single dish whose diameter equalled the distance between the two telescopes.

A series of telescopes that runs half-way around the world was recently used to investigate hydroxyl spots. Four telescopes—at Onsala, Sweden, Westford, Mass., Green Bank, W. Va., and Hat Creek, Calif.—looked at a spot in a gas cloud in the constellation Cassiopeia. (The hydrogen in this cloud shines

with visible light by processes that have nothing to do with protostars. It can be seen at right ascension 2 hours 23 minutes and declination 61 degrees. A telescope between three and six inches in diameter should reveal it, according to Prof. B. F. Burke of Massachusetts Institute of Technology, one of the scientists involved in the study.)

The interferometric search determined that the hydroxyl spot in Cassiopeia is about 600 million miles across, a diameter 17 percent more than the gap between the sun and Jupiter. This is larger than a mature star is likely to be, but a protostar should condense on its way to maturity.

The finding, Prof. Burke has reported to the American Physical Society, is not proof that the object is a protostar. But it's beginning to look like one.

SINCE HIPPOCRATES

Medical ethics debate boils

Doctors, lawyers and philosophers have struggled with the problems of medical ethics since Hippocrates, usually in esoteric discussions within the professions.

Now the discussion has moved again out into public, shifted there by the achievement of heart transplantation.

People outside medicine are growing aware that life and death are less distinct from one another than once was thought. Old pat answers are proving inadequate, and many are asking: Who defines death and who pronounces it? How will a patient know whether or not he is being treated with experimental procedures? What is an experiment? How can an experimenter explain risks and possible benefits to an uneducated patient? Will biomedical advances be made before the sociological advances necessary to utilize them?

Doctors and scientists are reacting, often in anger, to what many view as mistrust and suspicion of their motives. They feel they are the best equipped to define life and death. They point to their most sacred codes, under which they are obliged first to serve their patient's interests.

It is evident that a major discussion of the issues, if not a major heated argument, has begun.

In the last two weeks, three world-renowned heart surgeons, two Nobel Prize winners in biochemistry, and other leading biomedical researchers appeared before a Senate subcommittee. The subcommittee is gathering testimony on a proposal by Senator Walter F. Mondale (D-Minn.) to establish a national commission to study the legal, moral, ethical and social implications of advances in medical science.

"No. No. No." was Dr. Christiaan Barnard's reply when asked if he

thought that transplant ethics were a public problem, that doctors should be helped to decide who gets a transplant, and that a commission should study the ethics question. It was Dr. Barnard, on Dec. 3, who performed the first human heart transplant (SN: 12/16/67 p. 581).

"Such a commission would be an insult to your doctors," he contends. "Only doctors have the experience to make such decisions, and they have been making them for very many years." He believes commissions set up in the past have "in every instance" hampered progress. He maintains that adequate safeguards already exist, and that the question of who gets treatment first is determined simply by deciding who is sickest.

Dr. Michael E. DeBakey of Baylor University, is likewise dubious of the usefulness of a commission. But Dr. Adrian Kantrowitz, who has attempted two heart transplants, says he feels it "entirely appropriate" that Congress become involved in the ethics question.

The Mondale proposal is the most current and most visible manifestation of the ethics discussion, but there are many other signs of ethical ferment. The National Academy of Sciences' Board on Medicine already has issued a set of principles that it thinks should be observed in considering whether or not to go ahead with a transplant operation (SN: 3/9 p. 233).

One of the more significant ethics gatherings is likely to be a national conference this month sponsored by the American College of Cardiology. The meeting is expected to bring together doctors, clerics, lawyers and others (SN: 3/16 p. 256).

Recently the American Academy of Arts and Sciences held a colloquium on

282/science news/vol. 93/23 march 1968

the whole subject of clinical experimentation. The substance of this meeting will be released soon in a special issue of the academy's journal DAEDALUS.

Some people who have been working closely with the ethics question for years feel that public fuss will tend to obscure and interfere with long-term

One such person, a National Institutes of Health official, believes emphatically that ethics of experimentation are not a question for the medical profession alone to decide; most biomedical research today involves huge amounts of public money.

He feels that the heart transplants have tended to cause people to ignore issues even more difficult to deal with in other diseases: There are far more patients who will die without hemodialysis, for instance, than there are kidney machines to treat them. Who dies and who doesn't? Should hemodialysis patients come to the brink of death in a gruesome competition to see who can get sickest without dying?

But this physician notes that the majority of clinical research done in America is done under the strict safeguards of NIH. These regulations require any researcher getting an NIH grant to submit his project to the judgment of a committee of his peers, which weighs the risks against the potential worth of the test. The committee also determines whether or not the patients fully understand risks and possible benefits.

New legislation, the institutes official contends, cannot accomplish more than these regulations, because ultimately one has to depend on the conscience and good intent of the investigator.

TOES WET

Probing the ocean shallows

Ever since June 1966, when the Panel on Oceanography of the President's Science Advisory Committee first reported, the U.S. Government's oceanography program has been committed to promoting "effective use of the sea." Now the Government has drawn up plans for getting its toes wet on the continental shelf; any plunge to the mid-ocean depths will come in the indefinite future.

Vice President Hubert H. Humphrey, as chairman of the National Council on Marine Resources and Engineering Development, outlined the plan and unveiled the council's latest report

Practical plans in the report refer mainly to the surface of the ocean and the bottom under shallow water-the continental shelf and slope.

On the surface and near it plans concern mainly improvement of ocean



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