the Washington University, St. Louis. Phillips, who works part time on psychical research, used the NIMH grant in work with an ESP teaching machine, but got null results which he did not publish. He is now investigating a phenomenon known as psychic photography (an apparent ability to influence photographic film by the power of the mind). By borrowing a mailing list from a man who runs a witchcraft school, Phillips has been able to locate six individuals who claim or appear to be able to imprint mental impressions on film.

Another group of physicists interested in psychic phenomena are Russell Targ and Harold Puthoff of the Stanford Research Institute. Both worked in plasma and laser physics before becoming interested in psychic phenomena. Like many of the younger school of parapsychologists, they are uninterested in amassing more statistical evidence for ESP—they believe that is already established well enough—and wish to learn more about the process itself. At present they are studying an Israeli "sensitive" and his ability to influence mentally such physical instruments as a magnetometer.

Not all parapsychology is done by parapsychologists. The Hodgson fund at Harvard, for example, endowed for research on psychic phenomena, has been used periodically by members of the Harvard faculty to investigate matters such as water divining and ESP. Before going to Delmore, the fund was most recently employed by an undergraduate physics major to construct a long-period, ultrasensitve pendulum, which he attempted to move by psychokinesis. He would look at the pendulum through a window, mentally pushing it one way for 30 seconds and then the other, for an hour at a time. For weeks the pendulum showed not a shadow of movement before giving what appeared to be the first positive results. "Ten days later," says Edwin B. Newman, a member of the Harvard psychology faculty, "the student graduated and went off to theological school and we never saw him again." Like other academic psychologists, Newman is skeptical of the parapsychological literature but is nevertheless sufficiently interested in the possibilities to have supervised an experiment in ESP (the result of which was a "perfect textbook demonstration of the laws of chance"). The history of the field, he believes, is characterized by the elusive nature of the evidence: "Every time we get our hands on something, it slips through our fingers like quicksilver."

If academic psychologists used to be atheists in the matter of ESP, there are signs that more are taking an agnostic view. But it is more their hostility than their skepticism that has diminished. Although the parapsychologists have now amassed an impressive volume of apparently careful experimental literature—chiefly in the *Journal of Parapsychology* and the *Journal of the ASPR*—critics charge that the published work represents an artifact, in as far as it tends to be only the successful experiments that get reported, while the presumably more numerous null results go unremarked. Parapsychologists also suffer from the disadvantage of being enthusiasts; they are not neutral scientific observers in the sense that they are already persuaded that ESP exists.

Parapsychologists are still unable to satisfy the demand for a repeatable experiment. Their answer is that ESP is an intermittent and uncertain phenomenon that, by its very nature, cannot be produced on demand. "You have to prepare yourself for work in this field," admonishes Rhine. "You can't expect results like setting out a rain gauge." This being the case, the road to belief in ESP is arduous. Helmut Schmidt of the FRNM, for example, says it would take 2 months in his laboratory for him to convince someone of the existence of ESP.

The fact that psychologists are somewhat more prepared to give the parapsychologists a hearing says much about the ever-delicate relationship between the two communities. By and large, psychologists do not read the parapsychological literature, and their impressions are mostly derived from the mass media. (One of the more common complaints of psychical researchers is that mainstream scientific journals—*Science* included—will either not give them space or demand unreasonably high standards of proof.) Osis, research director of the ASPR, finds it "distressing that the changed attitude of the scientific community seems to be more related to change in popular interests than to reading our research reports."

But one way or another, the parapsychologists are breaking some ground. "The parapsychology group has not faded away, and I think they are slowly gaining some respectability

Radio Telescope Funds at Issue

The House Appropriations Committee created distress in the astronomy community last month when it voted to eliminate $10 million that the Administration had requested to begin construction of the Very Large Array (VLA) telescope in fiscal 1974. The Senate Appropriations Committee, however, has recommended that construction begin. So the immediate prospects of the new radio telescope will not be known until a House-Senate conference resolves the difference.

A House staff member said that the House has no intention of killing the $76 million project. The committee report explains that "in view of general budget constraints and with earthbound National Science Foundation priorities the VLA can be deferred at this time."

The NSF has already spent $3 million for a 3000-acre desert site in New Mexico. Astronomers and astrophysicists are concerned about the threatened delay because the VLA has been in the planning stages for almost a decade. There have been three major studies since 1964 on astronomy's future needs. The latest, a National Academy of Sciences study headed by Jesse Greenstein of the California Institute of Technology, lists construction of the VLA as the top priority. This emphasis reflects the unusual unanimity in the field on the need for the new telescope, which "can break through existing observational barriers on a broad front and reveal important new lines of enquiry."

Money for the VLA constitutes the largest new equipment item in the 1974 NSF budget. The Administration requested $579 million in new appropriations for NSF in 1974; the Senate committee settled on $571.6 million, the House committee on $10 million less.—C.H.