

BUT DON'T CALL US, WE'LL CALL YOU

roduction. "They told me the indus-
atmosphere wasn't right," says Gray.
Technical reasons dissuaded L. E. Shaw
the Maritime's leading brick manu-
er, from adopting Gray's strontium
which permits a magnificent color
on tile and brick. The firm decided
hadn't licked the traditional problem
mixture separation of glazes used on
or surfaces. "And anyway," says
ing products manager Alan Shaw,
isn't much demand for glazed brick
Canada. It's only about one half of 1% of
market." Gray, whose credentials in-
more than 100 published books and
s and 10 patents approved or pend-
s 20 years in ceramics should have
him something about the problem.
confident the new strontium glaze
work successfully. It's unique, non-



ight be reading this by candlelight

and easily applied."
salt-water battery project, jointly
taken by the Atlantic Institute and
a's Defense Research Estab-
ment, uses a flexible lead-chloride
ode, replacing the more costly silver-
le electrode now in use. The battery
ded to power navigational and so-
roys, remote instrumentation sys-
and even boats and automobiles.
a's armed forces alone need about
son. Toy batteries a year. But so
to Canada. A manufacturer has shown
erest.

th one eye aimed at a new job in U.S.
try, Gray—a naturalized Ameri-
blames the small regional market
e dearth of industry generally for the

lack of entrepreneurial spirit in the Mari-
times. "There's a total inability to recog-
nize that there's a lead time of three to five
years in the commercialization of new
products. Here, if they can't make a profit
in the first year, they're not interested. It's
all very sad." **LYNDON WATKINS**

Is there life beyond Earth?

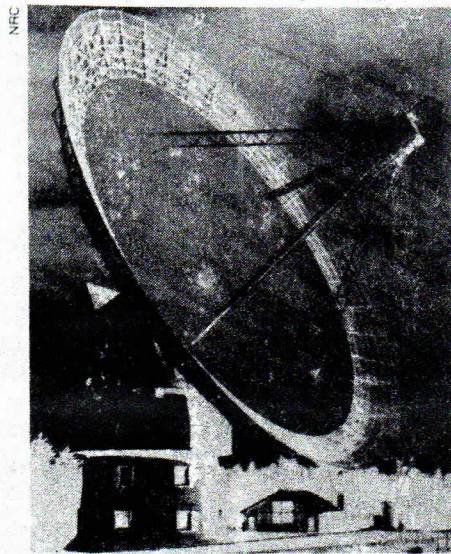
In the known universe there are more
stars than grains of sand on all the
beaches of Earth. Faced with such over-
whelming numbers, astronomers and phi-
losophers alike are convinced that crea-
tures intellectually superior to man must
be out there somewhere. But where?

Last month in Boston, at the annual
meeting of the prestigious American As-
sociation for the Advancement of Sci-
ence, a major session was devoted to the
latest attempts to "tune in" on the con-
versations of man's cosmic relatives. The
celestial eavesdropping is attempted with
giant radio telescopes tuned to what Mas-
sachusetts Institute of Technology physi-
cist Philip Morrison calls "uniquely rati-
onal" electromagnetic frequencies. One
of these is a frequency emitted by water
molecules — 22 gigahertz in the radio
spectrum. Two Canadian astronomers,
Alan H. Bridle of Queen's University and
Paul A. Feldman of the National Re-
search Council's Herzberg Institute of As-
trophysics, believe the natural emission
of water is a logical communications
channel for intelligent beings such as
man (to whom water is crucial). Using
the NRC's 150-foot antenna nestled in Al-
gonquin Park in northeastern Ontario—
one of the world's most precise radio tele-
scopes—the two researchers scanned 13
nearby stars in May, 1974, and another 15
last month. But, Feldman told the meeting,
no signals suggesting intelligence were de-
tected from any of the target stars.

"Nothing special was developed to con-
duct the search," says the Cambridge edu-
cated Bridle, 33, whose interest in astro-
nomy dates from childhood. "The same
highly sensitive equipment is regularly
used on the telescope to examine condi-
tions inside interstellar clouds, where the
actions of water molecules tell us some-
thing about new stars being created there."
Over the next year or two the Algonquin
telescope will be trained on several hun-
dred other stars to see if any exhibit pecu-
liar emissions at the water frequency—a
modest beginning that requires only 1% to
2% of the instrument's capability.

The Canadian investigation is unique in
searching at a frequency emitted by the

water molecule, but other efforts preceded
it. During the past 17 years, half a dozen
teams in the United States and the Soviet
Union have scanned nearly 1,000 stars in
the Milky Way, seeking radio signals at
other frequencies that might suggest in-



The NRC's scope: interstellar diving rod

telligence. Last year, astronomers using
the world's largest radio telescope (a 1,000-
foot-wide dish in Puerto Rico operated by
Cornell University) joined the quest. The
powerful instrument scanned four distant
galaxies, each containing billions of stars.
The results of this and all other searches:
negative.

"For the first time since man began spec-
ulating on the nature of extraterrestrials it
has become possible to conclude that in-
telligent species are not rampant in the
universe," says Morrison. "Or else we just
don't know what to look for." Other sci-
entists are also less optimistic than they were
a few years ago. Says Leslie E. Orgel of San
Diego's Salk Institute, "Life could be a
rare and almost miraculous event," mak-
ing Earth an oasis in a cosmos nearly de-
void of it. "The details of the crucial steps
in the creation of life on a primitive Earth
still elude us." Even the generally accepted
notion of planets orbiting about other stars
(just as Earth, Mars, Jupiter and so on
circle the sun) is now under fire. Studies
conducted by University of Pittsburgh as-
tronomer George D. Gatewood show that
earlier data, which implied that planets or-
bit around three nearby stars, is probably
in error. "This does not mean there are no
other planets," Gatewood notes, "but it
looks as if the planets we thought were
there probably do not exist."

But no one is throwing in the towel just
yet. As Philip Morrison observes: "The
search for extraterrestrial intelligent life
is not a normal enterprise; it is more like
the emergence of agriculture"—a pivotal
event in the development of man. If con-
tact with other forms of life is ever made,
"What comes after will be profoundly
different from anything that went
before." **TERENCE DICKINSON**