

# Plight of Sick Bird Puzzling Scientists at Los Alamos Laboratory

By WILLIAM JOHNSTON  
Los Alamos, N.M. — For six years, the plight of a sick bird has been puzzling scientists at the Atomic Energy commission's laboratory here.

The bird is frail and something of a diagnostician's nightmare; no can figure out where it hurts and why.

No wonder. The bird's diet is hydrogen gas!

The bird with the belly ache is Kiwi, an experimental

nuclear reactor that is the heart of the United States' first nuclear rocket engine designed for space flight.

**May Be Worth Money**

Named for a flightless New Zealand bird, the prototype's intestinal spasms are taking a lot of time and costing millions of dollars. But the diagnosis and cure for the ailment may be worth every penny and every fretful moment.

Looking beyond the projected manned lunar journey

called Project Apollo, the best minds in the American space program concede man cannot venture much farther than the moon without nuclear rocket power.

Kiwi is a division of Rover, a project which within the next few years probably will cost considerably more than \$1 billion. Scientists at the Los Alamos scientific laboratory have found from the beginning that almost everything is harder than in con-

ventional rocket building. They persist because the rewards for success will be almost incalculably great.

**Presses For Money**

The present good prospect that Project Rover will succeed owes much to the little-publicized but insistent case which Sen. Clinton P. Anderson (D-N.M.) has pressed for years to get more money and talent committed to it.

An Albuquerque lawyer and insurance man with a

genius for comprehending intricate subjects, Anderson persuaded the National Aeronautics and Space Administration (NASA) that Rover had to have support.

As chairman of the joint committee on atomic energy, he argued that chemical rockets like Apollo's Saturn C5, which will be as big as an ocean-going vessel, simply cannot provide the power needed for journeys to the other planets and, perhaps,

beyond the solar system. Anderson backed Rover from its barebones start six years ago and today, not merely seeking more pork barrel benefits for New Mexico (most Rover funds are spent elsewhere with the basic research done here), he prevailed. Congress is expected to provide somewhat more than \$200 million for the coming year's work.

Science, however, is not so easily persuaded to cooperate.

Project Rover is hung up with technical troubles and any hope that the first journey to the moon might have utilized nuclear power officially has been abandoned.

Rover scientists at Los Alamos remain convinced, though, that they will succeed within this decade in building and testing a workable nuclear rocket.

Last April, the director of the space nuclear propulsion office described a 400-day

space expedition in which a nuclear-propelled vehicle would travel to an orbit around Mars, land men for 40 days of exploration, then recover and return them to earth.

**Coordinates Work**

Harold Finger, whose office coordinates AEC and NASA work on Project Rover, told Anderson's committee on aeronautical and space scientists that "a nuclear-propelled spacecraft would weigh one-

fifth to one-tenth the weight of a chemically propelled spacecraft . . . without nuclear propulsion we do not believe this kind of mission would be possible."

Dr. Glenn T. Seaborg, chairman of the AEC, told the same committee: "For many of the proposed missions by NASA and others in space there appears to be no substitute for nuclear power because of the requirements for large amounts of energy in compact form.

"Nuclear rockets will be required to carry out many different proposed missions . . . logistic supply for manned lunar stations (post Apollo) . . . observations of Venus and probes of more distant planets . . . manned exploration of the near planets."

**Tougher Job**

Today, the project involved in building the nuclear rocket engine that would do this job is considered tougher than the construction of the first atomic bomb 20 years ago.

The A-bomb, the scientists explain, was built by meeting and solving predictable, expected problems. Every development in project Rover seems to create new problems. When one is solved, two more crop up in its place.

Radiation plays havoc with gauges and sensors have to be invented and new ways devised to shield sensitive instruments.

No one yet knows, for a certainty, that Project Rover will succeed. But the timetable for the chemically-powered Apollo manned lunar expedition already is in doubt. And Apollo budget demands are meeting major resistance in Congress.

The earliest NASA ever hoped for a manned moon shot was 1967. If that date should in reality be as late as 1970, and if Rover hereafter progresses without major hitches, the first moon astronauts may — after all — enjoy the big boost of nuclear power.

**Large Proportion**

**Of Population Is**

**From Out-of-Area**

Jackson county may boast that a comparatively large proportion of its population consists of people who gave up their residence in other areas of the country to settle there.

A total of 42,075 people, representing 58.3 per cent of the county's American-born population, came from some other state.

The influx, locally, was greater than that recorded in most localities. Elsewhere in the United States, by contrast, only 26.4 per cent have moved from other states to the ones in which they are now living. In the Pacific States 50.7 per cent have made such moves.

**Findings from Report**

The findings are from a report just released by the Department of Commerce, based on data gathered during the last census.

The purpose of the study was to get some idea of the extent of internal migration in the United States.

That the American people, as a whole, are constantly on the move is well known. What had not been established previously was just how great are the shifts and swings of population, from state to state and from community to community.

Have Large Portion  
As a result of the study, it was learned that the Pacific States have, by far, the largest proportion of residents who were born in other parts of the country.

Among the nation's 101 large metropolitan areas, the Fort Lauderdale, Fla., one is tops in that respect.

No figures are given as to the other side of the coin — the number who leave a particular locality to take up residence somewhere else.

But doing so they are. The Census Bureau points out that "what we are seeing, really, is a picture of mobility and of people being able to go where they want to go rather than going where the mines are or where the farming is good."

The same freedom of movement has been apparent within the communities themselves. People have taken advantage of their improved earnings in recent years to upgrade their standard of living. They have been moving into newer and better houses.

Jackson county has been having its share of it. According to the findings, 39,456 local residents have picked up and moved to other quarters within the county in a period of five years.

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