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## Lunar Trip Compared to Voyage Of Columbus: Payoff Comes Slowly

THE trip to the moon by U.S. astronauts was recently compared to the voyage of Columbus to the new world by Arthur Bueche, director of General Electric's research center at Schenectady, N.Y.

"It took years for Columbus's journey to begin paying off," Bueche said. "It may take as long for the Apollo missions." Actually, our space program already is finding many applications.

One satellite recently launched will beam educational programs to sparsely settled areas in the Rocky Mountains, Appalachia, and Alaska. Commercial satellites carry most of our trans-Atlantic telephone conversations, plus live television from abroad. Weather forecasting has been improved by Nimbus, which can see through clouds, and ERTS can locate plant diseases and insect infestations, as well as help draw new maps of unexplored land and detect water pollution so that it may be stopped.

Most of this research was possible

only by government programs, but it is being used commercially to benefit people. At the same time, we should not forget that most consumer product research has been conducted by private industry, out of business profits, usually in highly competitive situations.

Research and development really began with the birth of our nation, with freedom of the press and an assist to subscribers for publications in the form of low postal rates. Most people were farmers then and the periodicals helped them to learn how to produce more than they could consume on the farms.

As agricultural production got ahead of population, manpower was released for industrial production and non-productive services. Our total productive capacity was given tremendous momentum with the arrival of steam power, electrical power and the internal combustion engine.

These things set off new rounds of research and development because business didn't have to ask a federal bureau if a new product could be sold or how to build a car. Folks went ahead to invent machines, devices and methods for better living, making daily necessities of things previously classed as high luxuries.

Now science spokesmen have expressed fears that our technology is slipping because we are looking for research projects that promise quickest returns on investment.

Such an attitude may be justified in view of an excessive number of regulations imposed on business by proliferating federal agencies. These, plus heavy taxes, have forced management to take a closer look at expenses, including research and development.

Meanwhile, the government is financing an ever-larger proportion of research and wanting more. An example was the splurge of energy research funds last year, to be dispensed by scientist-bureaucrats, while threats of special "windfall profits taxes" were stifling oil company research plans.

"Government should provide industry with seed money to keep momentum going in certain top priority fields," agency spokesmen say, adding that industry must rely increasingly on university research potential, meaning research financed—and controlled—by federal agencies in Washington, which allocates the grants.