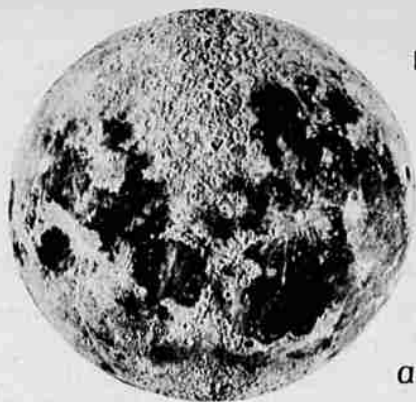




The Moon Is a Bargain at \$20 Billion!

*Is that too much to pay
for a world of unimaginable potential? The Russians don't think so,
and neither do America's most practical scientists*

By DR. HAROLD W. RITCHEY

President, American Rocket Society

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FOR THOUSANDS of years, man has wished for the moon. Now, at last, it is within his grasp. Men of science know how to get there; America's industrial powerhouse can produce the rockets to take us there and bring us back.

But the sad truth is that the American people have not yet been convinced that the prize is worth the race.

We hesitate because we are not wholly convinced that soaring into space is worth the expense. There's a price tag on the moon—a big one. It will cost us roughly \$4 billion a year over a five-year period—or about \$20 billion in all—to reach the moon. If we put less than that into it, we are wasting our time.

If we were certain that by scratching two feet under the moon's surface we'd find a planet of pure diamond, the moon would suddenly become commercially valuable, a desirable piece of property. But we don't know what's up there, and because the average American can see no immediate financial gain in reaching the moon, he is reluctant to approve spending \$20 billion dollars—even though Russia seems to think it's a bargain at any cost.

Yet while we don't know what's up there, we have every hope that the moon holds some benefit to mankind. There are many exciting possibilities; for example, sanitariums for heart patients. The moon's gravity is lower than ours, and walking would require only one-sixth the energy we need on earth. A remote possibility? At the moment, perhaps. But by keeping in mind such benefits to mankind, we keep alive the incentive necessary for space exploration.

Here's another possibility. Do you know that a

child is born on this earth every seven seconds? In the next 30 years, without space to expand in, this "exploding population" could cause a shortage of foods and raw materials. Gradually, our standard of living could become lower and lower, forcing us backward to a more animal type of existence. We must expand the domain of the human race. This necessitates the conquest of space, and the sooner we start, the better.

And think, too, of what valuable information our first space men will bring back—about the origin of our universe, new worlds of raw materials, and possible new sources of energy and medicines.

Although the benefits of reaching the moon may be speculative, the things we have to do to get there are not. As a rocket engineer, I can list some. For the upper stages of our space vehicle, we need million-pound thrust, high-energy liquid-fueled rockets, such as those using hydrogen and oxygen.

OUR PRESENT PLANS for developing these rockets appear reasonably adequate. But for the lower stages, we need powerful solid-fuel rockets capable of exerting more than 20 million pounds of thrust to lift the 10-million-pound space vehicles we must use. To date, our efforts to develop such high-thrust rockets have been inadequate, to say the least. This lack of effort is astonishing in view of the fact that this is the very item in which we are woefully behind the Russians.

Also, we need to explore new and potentially better methods of rocket propulsion, such as rockets powered by nuclear engines. There is promise that our efforts in these areas may receive much more attention in the near future, when programs now in the planning stage materialize. In this connection, the promises of the Kennedy administration to advance our space-research and exploration program are very encouraging.

Many physical problems are involved, of course. There is much we do not know, but these problems are not nearly so great as the average American thinks. America's scientists can handle them—if supported by the American people. The job will involve highly educated experts in many different physical sciences, all working together to build enormous space vehicles half as tall as the Empire

State Building. Incredible? Not when you compare today's huge jet aircraft with the Wright brothers' proud but tiny craft.

About one thing I'm certain: it is unlikely that the space men of the future will be products of today's "progressive" schooling. These men must start with plain, old-fashioned "reading, writing, and arithmetic" in the lower grades.

In the race to conquer space, more than "personality expression" is needed to design, build, and man a rocket to the moon! The space man must be able to write and speak intelligently about the things he observes. He must apply reason and logic to this environment, weighing the importance of what he sees and learns.

TO ATTRACT these exceptional adventurers, we must offer what exploration has always offered: money and glory, and especially the satisfaction of doing something worthwhile. Although it is important to make space exploration profitable, we must look for the dedicated men, those who get satisfaction from doing something that earns more than money alone.

In time, it may become advisable to establish a Space University similar to West Point, Annapolis, and the Air Force Academy. There, graduate students already trained in our present universities could concentrate on the science of space.

And if America does decide, "Yes, we want the moon," our President may find it necessary to create a new cabinet post—a Secretary of Space. The conquest of space will bring many new problems involving the rights and claims of other countries, and we will need someone at the highest governmental level to deal with them.

That is in the future. At this moment in history, it is you who control tomorrow for our own country and the world. Let your Government know that you approve an all-out effort to conquer space—even with a big price tag. You can write to your Congressman, Senator, even the President. The leaders you have chosen will listen to you.

Then, with your approval, the scientists of the free world can pool their disciplines and knowledge, and make space our newest frontier. It is not too late; but now is the time for action!

COVER:

The furry feline on our cover, photographed by Walt Chandoha, is a victim of curiosity. How she became encased in a glass goblet is the subject of "Kitten Capers," page 4.

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