

Recovery and re-use of a rocket is not completely new, but the U. S. has not attempted it on a booster even approaching the size of Saturn.

The Saturn project, begun in August, 1958, has so far cost about \$100,000,000. Over a year's work has already gone into developing a digital computer to go on board the Saturn. It will be a small box about two feet high with magnetic drum memory.

It will direct Saturn's actions, correcting deviations that might prevent the rocket from continuing on its proper flight path. The computer will be versatile enough to handle all the different flights now being planned for the rocket.

A bigger computer, the first IBM 7090, has just been put into use at Huntsville for Dr. von Braun's team.

Known data about the Saturn rocket and space conditions can be so combined in the computer that it produces simulated flight tests for studies of the Saturn's potential. A second 7090 is planned and, later, a giant Stretch computer not yet built may be used.

Without these giants, rocket development would be greatly slowed, Dr. von Braun has indicated. They are helping speed Saturn to the launching pad.

A second booster is already being built at Huntsville for the flight tests. It will be assembled and static-fired here and then transported to Cape Canaveral for that first test next summer.

Right now, the Huntsville experts say the schedule will be met. With such satisfactory static firings as those already made, this is likely.

Thus, the U. S. may be able to pull ahead of the USSR in terms of payload

weight and size within a few years, unless the USSR is willing to spend time and money on extremely large rocket boosters with little military usefulness. But the USSR may be willing.

Here are Dr. von Braun's observations on the booster race:

"From the information I have, I must conclude that the Russian large rocket program started solely as a military program, with Stalin himself making the decision that he did not care how big the rocket would be to carry an atomic warhead across the ocean, he just wanted one and he wanted it quick.

"The scientists apparently tried to get some of the new rockets for their purposes and were turned down. Apparently they were turned down time and again because the military felt this space science project would distract from the military effort.

"But at the end the scientists got a rocket and Sputnik I went into orbit.

"The payoff in political propaganda was so high that now the scientists can get anything they want."

The Russians have already fired several rockets with about half the thrust of the Saturn (one and a half million pounds). Dr. von Braun believes they are at work on bigger ones:

"Now, whether their new rocket will have a million and a half or two million or three million pounds of thrust or only one million, this I don't know, but I consider it very likely that they are busy at this very time developing a rocket at least the size of Saturn."

Science News Letter, July 16, 1960

PSYCHOLOGY

Personalities and Smoking

A STUDY of 2,360 men reveals that the average cigarette smoker, pipe smoker, non-smoker and ex-smoker have personalities that differ from each other. Cigarette smokers, for instance, are more outgoing than pipe smokers and non-smokers.

The authors of the study say the results do not prove that smoking does not cause lung cancer, but they make more reasonable the proposition that both smoking and cancer may be related to certain underlying hereditary factors.

The study was made by Dr. H. J. Eysenck of the Institute of Psychiatry in London and research workers of Mass-Observation Ltd. They report that their study lends support to the idea that extroverts may "live at an accelerated rate, drinking harder, smoking harder, living more irregular lives, staying up longer and generally 'living it up' more.

"They may thus lower their resistance to disease and expose themselves more to conditions which may directly cause the disease in question."

In the study, reported in the British Medical Journal, May 14, 1960, 31 questions were asked the men. These included:

1. Would you rate yourself a lively individual?

2. Are you frequently lost in thought,

even when you are supposed to be taking part in a conversation?

3. Do you always prefer the familiar, the safe and sure, to taking chances with the new and untried?

4. Do you have any habits like chewing pencils or biting fingernails or things like that?

The answers showed a pattern of extroversion among the cigarette smokers, the researchers found. The answers also "weakly confirmed" the idea that smokers had less rigid personalities than others.

From the study, "ex-smokers emerge as the most neurotic; smokers as a whole do not appear to be more neurotic than non-smokers."

Among smokers, heavy smokers were more extroverted than medium smokers (15 to 24 cigarettes daily). The medium smokers, in turn, were more extroverted than the light smokers.

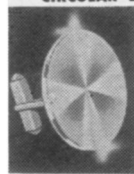
Ex-smokers' extroversion averaged between that of light smokers and medium smokers. Non-smokers averaged out as less extroverted than even the light smokers. And pipe smokers were more introverted, on the average, than any of the other groups studied.

Science News Letter, July 16, 1960

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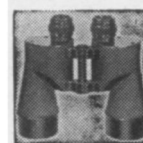


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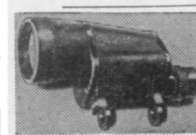
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