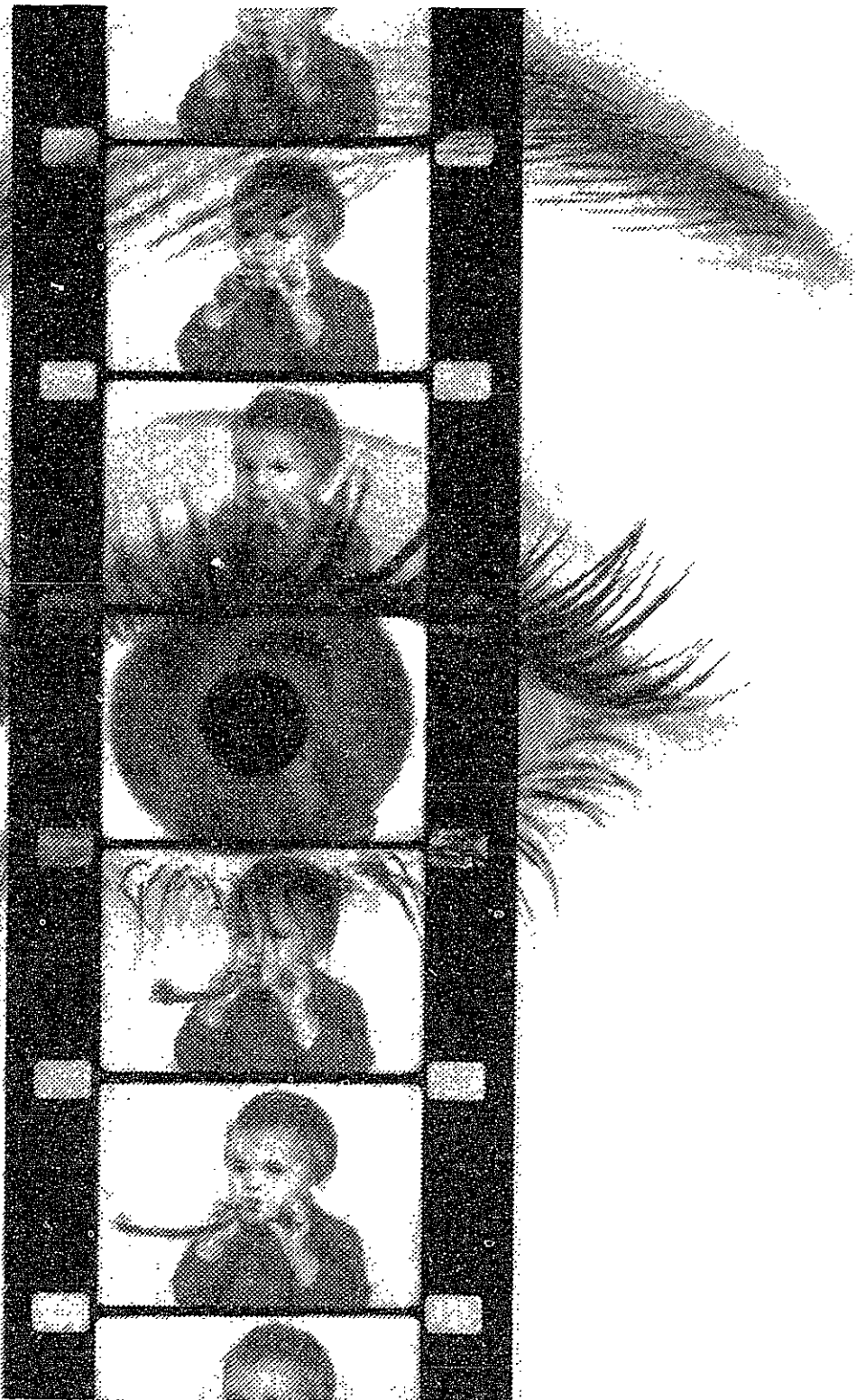


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### Dr. George Sutton Speaks on Space Propulsion Methods

Ion rockets, magneto-plasma rockets, solar heating rockets, radioactive isotope decay rockets — these were some of the exotic new methods for propelling future interplanetary space vehicles discussed Wednesday by Dr. George Sutton of MIT at Kreege Auditorium.

Little known today outside research laboratories, the methods are among those that will replace or supplement the presently known liquid and solid propellant rockets for interplanetary flight, Prof. Sutton explained in delivering the fourth annual Minta Martin Lecture.

Emphasizing that new propulsion systems are needed before actual interplanetary travel is practical, Prof. Sutton said: "The use of different materials, novel propulsion concepts, new fabrication techniques, or new failure detection methods, will result in engines that will look very different compared to present day devices."

Prof. Sutton came to M.I.T. last summer from the position of Manager of the Advance Design Section at North American Aviation's Rocketdyne Division. He will become Chief Scientist of the Advance Research Projects Agency of the Department of Defense next May. One of the nation's leading experts on rocket propulsion, he has served this year as Jerome Clarke Hunsaker Professor of Aeronautical Engineering in M.I.T.'s Department of Aeronautics and Astronautics.

In his lecture, titled "Rocket Propulsion Systems for Interplanetary Flight," Prof. Sutton furnished a detailed explanation of both current propulsion systems and more sophisticated systems on which research has just started.

Liquid and solid propellant rocket engines, similar in principle to those used to boost such giant missiles as Atlas, Thor and Titan from Cape Canaveral, Fla., were compared with future systems that involve nuclear, electrical and solar energy devices.

Prof. Sutton's conclusions: Much more research and development is needed before man can safely and accurately propel vehicles through the outer reaches of space and assure himself of getting where he wants to go, and back. Present chemical rocket engines are adequate for flights to Venus and Mars, but are not sufficient.

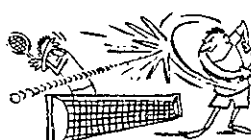
(Continued on page 4)

## Do You Think for Yourself? (ANSWER THESE QUESTIONS AND YOU'LL FIND OUT!\*)



1. If you get stuck on a crossword puzzle, do you (A) finally refer to a dictionary, or (B) leave the puzzle unfinished?

A  B



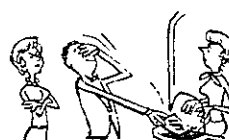
5. Would you prefer to play tennis with an opponent you know to be (A) not quite so good as you, or (B) a slightly better player?

A  B



2. Would you rather be (A) the designer of the first successful space vehicle to the moon, or (B) the first man to ride in it?

A  B



6. In deciding whether to see a movie, are you more influenced by (A) what a casual friend tells you about it, or (B) what you know of the cast and story?

A  B



3. If you were faced with two tasks, one pleasant and the other unpleasant, would you first do (A) the unpleasant task, or (B) the pleasant task?

A  B



7. If you were a multimillionaire, would you rather have (A) everyone know it, or (B) only a very few know it?

A  B



4. If you find you aren't doing well in an activity, do you (A) concentrate on it to improve your performance, or (B) devote your attention to things in which you do excel?

A  B



8. Do you take more notice of someone's (A) good looks, or (B) good manners?

A  B

9. When making your choice of a filter cigarette, do you (A) act on the basis of what someone tells you, or (B) think it through for yourself?

A  B

If you're the kind of person who *thinks for yourself* . . . you use judgment in your choice of cigarettes, as in everything else. Men and women who think for themselves usually smoke VICEROY. Their reason? Best in the world. They know that only VICEROY has a thinking man's filter and a smoking man's taste.

\*If you checked (A) on three out of the first four questions, and (B) on four out of the last five . . . *you really think for yourself!*

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