Photography's Place in Space

Speaking on the theme of "Photography and the Search for Knowledge" at the Annual Banquet of the Society of Photographic Scientists and Engineers, Oct. 9, in Rochester, N.Y., Donald McMaster, Vice-President and General Manager of Eastman Kodak Co., took his "man with a camera" out toward Mars and back to the Earth, and showed him photographically recording information "in a way to stagger the imagination."

Among his predictions, based on present accomplishments of photography: "As of today, the output of electronic computers can be recorded by photography at the rate of 100,000 characters a second. We foresee a rate of one million characters a second in the near future."

In his discussion on computers — among many photographic applications — Mr. McMaster told of a computer which is being programmed to translate Russian into English. "The information it must have to do this," he said, "is provided on a 12-in. disk where 60 million discrete bits of information have been transcribed by photography. . .and only part of the surface of the disk is used."

In discussing possible future developments, he mentioned recent advances in the resolving power of films. He pointed out that there are, at the present time, films available which can clearly resolve 2000 lines/mm, at low sensitivity levels, "a capacity which. . .exceeds that of present day optics." He predicted that better lenses would be designed which will match the potentialities of these films.

In his talk Mr. McMaster spoke at some length of the challenge of space technology. In a reference to rockets around the Moon, he suggested that a rocket carrying automatic cameras with telephoto lens and automatic processing equipment, linked to a TV system to scan the finished film and transmit the image to Earth would give man his first glimpse of the "dark side" of the Moon. "When man himself eventually goes out into space, it's a dead certainty that he'll take his cameras with him," he said.

He told the assembled photographers that it might be their destiny to open up whole new areas of knowledge and that the development of present programs may make possible the gathering of information "which is beyond all present comprehension."

Education, Industry News

Two especially impressive exhibits were seen at the Western Electronic Show and Convention held in the Pan Pacific Auditorium and Ambassador Hotel, Los Angeles, Aug. 19–22. The Historical Exhibit suggested a journey back into the past of only a little more than 50 years ago, while the Future Engineers Show, which displayed the work of high-school students, afforded a rather startling glimpse into the very near future.

Replicas of early vacuum tubes, lent by Lee de Forest, a 1912 radio license, a shipboard radio receiver (circa 1916) and other early equipments and documents suggested the beginnings of a different world and a different kind of auditory and visual communication. Over in the Future Engineers Exhibit, high-school students demonstrated and described such projects as "Radio Controlled Robot," "Determination of E," "Satellite Model," "Cybernetics," "Ionic Loudspeaker," and others — 33 in all — equally indicative of the strange ways to be traveled in the next 50 years.

New research areas in speech and television are foreseen by using general purpose digital computers in the simulation of new coding and transmission devices, according to scientists at Bell Telephone Laboratories, who reported most recently at the Western Electronics Conference in Los Angeles. Earlier, in July 1957, R. E. Graham presented a paper on "Communication Theory in Television Coding" before the UNESCO-sponsored International Symposium on Physical Problems of Color Television, held in Paris. He described techniques of picture coding research based on computer simulation. Highlights of the Paris Symposium of special interest to the Society were reviewed by Mr. Graham at the SMPTE 1957 Fall Convention in Philadelphia.

In using computer simulation to evaluate proposed television coding schemes and to