

each experiment was flown several times to take advantage of varying flight conditions.

This resulted in 11 experiment missions with an average of 11 experiments per mission. The largest number of experiments, 20, was carried on the 14-day Gemini VII mission.

SCIENTIFIC, TECHNOLOGICAL, AND MEDICAL EXPERIMENTS

The experiments were divided into three categories, scientific, technological, and medical. There were 17 scientific experiments conducted during the program. The scientific experiment program was interdisciplinary in character and comprised investigations in the fields of astronomy, biology, geology, meteorology, and physics. Over half of the experiments were photographic in technique, indicating that the investigators wished to take advantage of the flight crew availability to guide and select the targets and to return the film for a permanent record. A photograph frequently clarifies data which otherwise are ambiguous.

The 27 technological experiments were conducted in support of spacecraft development and operational techniques. The eight medical experiments, each conducted a number of times, were directed toward determining more subtle effects than might be determined from the regular operational medical measurements in preflight and post-flight examinations.

EXPERIMENT INVESTIGATORS

The Gemini experiments were proposed from many sources including universities, laboratories, hospitals, industry, and various Government agencies. Several investigators were often associated with a single experiment and they in turn may have had different affiliations. This table presents the principal investigators of the Gemini experiments and their affiliations together with the missions for which the experiments were assigned (figs. 6, 7, 8, and 9, MC67-5880-81-82-83). Subsequent to the selections of the experiments and the principal investigators, a very close personal association was maintained with the experimenter, the spacecraft contractor, the crew, mission planner, and the real time operations personnel. This experience will provide a basis for relationships in the future with the Apollo and Apollo Applications programs where experiment capacity is significantly increased over that of the Gemini program.

CREW TRAINING

The diversity of the Gemini experiments required considerable training by the crew. The training began with briefings by the experimenter to explain the experiment, the proposed method of operation, the probable training required, and the expected results. After the techniques were evolved for the various experiments, plans for crew training were developed. Planetarium briefings were included as well as flight simulator training with celestial backgrounds. Also included were aircraft flights to provide operational familiarity with hardware; zero gravity aircraft flights for experiments requiring ex-