

ASTRONAUTICS

Space Suit Designed

A full pressure space suit has been developed which surrounds the astronaut with an earth-like environment and is safe for forced escapes and ejections at high accelerations.

THE MARK IV space suit has been introduced to the public.

The full-pressure suit was developed by the B. F. Goodrich Company and the U. S. Navy. It may be the suit chosen for the first manned flight.

A model dressed in the suit jumped into a pool of water where he demonstrated his ability to swim, manipulate and enter a life raft. Another subject was exposed to extreme temperatures. The suit proved to be safe for high acceleration force escape procedures, or ejections.

Then a model in a suit successfully withstood a test of rapid decompression. The suit can buffer temperatures from plus 220 degrees Fahrenheit to minus 70 degrees Fahrenheit, and swift altitude changes that shoot from 18,000 feet to 75,000 feet in less than half a second.

The Mark IV allows a high flyer to surround himself with an earth-like environment. This environment, contained within the tightly sealed suit, can comfortably protect a human on his way to outer space.

In fact, if a man in a Mark IV suit should land on the moon, the suit is flexible enough to allow him and his space buddies to play a game of baseball. On the moon, gravity is so weak that the ball for an earthly Mickey Mantle home run would travel about one-half mile.

The suit weighs 20 pounds. It consists of a torso, helmet, gloves and boots. A pressure sealing zipper slants across the chest section. The spaceman's shoulders, legs and arms can move easily due to a knit stretch fabric within the inner layer of the suit.

The plastic helmet has a large window in front. A valve permits exhaled air to pass from the respiratory section to the torso. There are earphones inside the headpiece.

J. W. Keener, president of B. F. Goodrich Company, pointed out a future potential for the suit when he said that many of our launching failures would have been successful had a pilot been aboard to control the vehicle when it strayed off course

Science News Letter, June 13, 1959



SPACE FLYER—The flexibility of the Mark IV space suit is demonstrated by this moon-ball player astronaut.

MEDICINE

Anesthetic Kills Monkey

Monkey Able, one of the first animals sent into space and successfully recovered, has subsequently died, possibly as a result of anesthesia administered in a minor operation.

MONKEY ABLE has received "at least as thorough a post-mortem" medical examination as a human would who died from a mysterious cause.

Although doctors have stated their belief that the little seven-pound veteran of space flight did not die of causes related to the space flight, a careful autopsy was conducted to confirm—or disprove—this belief.

A microscopic autopsy has produced no evidence that the monkey suffered any radiation damage during its 300-mile high ride in a rocket. (See SNL, June 6, p. 355.)

On the basis of the report it is also presumed the monkey suffered no damages from the stresses of blast-off and re-entry into the atmosphere. Its weight was multiplied briefly as much as 38 times during these periods.

The need for a critical examination was obvious in the light of America's plans to send man into space. Is it possible that space flight may produce such stresses on a living body that another shock, such as surgery, could tip the balance for death? This question must be answered satisfac-

torily before NASA's first astronaut climbs into the space capsule now under test for him.

A NASA representative pointed out that occasionally men and women have died unexpectedly while breathing an anesthetic. He said Monkey Able may have reacted in an unusual way to the trichloroethylene anesthetic she received before a scheduled operation. The operation was to have been for removal of an electrode imbedded just under the skin. The electrode was used to gather bio-medical information about her body to radio back to earth during her 15-minute flight 300 miles into space.

The medical studies were run at the Armed Forces Institute of Pathology.

From the scientific point of view, Able's death may lead to more immediate information on the possible effects of space travel on a primate. Original plans had called for Able to be "retired" until her natural death, when an autopsy would then have been run. But those results might have been clouded by attending disease.

Science News Letter, June 13, 1959

PSYCHIATRY

Police Can Be Helped By Part-Time Psychiatrist

THE POLICE, Dr. David H. Wilson of the School of Criminology, University of California, Berkeley, has reported, are often the first to see and have to deal with individuals who are emotionally disturbed or mentally ill.

Dr. Wilson devotes one-fourth of his time to the police department of Berkeley.

"Probably the majority of disturbed juveniles and a good portion of disturbed adults are brought to the attention of the police," Dr. Wilson said, "long before the psychiatric problem is severe enough to indicate a purely medical disposition."

As part of his duties in the police department, Dr. Wilson helps in the handling of arrested persons who are mentally ill, helps to see to it that those who need treatment receive it, and aids in the handling of disturbed prisoners in jail.

He also gives his attention to the police themselves. Any candidate for the police force can be eliminated if, in the opinion of the psychiatrist, he shows indications of psychiatric disorder sufficient to interfere with the performance of his duties.

In addition, the psychiatrist helps train the individual patrolmen so that they will know how to handle disturbed citizens on their beats.

There are 90 American cities, Dr. Wilson said, which might utilize at least part-time psychiatric services, and 20 of these might consider one or more full-time psychiatrists.

Science News Letter, June 13, 1959