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Man-Animal Correlation of Drug Tests

*T*HOSE who are developing and testing drugs for human use are always concerned with the question: How good is the correlation of the results of tests on animals with the results on humans? Evidence is good that with many of the more specific peripherally acting drugs (e.g., atropine), the findings of studies with animals indicate closely what can be expected with humans. But, for those compounds designed to affect the central nervous system—tranquilizers, for example—the correspondence between animal tests and human reactions is less satisfactory.

Lee Otis, chairman of the Institute's Biobehavioral Sciences Department, believes it may be possible to improve the correlation if the test animals are kept in an environment more closely resembling the natural. In the conventional manner of experimentation, animals are kept in individual cages and removed to the laboratory only for the duration of the experiment. Here they are given the compound, observed in the laboratory for a period of time, generally a few hours, and then returned to their cages where their behavior can be observed at intervals thereafter.

This procedure introduces several features that Otis and his associates think may distort the results. Removal of an animal from the cage to the laboratory is itself a shock. That it is being watched by humans may also be nervously upsetting, especially if the animal is one of the higher primates. The surveillance, furthermore, is not continuous, giving chance for unnoticed reactions. The environment of the home cage provides a sheltered life for the animal. Food and water are available to the animal continuously. It is protected from its natural enemies. Thus, its whole life is completely unnatural, which may have bearing on its reaction to drugs.

A New Type of Animal Environment

A program is in progress, with National Institute of Health and Office of Naval Research sponsorship, to create and test a new form of equipment, being called a life-space apparatus. Lee Otis, Gordon Pryor, a physiological psychologist, and Alex Sarros,