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Variations Electrical Resistance of the Skin in Newborn Infants

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MOTIVATION AND LEARNING: SOME STUDIES OF
THE PHENOMENON OF DIFFERENTIAL MOTI-
VATIONAL CONTROL OF THE UTILIZA-
TION OF HABITS

ROBERT LEEPER

This group of studies is composed of seven experiments with rats. Most of these experiments were maze studies in which rats were required to choose one route when influenced by one motive, and another route when, on irregularly alternated days, the rats were affected by a second motive. Hunger and thirst were the two motives used in most of the experiments, but one experiment demonstrated that similar results could be obtained with motivations resulting from short-time qualitative dietary deficiencies. The experiments showed that rats can learn rather readily to govern their response to a constant external situation in terms of a varying motivation, provided the different features of the external situation are rather clearly identifiable for the rat, and provided that the rat is permitted, on his incorrect trials, to find the goal-material not desired at that time. The results seem to support a sharp re-interpretation of the law of effect, seeming to indicate that the significance of motivation for learning lies almost entirely in the two fields of discovery of solution and utilization of habits, rather than in the field of the fixation of associations.

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VARIATIONS IN ELECTRICAL RESISTANCE OF THE
SKIN IN NEWBORN INFANTS

M. A. WENGER AND O. C. IRWIN

Measurements were made of the large variations in apparent electrical resistance of the skin of fifteen newborn infants. Readings were taken every five minutes over two hour periods using a unidirectional current technique. The purpose of the experiment was to check Richter's hypothesis that increases in palmar resist-

ance afford an objective criterion of sleep. Although graphical analysis of the data showed curves similar to those presented by Richter, statistical analysis suggested that increases in resistance were associated with muscular relaxation and not with sleep *per se*. They further suggested that, contrary to Landis and Waller, activity resulted in a decrease in resistance. It was discovered that variations in resistance were roughly proportional in extent to level of resistance, thus rendering curves directly incomparable. Landis' failure to duplicate Richter's results is thereby explained. A technique for superimposition of curves on comparable ordinates is presented. The results of the experiment with infants were checked and confirmed with a group of six adults by both direct and alternating-current techniques.

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EFFECT OF INDUCED MANUAL HANDICAPS ON MOTOR PERFORMANCE OF A COMPLEX NATURE

LAVERNE JOHNSON AND A. R. LAUER

The question of how much one's ability to drive an automobile would be affected by the loss of an arm has been experimentally studied, under laboratory conditions, and statistically calculated. Comparison is made between manipulative ability, errors, stop signs and other stimuli missed, etc., as well as driving speed using right, left and both hands respectively.

The standardized indoor driving test, described by Lauer and Kotvis was used. It consists of a complex testing apparatus simulating actual driving manipulatory performance and is operated from standard car controls. The reliability of this apparatus for the length of test period used is approximately $\pm .75$. Each subject drove through the "course" once with the right hand, once with the left and once with both hands in random order, after having become familiar with the nature of the problem. Fifty-three subjects were used most of whom were college students.

Results show there is little loss in efficiency when either member is used separately. Either hand alone was shown to be 91.4% as efficient in manipulative ability as both hands used together. There is very little difference between the right and left hands. Statistical