food box F. This was separated in the initial learning from the true but difficult path C which consisted of a series of jumps from one platform to another. After the rats had learned to take the C pathway to food, the running path W was moved over until it touched the series of C platforms. In this test situation (See Fig. 2) rats therefore had the opportunity to run along W to the block and so on to the fifth platform of C, thus eliminating most of the difficult jumps along the C pathway.

If rats in such a test situation as described above should continue to take the difficult jumping path to food, their behavior could be explained by mechanistic theories of learning. If, however, they should suddenly and immediately choose the easy, running pathway, their behavior could not be so explained. Such behavior would support the striking evidence of Tolman and Honsik[2] that rats are able suddenly to go against previous habit and preference. In the present experiment all rats continued to jump in the test situation and the results therefore tend to agree with a mechanistic explanation of learning.

However, before presenting the results in greater detail, the dimensions of the maze, length of jumps and amount of preliminary training are necessary factors to be considered. Path W was 6 in. wide, 15 ft. long and was blocked at B 11 ft. 6 in. from S, the starting platform. The platforms C_1, C_2, etc., of the C pathway, were 20 in. long, 6 in. wide, and were tipped with rubber on the landing end and screen wire on the jumping end, the latter tips enabling rats to get a good foothold for the jump. The platforms and jumps along C were bordered by a wall, indicated in the figures by the dotted line P. Paths W and C were separated 12 in. during a preliminary training period.

The length of the jumps J_1, J_2, etc., was increased during the training period of 70 trials until on the 70th trial jumps 1, 5 and 6 equalled 10 in., jumps 2 and 4 equalled 16 in. and jump 7 equalled 4 in. Observations of behavior at the jumps indicated that they were made with reluctance. In the last 10 trials of the training all rats took the C pathway in preference to W. They were then tested on the 71st trial.

Results summarized briefly are as follows: Rats (N equals 7) continued to jump in the test situation for from 10 to 20 trials after the paths were moved together. The elimination of the jumps was gradual. Even after full runs along W to B had once been made, all rats persisted in many of the succeeding trials in jumping part or all of the way to platform C_5. This was done despite the fact that complete runs along the short cut W to B and thence to food by C_5 and C_6 averaged 10 seconds, while the average time along the C path was 30 seconds. A final preference for the short cut W was established and thereafter rats never took the C path, except beyond B. There was no indication that any rats "saw" into the short cut W in the test situation.

The experiment is being continued. The writer is planning to use the method as a means of analysis of habit fixation by putting path W adjacent to path C at various stages of training; by introducing in the test a new path, different from W; and by allowing path W to be a true path to food in part of the training period.

Since one interpretation of the results described above might be that running and jumping constitute separate abilities, and therefore are too different to permit a sudden change in habit, it is intended to run a comparison series in which path C consists of a running path containing a number of *cul de sacs*. At the test the two running paths will then be placed together.

Apart from the bearing of the results of this experiment on theories of learning, it would appear that the jumping activity itself should be of interest to comparative psychologists. Lashley[3] recently reported a series of discrimination experiments in which rats were required to jump, but, with the exception of the present work, the writer knows of no attempt to apply jumping to a maze situation. The contrast between running and jumping in the same rats yields sharp, objective differences in behavior and, where such sharp contrasts are needed, the activity should be valuable. It could probably be used as a substitute for some of the "obstruction" methods now in use by extending the jumps beyond the distances used here. It is likely that applications of the activity to other problems might readily be made.

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[2] E. C. Tolman and C. H. Honzik, "Insight in Rats," Univ. Calif. Publ. Psychol., 4: 215–232, 1930.

[3] K. S. Lashley, "The Mechanism of Vision," *Jour. Genet. Psychol.*, 37: 453–460, 1930.

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