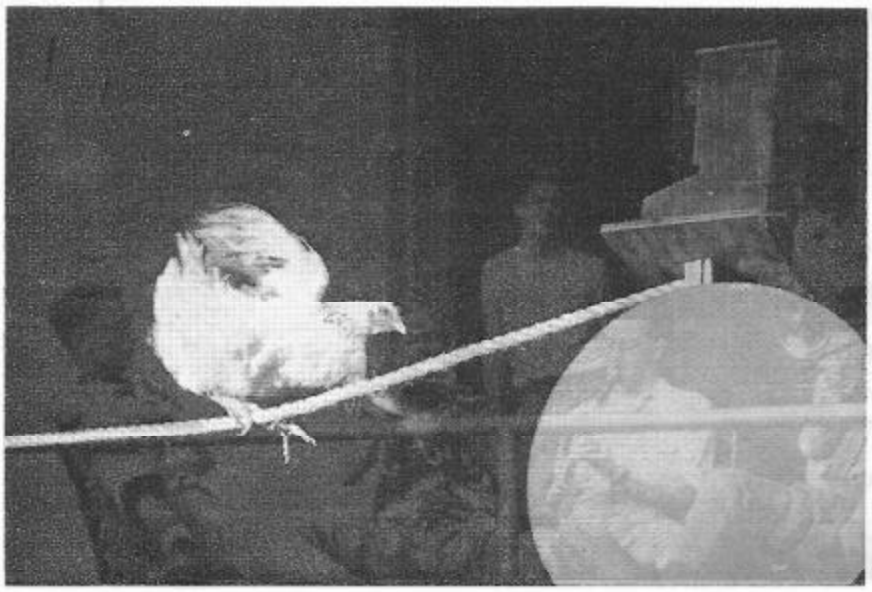
HARCOURT, BRACE AND COMPANY, INC.
PUBLISHERS
383 MADISON AVENUE, NEW YORK 17, N.Y.

We are happy to send you the enclosed tearsheets showing how your pictures appear in our new textbook:

INTRODUCTION TO PSYCHOLOGY by Ernest R. Hilgard

Thank you for your help.

Mrs. Martha Demaras
Picture Editor



133 Reward as an incentive in animal learning. The hen has been taught to walk a tightrope in order to reach a feeder at the end.

italize on intrinsic motives, his battle is half-won.

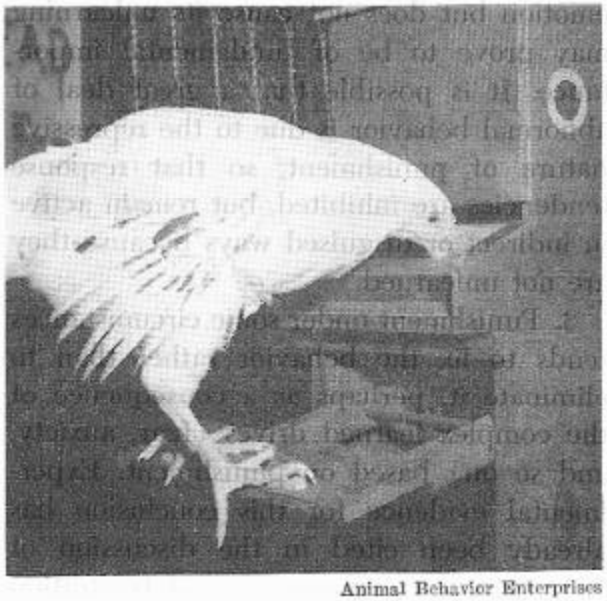
Controlling Learning Through Reward. The rewards used to regulate human learning beyond earliest infancy are almost all learned incentives; that is, the goal objects are secondary reinforcers. In school such objects as gold stars, marks, and rank orders derive their reward values from such learned motives as the desire for status.

While all that we know about the role of reinforcement in learning tells us that rewards are effective, extrinsic rewards—such as prizes for excellence—may have some objectionable by-products, two of which are worth specifying:

1. A reward planned by an adult (parent or teacher) and arbitrarily related to the activity is a kind of bribe. It leads to docility and deference to authority rather than to originality and self-initiated activity. It engenders in the child an attitude of "What do I get out of this?" That is, the activity becomes worth while only for the remuneration it brings in praise, attention, or financial gain. Some of the problems of cheating on examinations arise when desire for the external reward outweighs regard for the processes by which the reward is achieved.

2. Rewards are often competitive, so that, while one or a few learners may be encouraged by the reward, many are doomed to frustration. If there is only one prize and many contestants, the problems of the losers must be faced. Is the gain to the winner worth the price in disappointment to the losers?

It was suggested above that controlling through extrinsic reward puts the learner in conflict. That is, it may be assumed that a learning task which is controlled by the promise of reward lacks sufficient intrinsic motivation to be carried through, or, in fact, the task may be one that is disliked and would be avoided were it not for the reward. One way of diagraming this conflict is shown in Figure 134. The individual I is shown as attracted by the positive incentive value of the pleasant reward R_p, and repelled by the negative incentive value of the unpleasant task T_u. Here then we have an approach-avoidance conflict. Because the reward is extrinsically related to the task, the learner will prefer to take an easier road to the reward if possible. Hence the one in authority must place a barrier around the reward (shown as a double line in the drawing), so that the learner can reach it only by way of performing the task. Mother must keep the



Animal Behavior Enterprises

candy out of reach until Mary sweeps the walk. The teacher proctors the examination to see that the answers are not found in an easy way.

Controlling Learning Through Punishment. Our folklore leads us to believe that punishment is an effective way of controlling learning. "Spare the rod and spoil the child" is not an isolated epigram. Social control by way of fines and imprisonment is sanctioned by all governments. Arguments have gone on for many years over the relative advantages and disadvantages of kind treatment (emphasizing reward for good behavior) and stern treatment (emphasizing punishment for error). The preference has shifted slowly from punishment to reward, so that the paddle is used less today than formerly in home and school, and the whipping post has disappeared from penal institutions. It is worth asking whether this shift has come about solely on humanitarian grounds or whether punishment has been found less effective than reward.

Evidence from psychological experiments suggests that punishment is indeed less effective than reward. Many such experiments were conducted by Edward L. Thorndike, who came to the conclusion that reward directly strengthens the rewarded behavior (the child who helps Mother is more eager to help if rewarded), while punishment works only indirectly and does not universally weaken the behavior punished (a child who is punished for stealing candy may steal it again). The kinds of experiments on which Thorndike's conclusions were based are illustrated by the following experiment with chicks.

EFFECTS OF REWARD AND PUNISHMENT ON CHICKS

A simple maze gave the chick the choice of three pathways. One of these led to reward, to "freedom, food, and company"—to an open compartment where other chicks were eating. Either of the other pathways led to punishment, in the form of 30 seconds' confinement. Records were kept of the tendencies to return to the preceding choice when it had led to reward and to avoid the preceding choice when it had led to punishment. The results showed that there was a distinct tendency to return to the rewarded path, but little evidence that punishment led to any tendency to avoid the punished path.[23]

No single investigation of this kind can be conclusive, for there is no way of knowing whether the punishment was as punishing as the reward was rewarding. But many other experiments, with human subjects as

[23] Thorndike (1932).

134 Barriers that prevent easy access to reward. The person *I* is not closed in by barriers as in the case of punishment, but the reward R_p is protected in order to prevent access from a path such as *W* which does not go by way of the unpleasant task T_u. The solid arrows show that *I* is in a conflict because he is repelled by T_u while he is attracted by R_p. (Modified from Lewin, 1946)