

painted black, corn painted partially black, wooden pellets made from hardwood dowel, air rifle shot coated with wax, pellets coated with wax, pellets wrapped in tin foil, pellets coated with Duco cement, pellets coated with shellac, pellets coated with shellac and dipped in flour, and capsules filled with mash.

To date no pattern has evolved from this experimentation, and we are at the moment thoroughly confused. Consequently, I am withholding detailed reporting on these experiments until next month, at which time we hope that some unifying principle will have revealed itself.

The only suggestion of a principle at the present time has to do with the learning theory of eating behavior. This is indicated by two results which we have obtained.

First, the capsule experiment: when the hens were presented with the capsules filled with Larro mash, they seized the capsules in an exploratory way, rattling them in the bill, and striking them on the floor of the cage as if trying to break them open. However, they did not eat the capsules until one was opened and the egg mash eaten separately. After that the chickens began to swallow the capsules without further exploration.

Secondly, in order to test the unlearned strength of behavior for various physical stimuli with regard to eating responses, a dozen day old chickens were obtained. Numerous substances were glued to identical pieces of plywood and presented to the chicks one after another, on the theory that we would get the native strength of response here, without the factor of reinforcement entering in. There were numerous things on the boards: air rifle shot, Larro pellets, corn, various grains from a package of canary feed, cake decorations, various colors and shapes. All in all the whole experiment was a simple exploratory study to try to determine if there was any strong native behavior to any particular type of stimulus pattern.

This experiment was going along smoothly and we had just presented the whole corn board, to which the chickens made no pecking responses at all. We then put in the board which bore the small canary seeds. The chicks made a few lackadaisical pecks at these seeds, in the course of which some of the seeds came off. These were seized by the chicks and eaten. All the chickens then became greatly excited and started pecking frantically at the seeds. All the seeds were finally dislodged from the board and eaten. There was a very marked increase in the activity of the chickens.

Now we reinserted the board with the whole corn on it, and we must remember that no responses were made to this board previously. The chickens now became greatly excited and pecked frantically at the grains of corn. This board was left in for 10 minutes during which time several thousand responses (too fast to count) were made to the grains of corn. An extinction process took place in which the chickens gradually pecked with less and less frequency and with ever diminishing energy at the grains.