HISTORICAL NOTE

THE DAVIS PLATFORM¹

Bird watchers (the out-of-doors variety) operate happily on a schedule of intermittent reinforcement. Of the various rewards available to them, probably the one with the greatest effect is that of happening upon the unexpected. Such was the case for the writer, who in reading a new work on the finch family, found a report of what may well have been the first rough Skinner box, complete with key and food magazine. While there is clearly no historical tie between this early device made by a naturalist interested in problem-solving in wild birds and B. F. Skinner's careful instrumentation, still one is reminded of the observation that novel ideas often turn up in very different places at almost the same time.

The account appears in the final volume of Bent's monumental *Life Histories of North American Birds*. A series of bulletins of the United States National Museum, the first was published in 1919 and only in 1968 did the last volume (that on finches) appear. All in all, the series consists of over 10,000 pages of description of such things as the habits, nesting, incubation, young, plumage, food, behavior, voice, enemies, field marks, migration, and distribution of hundreds of species.

It is in the chapter on the pine siskin (written by R. S. Palmer) that one finds the unexpected reference to an early experiment on operant conditioning. The material is taken from a piece by E. R. Davis first published in 1926 in *Bird Lore*. Davis reports that in the fall of 1925 a flock of 100 siskins took up residence at the feeders about his home in Leominster, Massachusetts. Though normally a resident of the more remote wilderness areas, these birds "... grew to be exceedingly sociable and to lose every vestige of fear. Whenever I would appear at the window, or step outside the door, down they would come and, settling upon my head, shoulders, and arms, would peer anxiously about for the food that they had learned to know I held ... [p. 382]." One is reminded of Skinner's situation on the top of a flour mill in Minneapolis in the early 1940s: "All day long, around the mill, wheeled great flocks of pigeons. They were easily snared ... and proved to be an irresistible supply of experimental subjects [1958, p. 94]."

Wrestling with the ancient question about whether animals can "reason", Davis writes that the siskins learned to fly into his open bedroom windows and to wake him in the early morning by pulling his hair. He then put seed in a glass-covered box by his bedside.

Unable to get at the seed, they would pull his hair, fly to the seed, and then fly back to pull his hair again until he awakened and removed the glass cover. Davis then goes on to describe his early version of the Skinner box:

"Another experiment that I made to test their power of reasoning was a device consisting of a platform, with a rear wall on which was placed an ordinary push button. An arrangement on the other side of the wall would, when the button was pressed, allow a small quantity of seed to pass down a little chute and be delivered at their feet. It was ludicrous and interesting in the extreme to see the birds attempt to solve this new problem. Immediately I put it out, one after another came and inspected it; they were mystified at finding nothing to eat on the strange-looking affair. They would critically examine it in every corner, then fly away only to return for a yet closer inspection. They couldn't quite understand why I had put out something that contained no food—everything, heretofore, had had food connected with it in some manner.

"For quite awhile the thing remained a puzzle to them. Finally, one of them happened to notice that push-button, which was a different colored wood from the rest of the contraption. He sidled up to it, looked it over for a moment, then up and gave it a 'biff.' This released the catch on the other side and down at his feet came a little handful of seeds. This frightened him, of course, and he flew away, only to return a minute later, eat the seeds that had fallen down the chute, and then tried the "press-the-button" arrangement again. It was not long before several of the flock had learned the secret, but it was quite awhile before they became used to the seeds falling down at their feet, so that they were not afraid, and would proceed to eat them without first flying away a few inches [p. 385]."

The account ends with a note that the last of the flock left for its breeding range by the middle of June. Whether any returned the next winter to demonstrate retention of the button pressing is not recorded. Most probably they did not, for many members of the family *fringillidae* are noted for the unpredictable pattern of their annual wanderings.

¹Dedicated to B. F. Skinner in his sixty-fifth year. Reprints may be obtained from C. W. Huntley, Dept. of Psychology, Union College, Schenectady, N.Y. 12308.

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