



Marian Breland Bailey: many lives (SQAB, May 25, 2002, Toronto, Canada)

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I am both honored and saddened by the opportunity to say a few words about Marian Breland Bailey. As have many others, I always thought of her as “my kind of person,” and the opportunity this talk afforded to find out more about her has given me a clearer picture of what was lost with her death. Marian Breland Bailey was born in 1920 and died September 25, 2001, in her 81st year. She was survived by her husband Bob Bailey, eight children, five grand children, and two great grandchildren. She was preceded in death by her first husband, Keller Breland. These are the barest facts of her life, but, in reality, she lived many lives. I will give you a sample here.

1. Observant questioner

Many of you here will recall Marian as the alert, white-haired lady who was a fixture in the audience of SQAB talks. She was still at it last year, sitting near the front and listening intently to the speaker, with none of the zoning out or dozing off that characterizes many academics over 50. At the end of a talk, she frequently raised her hand, and proceeded to ask a question or share a bit of information. The questions were always relevant, never cream-puffs, and the information mostly “dead on,” obviously drawn from a lifetime of working

with animals. If the speaker was fortunate, she offered both questions and information.

I experienced Marian’s audience input first hand at a talk about misbehavior in the late 1970s. After reviewing examples (most drawn from the American Psychologist article by Marian and Keller Breland), I suggested that misbehavior consisted of preorganized species-typical foraging responses triggered by a cue with niche-related characteristics that predicted a delayed reward. Ten minutes from the end of the talk, I was supporting this view by pointing out that misbehavior typically involved appetitive rather than consummatory responses when, suddenly, Marian stood up and politely took charge. “I’m Marian Breland Bailey,” she said. “I like what you are saying, but we (she gestured toward Bob Bailey seated beside her) have to go to another talk. I want you to know, though, that consummatory responses show misbehavior. Animals often eat props paired with food. I’ve seen a dolphin swallow an inner tube, and turkeys eat the quarters we trained them to deposit. After they died you could find the coins ground smooth in their gizzards.” With that, she and Bob exited, leaving me to finish the talk on my own.

Later that day at a social hour, Marian introduced me to Bob, and suggested that I look at the book on Animal Behavior she and Keller had written in the early 1960s. I checked it out when I got home, and like everything else Marian was involved with, the book proved to be both groundbreaking and informative. I’d

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like to share two quotes from it here, saving a few others for later.

The first is a Konrad Lorenz like comment on the behavior of ducks and chickens, expressed in plain-spoken American:

Young ducks and chickens . . . do not care to be handled, and will get away if they can. In their society, friends are not grabbers. (*Animal Behavior*, p. 64)

The second is a warning about the pitfalls of focusing on methodology:

The psychologist who thinks that psychology has reached the end point of its development and that all there is left now is to work out the details with the endless proliferation of experiments under different schedules of reinforcement, schedules of deprivation, and the like, will miss the diversity and richness of animal and human behavior. (*Animal Behavior*, p. 116)

1.1. *Student*

Marian Kruse, as she was known in 1938, began her career in behavior working with B.F. Skinner shortly after he joined the faculty at the University of Minnesota. Marian was a language student, but Dr. Skinner, noting her obvious intelligence and writing skills, asked her to help him proof the manuscript of the *Behavior of Organisms*. In appreciation for her assistance, he inscribed the final galley proof to her and presented it as a gift. She shortly became a graduate student in his laboratory, about the same time as Keller Breland. Keller and Marian were married in 1941. In 1942 the Skinner group began working on the Pigeon Pelican Project, an attempt to teach pigeons to guide aerial bombs to targets by pecking a display. It was in the context of this project that an important shift began in operant training procedures.

In his experimental work at Harvard, Dr. Skinner focused on constructing and tuning apparatus and procedures to facilitate the emergence and control of the operant lever press. He continued this apparatus-based approach at Minnesota, but, at the same time, he began to attend to developing various operants in less constrained circumstances. One resultant change was an emerging recognition of the possibilities of shaping—the rewarding of successively closer approximations to a target operant. The concept of shaping was the

topic of a photographic essay in *Life* magazine (I am indebted to Gail Peterson for this information). In the apartment of a friend, Skinner demonstrated the shaping of an operant by rewarding the dog accompanying the photographer for successively higher leaps against a wall. The wall was marked with horizontal lines at increasing heights to make the changing response criteria clear. Given successively more challenging heights to obtain food, the dog rapidly went from not jumping at all to leaping high against the wall.

The emphasis on shaping was accompanied by a second development, the use of an easily controlled secondary reinforcing signal to reward each successive approximation to the operant. A secondary reinforcer (eventually often a hand-held “clicker”) was established by pairing it with food; then it was used to shape the animal’s behavior by presenting it after an appropriate response. The clicker had advantages over presenting a food hopper in that it was portable (no electrical power or relay racks needed), and it could be applied without interrupting responding by the delivery of food.

1.2. *Animal Behavior Enterprises (ABE)*

Marian and Keller Breland soon saw that the implementation of shaping using bridging (as they called the use of clickers) could be used to train animals for many purposes, including commercial ones. In 1943, against the advice of many friends and colleagues (including Dr. Skinner who argued reasonably that they should stay in school and finish their degrees) they left Skinner’s lab for a small farm in Mound, Minnesota. Founding a two-person company called ABE, they began to explore the possibilities of shaping and bridging using a variety of rewards and species. Not only were they successful at developing new behavior, they set a precedent for their enterprise by investing in research before trying to sell a product. Their favorite species, because of availability, tractability, and potential immediate payoff; was chickens, but they were never shy about trying other animals, such as sheep, goats, cattle, horses, geese, swans, rabbits, ducks, etc., over 140 species in all.

Like most beginning business, the critical goal of ABE was to put food on the table; so after being satisfied with the success of their techniques, Keller began selling corporations the idea of using trained

animals in advertisements, especially in the form of a traveling animal show advertising a company's products. By 1951 they had written a general training manual for working with animals, formed multiple touring shows, officially launched the area of Applied Animal Psychology in an article in the *American Psychologist*, and moved to larger and warmer quarters in Hot Springs Arkansas.

Regrettably, Keller died in 1965, but ABE continued to prosper under Marian's direction, accumulating a group of talented people interested in commercial applications, ranging from Grant Evans to Kent Burgess and Robert Bailey, eventually a staff of 43. Marian and Bob Bailey consolidated the enterprise by marrying in 1976. ABE branched out to television commercials in 1954 and began providing small theme parks with prepackaged animal shows. For example, they had a stable of raccoons that played basketball and pianos, and hunted for eggs or crawfish. They also influenced the development of large-scale popular shows using subjects from marine mammals to parrots, and spent considerable time doing government funded research on potential applications of behavioral control. They advised public figures and groups ranging from Marlon Perkins to Walt Disney. Though persistence was their trademark, they finally gave up trying to encourage zoos to use training techniques to facilitate husbandry in captive animals. Their ideas in this case were nearly half a century too early.

1.3. Teacher

Marian integrated teaching with family life in Hot Springs Arkansas, serving as a Girl Scout Leader for 9 years and President of the local PTA. She gave her time to many organizations and committees concerned with mental retardation and autism. In the early 1960s Marian wrote one of the earliest manuals instructing ward attendants how to teach the developmentally disabled. She continued as president of ABE and lead scientist on many government projects, and, as though that weren't enough, she returned to graduate school, earning her Ph.D. in 1978. She soon began teaching at Henderson State College, rising to full professor before retiring at the age of 78, some 20 years later. In 1996 Marian began a new teaching career with Bob Bailey offering small classes in animal training to professional trainers. They got the word out by taking

their show on the road, pulling a trailer loaded with equipment and chickens across large portions of the United States and into Canada.

Marian also taught through scholarly publications. Some of the best lessons were in the book on *Animal Behavior*, for example:

In understanding the basic business of living in which animals are engaged, the psychologist of the future . . . will take responsibility for understanding, explaining, and in many cases, control of the entire range of behavior. (*Animal Behavior*, p. 118)

The direction of animal experimentation in the next 25 years may bear scant resemblance to that which laboratory psychology has taken in the last 25 years. We have reached the end of an era in more ways than one and may find ourselves coming full circle back again to the days of truly comparative psychology. The animal psychologists of the future will be much closer to the biologists, not only in methods but in subject matter and cooperative ties with the biology departments. (*Animal Behavior*, p. 117)

2. Positive iconoclast

Marian Breland Bailey was a wonderful combination of vision, perseverance, caring, independence, innovation, and brains; a leading scientist and practitioner, a mother, trainer, teacher, administrator, and a community and business leader. I see her philosophical stance as a positive and pragmatic iconoclast. She saw what was missing and proceeded to do something about it. She was not deterred by much of anything, except the possibility that people might give her more credit than she felt she deserved (Fig. 1).

In speaking of her work with Keller Breland, she mentioned:

I would . . . like to emphasize that Mr. Breland was always the principal author; his were the ideas, the creative spark, and the bulk of the substantive portion of the writing. I have been the journalist, organizer, rewrite editor, and author of narration and expository prose. Another way of putting it might be to say that he was the architect of the dreams and I the engineer. (*Animal Behavior*, p. ix)

And, finally, from the introduction of the *Animal Behavior* book:



Fig. 1. Marian Breland Bailey. Drawing by Lisa Mantle.

During the years of our work... it has been our hope that at the least it would be, like almost everything else we have done, a little bit different. We have hoped that it would be controversial—that it would arouse interest, inspire debate, stimulate further reading, provide ideas for research. This inspiration to creativity, and the championing of undespairing independent thought, may well be our chief legacy to the world. (*Animal Behavior*, p. ix)

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