

The Feather Detective: Mystery, Mayhem, and the Magnificent Life of Roxie Laybourne

By Chris Sweeney. 2025. Avid Reader Press. 320 pages, 12 colour illustrations, and nine black and white illustrations, 39.99 CAD, Hardcover, 28.00 CAD, Paper, 20.99 E-book.

Roxie Laybourne was known by many epithets: for example, the *New York Times* dubbed her “the Miss Marple of eider-down” and special agents in the Federal Bureau of Investigation (FBI) sometimes referred to her as “the doyenne of down” (pp. 27 and 198). While these terms made her work sound frivolous, she was a major influence on the future of safe aviation and changed the field of forensics. This book’s title, *The Feather Detective*, is more apt, but the alliterative phrase “Mystery, Mayhem, and the Magnificent Life” borders on being too cute.

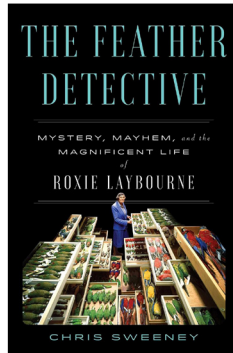
Laybourne was born in 1910 in North Carolina, the youngest of 14 children. Her independent streak was evident early on, and, encouraged by her parents, she attended Meredith College, a small all-women’s school in Raleigh. She graduated in 1932,

distinctly unqualified for the typical professions of women in that era: she didn’t know anything about nursing, she had purposefully avoided taking teaching classes, and she lacked the docility and typing skills for clerical work. (p. 54)

She did have a keen interest in wildlife and aviation, and, unable to afford ground school, she hung around a nearby airfield at every opportunity.

In 1936 she married Philip Braxton Simpson, had a son, and started working on a Master’s degree. Having taught herself taxidermy, Laybourne was hired in 1937 by the North Carolina State Museum (where she had volunteered after college) as the official state taxidermist. In 1944 she and her family moved to Washington, D.C., for a one-year position as a taxidermist at the Smithsonian Institution, backfilling for a man who had been drafted into the war effort. She was the only woman on her team, and her motto became “do the work, keep your mouth shut, and they will respect you” (p. 70). She was to fight backroom politics and sexism for most of her career, but she stuck to her motto.

The relatively new United States Fish and Wildlife Service (USFWS) was responsible for the North American bird collection housed at the Smithsonian, and in 1947 Laybourne was hired to maintain it. It was the basis for the rest of her life’s work. Newly



divorced from Simpson, Laybourne married Edgar Grove (E.G.) Laybourne in 1956, another Smithsonian taxidermist with whom she already had a second son. When an airplane careened into Boston Harbour on 4 October 1960, shortly after takeoff from Logan International Airport and killing all 62 people on board, Laybourne was called to identify the bird parts removed from its engines. Commercial air travel was just coming into its own, and the Federal Aviation Administration (FAA) also wanted help in thinking about how to study bird-airplane collisions in the long-term. Soon, Laybourne was receiving bags and envelopes of feathers and guts from airplanes across the country.

Laybourne experimented with cleaning and drying the feathers and then developed methods for studying them under a microscope. The “intricate arrangement of nodes, villi, hooklets, pigments and cell junctures” became the unique identifiers that would allow her to differentiate species by sometimes a single feather (p. 86). At the time, she did not have the benefit of a comparison microscope, which would have allowed her to examine two different slides side-by-side, so she made sketches to compare the samples to known species in the Smithsonian collection. It was the “slow accretion of knowledge” (p. 90). Although she had avoided taking teaching classes in college, in the mid-1960s she started a skinning class at the museum that was open to the public. She liked to teach, and students helped skin more birds for the museum’s collection than she could have done alone. One pupil said that “she was never abusive, but she was fairly abrasive” when training people (p. 187).

In the 1970s the FBI and other police agencies began using Laybourne’s feather identification skills in forensic work in criminal cases; “pillows, duvets, jackets, sofas, and sleeping bags could all leave a plumaceous trail of trace evidence under horrid circumstances”, including murder (p. 130). Laybourne developed three rules for testifying in court as an expert witness, which she did many times: never try to amaze the jurors with her knowledge; keep it short, simple, and complete; and never fudge facts. She repeatedly explained to judges and jurors that she could not prove that feathers came from a particular source, only that there were microscopic similarities between the feathers in question. In 1974 alone, she analysed evidence from 45 criminal cases, assisted with 45 United States customs investigations (all of which included travelling to testify), and identified 72 feather fragments from airline strikes. She was a

workaholic, often working through her weekends.

Despite this prolific output, her position at the USFWS laboratory was abolished that same year—her new boss was likely jealous of Laybourne's expertise and reputation and was an empire builder and old boys' networker. At 64 years old, after a career spanning three decades, she was forced into early retirement. She retained her status as a Smithsonian research associate, which gave her continued access to the bird collection; she did contract work for the FAA and arranged a three-days-a-week schedule with the law enforcement division of the USFWS. Laybourne became desperate to find a successor for her feather identification work. Insisting that the FBI should have their own in-house expert, she trained a young agent, Doug Deedrick, to do analysis and testify.

A few years later, when she was 72, Laybourne started training 22-year-old Beth Ann Sabo in USFWS and FAA work. The FAA work was tiresome—long hours bent over a microscope putting together 1000-piece puzzles with no guarantee that you had all the pieces—but the range of evidence and circumstances in the USFWS cases kept the work interesting. One case involved a raid on a curio wholesaler,

while another was identifying feathers and mush from a goldfish pond where the owners had killed >9000 egrets, ducks, hawks, and terns over a period of six years to stop them from eating the fish. In 1989, a year after Laybourne had her second retirement, the USFWS opened the world's first forensics laboratory dedicated to crimes against nature, and Sabo moved to Ashland, Oregon, for a position there.

With two of her jobs passed on to others, Laybourne started mentoring Carla Dove in the hopes that she would succeed her in identifying bird strikes for the United States Air Force, which was still sending Laybourne 300 to 500 remains a year. Bird strikes cannot be stopped, but they can be managed, and Laybourne's work helped the FAA set regulations.

Sweeney has woven a compelling story about an extraordinary woman driven by intense attention to detail, who kept her head down, shared her knowledge, and kept an open mind her whole life. Source material is referenced within 27 pages of Notes by chapter and page number. This is followed by one page of image credits and a 13-page index.

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