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100 YEARS AGO IN THE AOU

100 Years Ago in the American Ornithologists' Union

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"Each year as I look over this communication [annual call for payment of dues] I ask myself, Shall I continue in the A. O. U., and what can I offer a new Member as an inducement to have him join the 'Union'?" Sound familiar? Well, such was the question raised by H. H. Bailey in a Letter to the Editor in the January issue of *The Auk* in 1915. He argued that 90% of the Society were Associates who got little or nothing for their annual dues of $3, and that 8% of the Society were Members (= Elective Members) who got little or nothing for their $4 dues. The business of the Society was conducted by the Fellows, in what Bailey termed a "Star Chamber" manner, alluding to the British legal system, where a group of administrators might act arbitrarily in secret. And what were the criteria for becoming a Fellow or Member? The current bylaws were neutral to that issue, other than that you needed to be nominated by 3 Fellows to be considered for Fellow. Initially, in 1882, the number of Fellows was capped at 40, so by 1915, some of the Fellows were certainly in the twilight of their careers, if not totally retired. Bailey contended that to become a Fellow, one had to fill "dead men's shoes," and who wanted to wait for that? Bailey ended with a plea to change the bylaws and do away with classes of membership: "Let us have a democratic organization, equal rights to all, special privileges to none."

Editor Witmer Stone felt obligated to respond. Concerning the worth of being a Member, all classes got to enjoy the Annual Meeting and the hospitality associated with it. All classes got to publish in *The Auk*, and the state of ornithology was advanced by the work of the committees of the AOU. As for there being no criteria for advancement, Stone argued that this is why a vote of the majority of the Fellows was necessary when considering individual cases, each being unique in terms of qualifications. As to the Fellows conducting the business of the Society, it was to relieve the Members and Associates of the burden of dealing with the Society's affairs while enjoying the Annual Meeting. Stone conceded that maybe Bailey had a point there, and noted that there were discussions of changing the bylaws to include Members at the Annual Business Meeting. The Fellows did take up the issue at the 1916 Annual Meeting and voted to change the bylaws so that Members could participate in the Annual Business Meeting.

Harold Harris Bailey (1878–1962) was the son of Harry Balch Bailey (1853–1928), one of the Founding Members of the Nuttall Ornithological Club and of the AOU. A naval architect by trade, the younger Bailey founded the Bailey Museum and Library of Natural History. From 1920 to 1945, he irregularly produced a *Bulletin* of the Museum and Library, where he also published his own taxonomic works. However, the 14 new names he proposed for birds were mostly spurious (Hubbard and Banks 1970). He also published *The Birds of Virginia* (1913) and *The Birds of Florida* (1925), the latter illustrated by George M. Sutton (1898–1982). Stone reviewed both works in *The Auk* (30:594–595; 43:105–106), finding them both attractive volumes but generally lacking in scientific rigor. Bailey's collections and library were donated to Virginia Tech in 1982, along with that of John Eugene Law (1877–1931), who had been, among other things, a curator at the Museum of Vertebrate Zoology at the University of California, Berkeley. Called the Bailey–Law Collection, it was donated by Laura Beatty Law Bailey, who had been married first to Law and then to Bailey after Law's death. Property was also donated, the sale of which helped establish the Harold H. Bailey Chair in Biology, currently held by Jeff Walters.

In response to an Editorial in 1913 (*The Auk* 30:472–474) decrying the current state of presenting birdsong as music, Aretas A. Saunders (1884–1970) proposed a new approach in 1915, graphing pitch on the *y*-axis and duration on the *x*-axis (*The Auk* 32:173–183). Pitch was still depicted as octaves on a musical scale, and the duration of a song was measured in seconds, using a stopwatch. Using this technique, he presented the songs of 7 species in graphic form (Figure 1). According to him, the songs of birds have 5 components: pitch, duration, intensity, pronunciation, and quality. Sound qualities are "baffling and difficult to describe with accuracy," so they will await a "definite and practical classification." Pitch and duration can be determined, but intensity (particularly absolute intensity) is more

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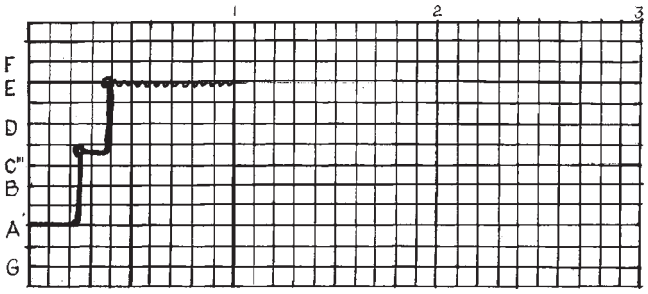

FIGURE 1. Song of the Red-winged Blackbird (*Agelaius phoeniceus*) as reported by Saunders (1915). The loops refer to consonant sounds, and the wavy line is a trill.

challenging. But relying on the fact that intensity "varies inversely as the square of the distance from the source," perhaps intensity could be measured if "our bird will remain in one spot singing, on a day when there is no wind, while we find the farthest point at which the softest and loudest parts of its song are audible." However, Saunders concluded that "This process seems destined to try to the utmost the patience and perseverance of the future student of bird song." Nonetheless, he thought that intensity could be depicted by the thickness of the line on the graph—thicker lines for louder parts of songs and thinner lines for quieter parts—although he had not yet figured out how to do that. Likewise, trills in a song can be depicted by a wavy line (Figure 1). "Pronunciation" referred to vowel and consonant sounds, and Saunders detected some consonant sounds in birdsong, which he depicted as a loop in the line on the graph (Figure 1). Saunders admitted that one still had to know quite a bit about music to learn this technique.

This work elicited a fast response (*The Auk* 32:535–538) from Robert Thomas Moore (1882–1958), who said that Saunders's method had to be either more comprehensive, more accurate, or more simple to replace the old one. Moore contended that there were only 4 components to music: pitch, time, intensity, and quality. Moore dismissed Saunders's "pronunciation" as being only a part of quality, which cannot be easily measured. Pitch is important, but Saunders's departure from the 5 lines in music notation to multiple lines associated with octaves (Figure 1) is obviously "more complicated." Moore suggested that it would take 528 horizontal lines to account for all the variations possible in 1 octave, or 4,224 lines to accurately depict the song of the Vesper Sparrow (*Pooecetes gramineus*). But the biggest problem was substituting duration for time. "Time" is the much more inclusive

FIGURE 2. Paul Kellogg and J. J. Kuhn recording the Ivory-billed Woodpecker (*Campephilus principalis*) in Louisiana, April 1935, using the Cornell recording device.

term, incorporating not only duration but also "metre and rhythm." Saunders's system ignored rhythm, or the repetition of accented syllables, which was the fatal flaw for Moore. He used the songs of the Ovenbird (*Seiurus aurocapilla*) and White-throated Sparrow (*Zonotrichia albicollis*) as examples of birds with rhythm. In conclusion, Moore felt that "Mr. Saunders' suggestions are in the nature of a retrograde movement toward something less comprehensive and less simple."

Attempts would continue to depict birdsong on paper until the pioneering work of Arthur A. Allen (1885–1964), founder of Cornell University's Lab of Ornithology, to actually record songs (Brand 1932). Starting in 1931, he and colleagues and students developed a recording device to be used in the field that could be hauled around on a flatbed truck and which took 2 people to operate (Figure 2). Songs were back on paper in the 1950s with the use of the sonograph to depict them (Thorpe 1954).

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