

100 Years Ago in the American Ornithologists' Union

Author: Smith, Kimberly G.

Source: The Auk, 130(2) : 397-398

Published By: American Ornithological Society

URL: <https://doi.org/10.1525/auk.2013.130.2.397>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

100 Years Ago in The American Ornithologists' Union



The Auk 130(2):397–398, 2013

© The American Ornithologists' Union, 2013.

Printed in USA.

The 1913 issues of *The Auk* contained 41 major papers, 16 of which dealt primarily with new distributional records. Interesting topics included Frank Overton and Francis Harper's introduction of a new color photography technique called "autochrome Lumière" (*Auk* 30:74–76), which had been developed in France and marketed in 1907. It consisted of a plate with colored starch grains, and the camera needed a special yellow filter for the colors to be true. A drawback was the time needed to expose the plate, but the authors stated that "the number of our failures to secure good pictures [of birds] has not exceeded the number of our successes." This process was used until color film became available in the 1930s. Howard H. Cleaves presented the 1912 report of the American Bird Banding Association (30:248–261). Glover M. Allen discussed the important contributions of little-known Benjamin F. Damsell (1854–1911) to the bird records of Essex County, Massachusetts (30:19–29), and Witmer Stone discussed the bird records kept by William Bartram from 1802 to 1822 near Philadelphia (30:325–358), calling them the oldest bird-migration records that we have for any part of North America.

In perhaps a sign of the times and the state of ornithological research, Francis Henry Allen (1866–1953) had two articles concerning "Morning awakening and even-song" (30:229–235, 512–537). He had been interested in the order of singing by species in the morning and the reverse order of singing by species in the evening since 1883, and was inspired to present his data based on a paper published in 1912 (29:307–327) by Horace Winslow Wright (1848–1920). Wright reported that Song Sparrows (*Melospiza melodia*) and Chipping Sparrows (*Spizella passerina*) were the first to sing in the morning, which was really early given that there was no daylight savings time. Allen contended that American Robins (*Turdus migratorius*) actually sang first and thought that maybe Wright did not get up early enough (or stay up late enough?) to hear the first robins. Neither author articulated why this kind of information might be useful, other than stating that it might be interesting to know in what order certain groups of species start or stop singing during the breeding season. Allen mentioned that it was thrushes that sang last at night, and that "with twenty-four chances in thirty-eight that the Olive-back's voice will be the last. One waits in the silence for a time and then withdraws. The bird's night had closed around them." Wright, an Elected Member of the AOU, is most remembered for his little book on *Birds of the Boston Garden*, published in 1909. Allen was an editor with Houghton Mifflin Co. for many years and was an authority on Henry David Thoreau. He was elected a Fellow of the AOU in 1947 and was a stalwart of the Nuttall Ornithological Club and the Massachusetts Audubon Society.

In another sign of the times, top predators were thought to be responsible for controlling populations of many game species, such that their demise would cause game populations to flourish. Domestic animals were also attacked, and in Montana, Swainson's Hawks (*Buteo swainsoni*) were called "Hen Hawks," a total misnomer that led to their persecution. E. S. Cameron documented this problem (30:167–176, 381–394), stating that "if you give a dog a bad name you may hang him." He stated that the hawk, which had been common around the turn of the century, was now disappearing as a breeding bird in eastern Montana. In the first paper, Cameron discussed the large migrations of these hawks in spring and the building of nests. He also described his experience in raising hawks that he took as nestlings. In the second paper, he discussed the diet at the nest, which consisted of frogs, grasshoppers, and mice, in that order. He concluded the piece with a lengthy section on plumages of the male and female.

Two articles dealt with bird migration, the study of which was still mostly in its infancy. John C. Phillips (1876–1938) wrote the first article (30:191–204), a lengthy rambling about how migratory birds seemed to arrive at the same time each year. How could they do that?

Phillips started off with this supposition: "the great problem of migration is likely to remain as much unsolved as ever, for the sense on which distant orientation depends, and the instinct which starts the travelers are beyond the reach of our present methods of investigation." However, he proposed that "Whether we regard migration as the operation of a pure instinct, or complicate it with reflex action brought about by various tropisms, and even influenced by a certain element of choice (intelligence), we must admit, I think, that its foundation is adaptive and useful."

The aspect that he was most interested in he termed "periodic accuracy," whereby migratory bird species arrive at about the same time each year. To Phillips, that seemed "more highly developed than is compatible with adaptive necessity." In some species, the sense of timing is "a little less than marvelous," and he presented a number of examples. But he wondered: what does it matter if a species arrives one week earlier or one week later?

Phillips acknowledged that there were problems with just looking at first arrival dates, and he discussed Witmer Stone's idea of determining "bulk arrival," the date at which a species has arrived at half the stations in a restricted area (Stone 1906; for more details, see Stone 1908). Phillips pointed out, however, that if one compared the first day of arrival with the date of bulk arrival, they were usually only a day or two apart. He concluded that birds

actually were arriving in waves, and that the first birds were not early “stragglers.”

Phillips next examined whether we can discern anything from comparing more intelligent species with less intelligent ones, but that discussion went nowhere. More interesting questions were why do different species migrate at different times, and what is the stimulus for southern birds to move north in spring? Phillips reviewed the evidence at the time and suggested that sex “hormones” might play a role in the initiation of migration, but he could not see how that would keep an individual migrating to its destination. He wondered what would happen if a migratory bird was castrated prior to the onset of migration. Here he concluded that “the migratory impulse in birds is not to be explained on the basis of a purely physico-chemical response to an internal secretion, at least not that phase of it which pertains to potential accuracy.” He ended his essay with an interesting take on Darwin and natural selection: if Darwinism stresses useful variations, how could periodic accuracy evolve when birds arrive at about the same time each year? With the whole breeding season ahead of them, what would be the selective advantage of arriving at the same time each year?

Phillips was from an old Massachusetts family. Although he obtained a medical degree from Harvard, he did not practice medicine. He was elected a Fellow in 1925 and traveled widely during his life. Much of his research concerned waterfowl (see 129:195).

The next paper in the issue, by Wells W. Cooke (1858–1916), provides an interesting juxtaposition on how weather affects bird migration, stating that most people believe that “if weather is not the cause of migration, it is at least the most important, indeed the governing factor in determining the time of the bird’s arrival, and particularly in causing the variations from year to year.” After studying many years of spring migration data (see 127:725), particularly from the Mississippi flyway, Cooke’s opinion was that weather could possibly affect arrival by only a few days at most.

The first part of his Cooke’s paper looked at the effect of temperature on bird migration, using data collected by Dr. J. C. Hvoslef of Lanesboro, Minnesota, who provided detailed arrival dates of spring migrants from 1884 to 1893. Cooke was looking for a pattern of early arrival with warm weather and late arrival with cold weather, but if anything, the pattern was random or possibly the opposite. Cooke presented the bird and temperature data in a hand-drawn figure, which may be one of the first figures published in *The Auk*. He did note that two out of three species tended to arrive on warmer days rather than on colder days.

Cooke next looked at the amount of heat in spring, which we would call “degree-days” now, and found no relationship between warm and cold spring conditions and arrival of birds. Nor did there appear to be a relationship between temperatures along migratory routes and arrival. Lastly, he could find no relationship between wind direction and spring arrival, birds being equally likely to fly into a north wind as to fly with a south wind. He concluded that “spring migration consists of a series of rapid advances followed by days of inactivity or possibly of retrogression. After a check to the northward movement and a period of rest, when the next advance occurs, it does not merely proceed far enough to make up for the lost time, but the birds are quite apt to make a long flight forward until they are in advance of their normal position.”—KIMBERLY G. SMITH, *Department of Biological Sciences, University of Arkansas, Fayetteville, Arkansas 72701. E-mail: kgsmith@uark.edu*

LITERATURE CITED

- STONE, W. 1906. The percentage of error in bird migration records. *Condor* 8:88–90.
- STONE, W. 1908. Methods of recording and utilizing bird-migration data. *Proceedings of the Academy of Natural Sciences of Philadelphia* 60:128–156.