Periodical Revolutions and the Early History of the “Locust” in American Cicada Terminology

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Periodical cicadas (Fig. 1) inundate parts of the eastern United States every 17 or 13 years. Their unique life cycle and large populations have given these insects a public reputation. This reputation is linked to another name because a significant number of people call them “locusts.” How and when did this word come to represent periodical cicadas and by default all cicadas in the eastern United States?

The earliest record of periodical cicadas comes from Plymouth Colony and was written in 1633 by the Governor, William Bradford (Bradford 1959). In his history of the colony, Bradford wrote for that year:

And the spring before, especially all the month of May, there was such a quantity of a great sort of flies like for bigness to wasps or bumblebees, which came out of holes in the ground and replenished all the woods, and ate the green things, and made such a constant yelling noise as made all the woods ring of them, and ready to deaf the hearers. They have not by the English been heard or seen before, or since. But the Indians told them that sickness would follow, and so it did in June, July, August and the chief heat of summer.

This account predates the first account mentioned by Charles Marlatt (1907) by 33 years. Moreover, it claims the cicadas emerged during a Brood XIII year. But Brood XIII does not occur in Plymouth. However, Broods XI and XIV did occur there, and they would have emerged in 1631 and 1634, respectively. Marlatt dismissed subsequent historical records for the 1633 date and wrote that cicadas emerged in 1634. The date that Marlatt changed was taken from Nathaniel Morton’s “New England Memorial” published in 1669, and it is word for word the same text written by Bradford. However, the pages of Bradford’s account had fallen out of order, and the date 1633 may have been added long after Bradford had written it.

Thus, the true date of the Bradford emergence could be either 1631 or 1634.

The next account of periodical cicadas was in 1666. It is an unsigned note published by Henry Oldenberg and had the title “Some Observations of Swarms of Strange Insects, and the Mischiefs Done by Them.” It reads:

A great Observer, who hath lived long in New England, did upon occasion, relating to a Friend of his in London, were he lately was, That some few Years since there was such a swarm of a certain sort of Insects in that English Colony, that for the space of 200 Miles they posion’d and destroyed all the Trees of that Country; there being round innumerable little holes in the ground, out of which those Insects broke forth in the form of Maggots, which turned into Flies that had a kind of tailie or sting, which they struck into the Tree, and thereby envenomed and killed it.

The like Plague is said to happen frequently in the Country of the Cosacks of Ukraini, where in dry Sommers they are infested with such swarms of Locusts.

This account was the first to use the term “locusts” in association with cicadas. Its importance in the history of the terminology is unclear because the terms “flyes” or “flies” continued to be used to describe cicadas for several decades; however, the best known “plague” of swarming insects were the bibliques plagues of locusts.

The next mention of periodical cicadas was in 1674 (see Josselyn 1865). In his chronology of New England, Josselyn repeated Bradford’s terminology when he wrote that in 1633 “great swarms of strange flyes” appeared.

In 1705, Thomas Matthews wrote an account of the Virginia or Bacon Rebellion of 1676 and included the following:

Fig. 1 Magicicada septendecim or a 17-year cicada singing
The third strange appearance was swarms of flies about an inch long, and big as the top of a man’s little finger, rising out of spigot holes in the earth, which eat the new sprouted leaves from the tops of trees without other harm, and in a month left us.

The first definitive use of the term locusts to describe periodical cicadas was by the Rev. Andreas Sandel, a Swedish clergyman who mentioned in his diary the 1715 emergence of Brood X in Philadelphia. This account is noteworthy because it uses both terms “flies” and “locusts,” it helps pinpoint where the locust usage originated, and it gives another clue as to why the term “locusts” persisted. Sandel (see Sandel 1906) wrote:

In this month [May] some singular flies came out of the ground; the English call them locusts. When they left the ground holes could be seen everywhere in the roads and especially in the woods. They were encased in shells, out of which they crawled...when they first appeared the people split them open and eat them, holding them to be of the same kind said to have been eaten by John the Baptist. Sandel implicated the English colonists as the source of the locust terminology and this provided a clue as to where to look for the rationale for this term. He also noted they were the same insects eaten by John the Baptist, and those insects were locusts.

The English colonies in the early 1700s included robust cities with populations that included people interested in natural history and science. Moreover, colonial science taking place at the time was not occurring in a vacuum. New discoveries were being made and submitted as papers to the Royal Society in London for discussion and publication. Benjamin Franklin was a member of the Royal Society and was respected widely for his scientific observations and inventions. Other noted scientists living in the colonies included John Bartram, who Linnaeus called the greatest botanist in the world. Bartram came to the attention of Peter Collinson of the Royal Society and was employed by Collinson to collect plants, rocks, and insects and to make natural history observations and send them to Collinson in England. Bartram made detailed observations of the Brood X emergences in Philadelphia in 1732 and in 1749 and sent them to Collinson (Berkeley and Berkeley 1992). In his letters, Bartram refers to the cicadas only as locusts (i.e., never as flies) so Bartram’s letters do not give clues as to the origin of the use of the term “locusts.” But there was mention in the Bartram-Collinson correspondence of an earlier account. Bartram, in a letter dated 26 April 1737, refers to observations made by Paul Dudley about an insect that periodically appeared in large numbers as being “our locust.”

Paul Dudley was born in 1675 and died in 1751. He attended Harvard and served as Massachusetts’ attorney general and later as chief justice (Berkeley and Berkeley 1992). He was a member of the Royal Society of London and published several papers in the Philosophical Transactions but none on cicadas. However, on 13 June 1734, the Royal Society (1985) discussed a manuscript on periodical cicadas that Dudley had sent the previous December. In the manuscript, he correctly noted the life cycle as being 17 years long, described the calls, described the transformation of the nymphal cicada into the adult, and documented the occurrence of Brood XI in Massachusetts. Dudley observed the cicadas during the Brood XI emergence in 1699 and 1716. It was after the 1716 emergence that he started his manuscript. However, to determine that the life cycle was 17 years long, he waited until the next emergence in 1733 before submitting it. This puts him at the time and in the place when “flies” became locusts. Although Dudley used the term locusts in his observations, his manuscript suggests clues as to what was the major influence on his understanding of cicadas.

The first time Dudley (1733, unpublished manuscript) used the word “locust” he included a footnote that read, “Locusta is Latin for Lobster.” The footnote, however, is crossed out so there is some doubt as to whether Dudley wanted to include this comment. The appearance of the cicada nymph with its fossorial forelegs may have been reminiscent of a lobster, which was a common staple in the New England colonies. But it seems doubtful that this Latin use of locust was a major reason for the use of the term. Rather, Dudley’s manuscript suggests that locusts as biblical metaphors might have had a greater influence on the terminology. Throughout Dudley’s manuscript he refers to the role that “Learned Men” or clergy and biblical interpretation played in his understanding of cicada biology. He acknowledged the assistance of Rev. Mr. Weld in writing the manuscript and used biblical references to understand the insects. Cicadas were “metaphorical” locusts because they have a sting as described in Revelation, their calls are described in Joel, they come out in the heat of the day as described in Nahum, they live in holes in the ground again from Revelation, and they come out of nowhere in incredible numbers as described by Joel. This supports Sandel’s observation that linked the usage of locusts with biblical interpretations.

The Royal Society’s discussion that followed the reading of Dudley’s paper took a fascinating turn. The meeting’s minutes read, “the President [Sir Hans Sloane] took notice that Mr. Dudley had, under the name of a Locust, described the Cicada: and by confounding one Insect with the other had created to himself a difficulty to reconcile the accounts which he had read of the one, with the observations he had made of the other” (see Royal Society 1985).

Dudley was apparently taken aback by this assertion. He continued to insist that the creatures were locusts. He wrote an addendum to the Society maintaining his belief they were locusts, citing Rev. Weld among his supporters. In response, the Society arranged to send Dudley a specimen of an Egyptian Locust for comparison. Dudley responded in a letter dated January 25, 1736/37:

Having now a little more leisure (though not health) I am willing to employ it by telling you once more how much you have obliged me in the great Curiosity of an Egyptian Locusts; and thereby effectually convincing me that I was in the wrong to call our Cicadæ by the name Locusts: however I doubt not you will be so good to excuse my mistake. But after all, what name we shall give the Cicadæ in the English tongue I am at a loss; and as to our common people, let the learned world say or do what they please, they will continue to call them Locusts still (see Stearns 1970).

Dudley wrote that he would revise his essay and send it “a second time.” But he was working on a paper on evergreens and never completed the cicada revision (Stearns 1970).

In 1748, Linnaeus sent his student Pehr Kalm to North America with a letter of introduction for John Bartram (Berkeley and Berkeley 1992). Indeed, Kalm was in the region when Brood X emerged in 1749, and Kalm was so impressed by the cicadas that he wrote a paper in 1756 that described the basic natural history of the insect. He also wrote the following regarding the terminology:

By the Englishmen here they are called Locusts and by the Swedes living here they have gotten the name Grasshoppers. In Latin they could be called Cicada.

It was likely Kalm who brought periodical cicada specimens back to Sweden to Linnaeus, who described the species Cicada septemdecim in 1758 (Linnaeus 1758).

The first person to specifically say why the cicadas were called locusts was Peter Collinson in 1764. Collinson used the notes sent to him by Bartram and the manuscript by Dudley and wrote an account titled, “Some Observations on the Cicada of North America. Collected by Mr. P. Collinson.” Collinson wrote of the term locust:

In Pennsylvania the cicada is seen annually, but not in such numbers as to be remarkable; but at certain periods, of 14 or 15 years distance, they come forth in
such great swarms, that the people have
given them the name of Locusts.

Collinson’s assertion further supports the
idea that the use of the word “locust” was
the use of a biblical metaphor to understand
these insects because the swarms he alluded
to were the biblical swarms of locusts.

History has shown that neither
Collinson’s paper nor Linnaeus’ description
corrected the terminology in everyday par-
lance. The reason for its persistence is likely
due to the continued use of “locust” by many
professional entomologists. In 1839,
Nathaniel Potter, in a privately published
pamphlet on cicadas, made an appeal that
the term “cicada” should be rejected and “lo-
cust” be used to describe these insects. Even
Snodgrass (1921) published his work on
periodical cicadas using the title, “The Sev-
enteen-Year Locusts.” Snodgrass does not
explain why he used the incorrect term, but
it seems likely that the continued usage was a
concession to the public’s use of the word
“locust.” Even today, when cicadas emerge
the national media proclaim the appearance
of the locusts. The incorrect terminology
continues despite centuries of research.
Dudley’s prediction was correct when he
wrote, “As to our common people, let the
learned world say or do what they please,
they will continue to call them Locusts still”
(see Stearns 1970).

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