

HIDDEN GEMS

Houses No Warmer than Barns: Peter Kalm on Fireplaces and Firewood in Colonial Pennsylvania

The travel narrative of the Swedish-Finnish naturalist Peter Kalm (Pehr Kalm, 1716–79) is a familiar primary source for studies of colonial North America.¹ This essay highlights Kalm's comments on energy use in mid-eighteenth-century Pennsylvania and points to additional resources for Kalm's observations of the Delaware Valley region.²

¹ Kalm's work is probably best known through Adolph G. Benson's 1937 edition, *Peter Kalm's Travels in North America: The English Version of 1770* (1937; reprint, New York, 1966 [2 vols.] and 1987 [2 vols. in 1]). Benson revised and annotated John Reinhold Forster's translation, *Travels into North America*, 3 vols. (Warrington and London, 1770–71; 2nd ed. [abridged], London, 1772 [2 vols.]). Forster's translation, in turn, had been based on the German translation, *Reise nach dem Nordlichen America*, 3 vols. (Leipzig, 1754–64), of Kalm's original Swedish, *En Resa Til Norra America*, 3 vols. (Stockholm, 1753–61). Unless otherwise noted, my citations to Kalm's *Travels* refer to the Benson, 1987 reprint. All dates are New Style. All URLs cited were active as of Feb. 9, 2014.

² Joseph Lucas, trans., *Kalm's Account of His Visit to England on His Way to America in 1748* (London, 1892), Internet Archive, <https://archive.org/details/cu31924028059693>; W. R. Mead, *Pehr Kalm: A Finnish Visitor to the Chilterns in 1748* (Aston Clinton, Bucks., UK, 2003); W. R. Mead, *Pehr Kalm—His London Diary, 1748* (Aston Clinton, Bucks., UK, 2013; dist. by Buckinghamshire Archaeological Society); Pehr Kalm, *Resejournal öfver resan till norra Amerika*, ed. Martti Kerkkonen, 4 vols. (Svenska Litteratursällskapet i Finland, no. 419, 436, 525, 550) (Helsingfors/Helsinki, 1966–88); Bengt Hildebrand, ed., *Pehr Kalms Amerikanska Reseräkning* (Svenska litteratursällskapet i Finland, no. 356) (Helsingfors/Helsinki, 1956). Many of Esther Louise Larsen's translations of Kalm's scientific letters, papers, and dissertations by his students (effectively written by Kalm) have been digitized by Cornell's Core Historical Literature of Agriculture, available at <http://chla.library.cornell.edu/c/chla/about.html>. Tell Dahllöf, "Pehr Kalm's Concern about Forests in America, Sweden, and Finland Two Centuries Ago," *Swedish-American Historical Quarterly* 17 (1966): 123–45, available at http://collections.carli.illinois.edu/u?npu_sahq,3149 (accessed Feb. 3, 2014); Th. M. Fries, J. M. Hulth, and A. Hj. Uggla, eds., *Bref och skrivelser af och till Carl von Linné*, vol. 1 (Stockholm, 1922), part 8, 59–60, no. 1602; Pehr Kalm to Carl Linnaeus, Dec. 16, 1750, n.s., dated Dec. 5, 1750, *The Linnaean Correspondence*, <http://linnaeus.c18.net>, letter L1208 (accessed Feb. 9, 2014); Sven Lundqvist and Roland Moberg, "The Pehr Kalm Herbarium in UPS [Botanical Museum, Uppsala University]: A Collection of North American Plants," *Thunbergia*, vol. 19 (Uppsala, 1993), 1–62; Martti Kerkkonen, *Peter Kalm's North American Journey: Its Ideological Background and Results* (Helsinki/Helsingfors, 1959); Carl Skottsberg, *Pehr Kalm: levnadsteckning* (Stockholm, 1951). Recent studies of Kalm in English include: Fredrik Albritton Jonsson, "Rival Ecologies of Global Commerce: Adam Smith and the Natural Historians,"

When Peter Kalm came to Philadelphia in the fall of 1748, he was surprised to learn that “the winters here [in America] are just as cold as in Sweden.”³ Equally surprisingly, American families burned far more firewood than their Swedish counterparts, yet their houses were “no warmer than barns.”⁴ Kalm’s foremost goal in America was to collect native plants for the great Swedish scientist Carl Linnaeus. However, observing and accounting for this dramatic difference in energy use was an equally essential part of Kalm’s broader, utilitarian mission: What could he learn about America’s natural resources that might help Sweden’s weak economy?⁵

Because Pennsylvania’s winters were as bad as Sweden’s, Kalm argued, “it clearly follows that trees and plants that withstand the winters here should do the same in Sweden.”⁶ Sugar maple and hickory were “the best wood for fuel in everybody’s opinion,” because they produced the most heat.⁷ Black oak was best for charcoal.⁸

Kalm blamed the colonists’ extravagant use of firewood on their large, open fireplaces, which followed the English design. In particular, they lacked the dampers (*spjäll*) that kept Swedish homes snug.⁹ A century earlier, the original settlers of the New Sweden colony had not brought dampers with them; instead, as a makeshift, “the board ceilings in the first

American Historical Review 115 (2010): 1342–63; Paula Ivaska Robbins, *The Travels of Peter Kalm: Finnish-Swedish Naturalist, through Colonial North America, 1748–1751* (Fleischmanns, NY, 2007); Paul Andrew Sivitz, “Communication and Community: Moving Scientific Knowledge in Britain and America, 1732–1782” (PhD diss., Montana State University, Bozeman, 2012), available at <http://etd.lib.montana.edu/etd/2012/sivitz/SivitzP0812.pdf>; Constantine J. Skamarakas, “Peter Kalm’s America: A Critical Analysis of His Journal” (PhD diss., Catholic University of America, 2009), available at http://books.google.com/books?id=iAsPL5Au73oC&source=gbs_navlinks_s; Karen Reeds, *Come into a New World: Linnaeus and America: An Exhibition to Commemorate the 300th Birthday of the Great Swedish Scientist, Carl Linnaeus* (Philadelphia, 2007); and *The Linnaeus Apostles: Global Science and Adventure*, 8 vols., ed. Lars Hansen, transcribed by Viveka Hansen (Whitby, UK, 2007–08), vols. 1 and 3.

³ Pehr Kalm, “Pehr Kalm’s Observations on the Natural History and Climate of Pennsylvania: Excerpts from His Letter of October 14, 1748,” trans. Esther Louise Larsen, *Agricultural History* 17 (1943): 172–74. Pehr Kalm, “Peter Kalm’s Short Account of the Natural Position, Use, and Care of Some Plants, of Which the Seeds Were Recently Brought Home from North America for the Service of Those Who Take Pleasure in Experimenting with the Cultivation of the Same in Our Climate,” trans. Esther Louise Larsen, *Agricultural History* 13 (1939): 33–64.

⁴ Benson, *Travels*, 235–36 [Jan. 16 and 21, 1749].

⁵ Lisbet Koerner, *Linnaeus: Nature and Nation* (Cambridge, MA, 1999), 108–28.

⁶ Kalm and Larsen, “Pehr Kalm’s Observations on . . . Pennsylvania,” 172–74.

⁷ Kalm and Larsen, “Peter Kalm’s Short Account,” 36 [no. 4], 47 [no. 64]; Benson, *Travels*, 50–51 [Sept. 22, 1748], 655–56 [Dec. 11, 1749].

⁸ Kalm and Larsen, “Peter Kalm’s Short Account,” 34, 59 [no. 106].

⁹ Benson, *Travels*, 235–36 [Jan. 21, 1749]; Albert Barden and Heikki Hyttiäinen, *Finnish Fireplaces: Heart of the Home*, 2nd ed. (Helsinki, 1993), 12–13.

colonial houses [were] covered with earth to prevent the heat from escaping through the top.”¹⁰ A seventy-five-year-old settler, Mårten Gåret (Martin Garret) recalled that “he himself had made a cover which he placed over the chimney on cold nights, thereby retaining much more heat than usual. But it was a lot of trouble to climb up on the roof of the house every night and morning.”¹¹

Kalm eagerly discussed heating experiments with Benjamin Franklin and was glad of the loan of one of Franklin’s new stoves for the winters of 1749 and 1750: “It kept the house quite warm. . . . It proved often unnecessary to have a fire in the kitchen, and one could prepare chocolate and other food in the little stove.”¹² In late November 1749, Kalm prudently laid in a supply of hickory and oak for the stove. Two weeks later, the Delaware River froze over, preventing farmers from bringing in new supplies of wood to Philadelphia. As Kalm records:

The price of wood went up rapidly, because before that one had been able to buy a cord of hickory for 22 shillings, but now it had gone up to from 25 to 27 shillings per cord, and even then one had to hurry and take it lest it be snapped up by someone else. Oak wood rose from 16 to 19 and 20 shillings per cord, and one was glad to get it at that price.¹³

Looking at the Americans’ spendthrift ways with firewood, at their increasing industrial demand for charcoal, and at their rapidly growing settlements, Kalm—echoing Franklin—predicted that “in future times Philadelphia will be obliged to pay a high price for wood.”¹⁴ Kalm’s European experience, however, gave him a greater sense of urgency. In Finland, he had seen the “indescribable damage to forest and field” from thoughtless clearing of woodlands.¹⁵ In England he had witnessed poor families paying for anything that would burn, from hedge clippings to dry

¹⁰ Benson, *Travels*, 727 [Nov. 22, 1748]; Kalm, *Resejournal*, 4:264.

¹¹ Benson, *Travels*, 727 [Nov. 22, 1748]; Mead, *Pebr Kalm . . . Chilterns*, 68–69; Lucas, *Kalm’s Account*, 7, 78, 126, 235–36, 265, 319, 337, 358.

¹² Benson, *Travels*, 652–55 [Dec. 8, 1749]. Kalm referred his readers to Benjamin Franklin’s pamphlet, *An Account of the New Invented Pennsylvanian Fire-Places* (Philadelphia, 1744), available at Founders Online, National Archives, <http://founders.archives.gov/documents/Franklin/01-02-02-0114>, ver. 2013-12-27 (accessed Jan. 26, 2014).

¹³ Benson, *Travels*, 50–51 [Sept. 22, 1748], 655–56 [Dec. 11, 1749]; Hildebrand, *Pebr Kalmes Amerikanska*, 56 [Nov. 27, 1749].

¹⁴ Benson, *Travels*, 50–51 [Sept. 22, 1748]; Franklin, *Pennsylvanian Fire-Places*.

¹⁵ Kalm and Larsen, “Peter Kalm’s Short Account,” 55 [no. 88].



This pastiche of images of America and its natural resources emphasizes the wealth of wood. Vignettes of Philadelphia and William Penn appear in the frame. Engraved frontispiece by C[aspar] Philips Jacobsz (1732–89), to the Dutch translation, *Reis door Noord Amerika* (Utrecht, 1772) of Peter Kalm, *Travels into North America*. Courtesy of the John Carter Brown Library at Brown University.

leaves.¹⁶ Unless the New World settlers cared for their fuel, forests, and fields more wisely, Kalm feared that the land he had grown to love would suffer the same fate.¹⁷

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¹⁶ Mead, *Pehr Kalm . . . Chilterns*, 46–47, 64–65, 68–69, 109; Mead, *Pehr Kalm . . . London Diary*, 47, 96, 101–2, 110.

¹⁷ Benson, *Travels*, 307–9 [May 18, 1749]; Lithander, in Dahllöf, “Peter Kalm’s Concern,” 142–45. Kalm left America from New Castle, Delaware, on February 5, 1751. Kalm to Linnaeus, Dec. 16, 1750.