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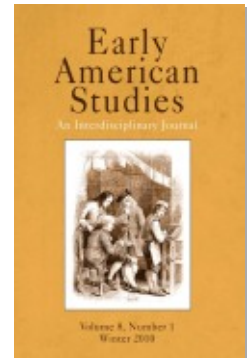
"[Those with] Great Abilities Have Not Always the Best
Information": How Franklin's Transatlantic Book-Trade and
Scientific Networks Interacted, ca. 1730–1757

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“[Those with] Great Abilities Have Not Always the Best Information”

How Franklin’s Transatlantic Book-Trade and Scientific Networks Interacted, ca. 1730–1757

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ABSTRACT This article establishes the importance of overlapping modes of reputation making in Benjamin Franklin’s mutually reinforcing careers as naturalist and printer (ca. 1730–57). It reevaluates the key trans-Atlantic relationships on which Franklin relied and demonstrates the interdependence of Franklin’s objectives and those of his colleagues in determining their shared social progress. Finally, it explores the changing perceptions of British Atlantic society within the communities in which Franklin participated. In doing so it illustrates how the experience of belonging to particular Anglo-American social networks directly shaped members’ attitudes toward nation and empire.

Unlike the other great Founders, Franklin began as an artisan, a lowly printer who became the architect of his own fortune. He is the prototype of the self-made man, and his life is the classic American success story—of a man rising from the most obscure of origins to wealth and international pre-eminence.

Gordon S. Wood, *The Americanization of Benjamin Franklin* (2004)

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Early American Studies (Winter 2010)

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Benjamin Franklin's path from relative insignificance as a colonial printer-bookseller to international scientific and political distinction is a familiar and frequently rehearsed story. Most accounts divide Franklin's life into three clear and distinct phases, separated by obvious transitions from one occupation to another: from printer-bookseller to natural philosopher to politician. At each stage Franklin is portrayed as building up the capital necessary to participate at the next, and then making a break—even suppressing the parts of his character corresponding to his old occupation in favor of a fresh persona better suited to his new one. In other words, he is depicted as single-minded, maintaining only one active employment and attendant self-image at a time and exchanging it for others at key transitional moments. This interpretation can be found in muted form in accounts of Franklin's shift from natural philosophy to politics after 1753; Joyce Chaplin reminds us that "there has never been a biography that examines Franklin's scientific pursuits as an intrinsic part of his life's story" until hers.¹ It is much more explicit, however, in the way historians have treated Franklin's "retirement" as a printer at the end of 1747.

In a letter to his friend Cadwallader Colden, Franklin declared himself to be "taking the proper Measures for obtaining Leisure to enjoy Life and my Friends more than heretofore, having put my Printing house under the Care of my Partner David Hall, absolutely left off Bookselling, and remov'd to a more quiet Part of the Town."² Historians generally identify this process as a crucial phase in his personal evolution.³ They argue that, until he shed his identity as a printer, intellectual circles were closed to him because of the widespread contemporary belief that men with minds habituated to employment rendered themselves incapable of philosophical enterprise.⁴ "Becoming a gentleman," Gordon Wood claims, "changed Franklin's life. He was no longer 'the honest Tradesman.' He was a different person with different

1. Joyce Chaplin, *The First Scientific American: Benjamin Franklin and the Pursuit of Genius* (New York, 2006), 5.

2. Benjamin Franklin to Cadwallader Colden, September 29, 1748, in Leonard W. Labaree et al., eds., *Papers of Benjamin Franklin*, 39 vols. to date (New Haven, 1959–), 3:318 (hereafter *BFP*).

3. Gordon Wood, *The Americanization of Benjamin Franklin* (New York, 2004), 57, 61; P. Dray, *Stealing God's Thunder: Benjamin Franklin's Lightning Rod and the Invention of America* (New York, 2005), 47; C. Van Doren, *Benjamin Franklin* (London, 1991), 123, 143; I. B. Cohen, *Benjamin Franklin's Science* (Cambridge, Mass., 1990), ix.

4. S. Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (London, 1994), 396–97.

goals.” Unburdening himself of his old character and beginning afresh was the price of successfully switching from printer to philosopher.

Although it conveniently records changes in the focus of Franklin’s attention, this narrative relies on overdrawn and potentially deceptive distinctions between his activities. Throughout his career Franklin undoubtedly *did* work tirelessly to hone his social sensitivity, identify flexibilities in the established order, and capitalize on his mobility potential. Yet this process was not neat or unilinear. Rather, Franklin’s character encompassed a kaleidoscope of personae. He was never simply Franklin the tradesman or Franklin the intellectual except in his own shorthand or the casual judgment of others. These ingredients were permanent components of his self-image, though they exerted their influence in varying proportions that corresponded with his circumstances. Indeed, as cultural changes led to a renegotiation of social categories in this period, the problem of blending a suitable public mixture out of competing private qualities to maximize one’s social possibilities was a challenge that every well-connected British Atlantic citizen had to face.⁵ As Toby Ditz, Craig Muldrew, and others have demonstrated, the insecurity of living under constant scrutiny, in a society where traditional social markers and frontiers regularly dissolved and reformed under the pressures of “politeness” and a “consumer revolution,” unleashed profound anxieties among those of questionable standing. Franklin was among those struggling to balance “an elusive inner character and an outer, performative persona,” and in his as in every case, the outcome was anything but straightforward.⁶

5. L. E. Klein, “Politeness and the Interpretation of the British Eighteenth Century,” *Historical Journal* 45 (2002): 869–98; D. Hancock, *Citizens of the World: London Merchants and the Integration of the British Atlantic Community, 1735–1785* (Cambridge, 1995), esp. part 3 and epilogue; C. Muldrew, *The Economy of Obligation: The Culture of Credit and Social Relations in Early Modern England* (Basingstoke, 1998), esp. parts 2, 3, and conclusion; J. Raven, *Judging New Wealth: Popular Publishing and Responses to Commerce in England, 1750–1800* (Oxford, 1992), chap. 11; D. S. Shields, *Civil Tongues & Polite Letters in British America* (Chapel Hill, 1997).

6. T.L. Ditz, “Formative Ventures: Eighteenth-Century Commercial Letters and the Articulation of Experience,” in Rebecca Earle, ed., *Epistolary Selves: Letters and Letter-Writers, 1600–1945* (Aldershot, 1999), 68. Character was “as much a product of reputation as of self-fashioning—in which private principle was deemed to fit seamlessly with public practice”; P. Thompson, *Rum Punch & Revolution: Taverngoing & Public Life in Eighteenth-Century Philadelphia* (Philadelphia, 1999), 85, 116. Larry Stewart, *The Rise of Public Science: Rhetoric, Technology, and Philosophy in Newtonian Britain, 1660–1750* (New York, 1992), 261–71, rightly describes early eighteenth-century England as “a society deeply agitated by questions of legitimacy and corruption” (261). Muldrew, *Economy of Obligation*, 157, argues that “contem-

Edmund Morgan is correct, therefore, to stress the continuities as strongly as the changes in Franklin's evolving identity, emphasising that "even in his old age, when he was representing the United States abroad, he still thought of himself as a printer, made friends with other printers there, and set up a press in his house in France."⁷ Franklin did not successively suppress his past personae as his career progressed. The mentalities that suited him to printing, science, and politics existed together, interacting and developing mutually rather than in opposition. It is true that Franklin claimed a linear career trajectory for himself in his *Autobiography*, asserting: "When I disengag'd myself . . . from private Business, I flatter'd myself that, by the sufficient tho' moderate Fortune I had acquir'd, I had secur'd Leisure during the rest of my Life, for Philosophical Studies and Amusements. . . . But the Public now considering me as a Man of Leisure, laid hold of me for their [political] Purposes."⁸ But in reality, Franklin's intellectual pursuits were as material to his triumph in the book trade as his bookselling success was in facilitating his scientific participation. Interpreting Franklin less as an individual than according to his place in preexisting webs of trans-Atlantic scientific and book-trade relationships complicates our understanding of his supposed transition from "tradesman" to "gentleman." It also demonstrates how his participation in two intersecting information networks shaped his perspective on Anglo-American society, and (ultimately) his political legacy.



Sometime in the summer of 1743 Benjamin Franklin was returning to Philadelphia from a business trip to Boston when he had an "accidental Meeting on the Road" with Cadwallader Colden.⁹ This journey, and in particular this encounter, marked watershed both in Franklin's career as a printer-bookseller and in his scientific activities.

By this time Franklin had a long history of involvement in both these spheres. Even before he was apprenticed as a printer at the age of eleven,

poraries were so concerned with their reputations, because their material well-being depended on this unstable language. This was especially true for the middling sort because they defined themselves, and their success in competing for business, status and office, through their credit and reputation, and they possessed less land than the gentry."

7. E. S. Morgan, *Benjamin Franklin* (New Haven, 2002), 48.

8. *Benjamin Franklin's Autobiography: An Authoritative Text, Backgrounds, Criticism*, ed. J. A. L. Lemay and P. M. Zall (New York, 1986), 100.

9. Colden to Franklin, [October 1743], *BFP*, 2:386. Franklin's business trip to Boston was in May and June.

he had become interested in natural occurrences and conducted a few rudimentary scientific experiments of his own design. In one of the earliest, he went swimming while flying a kite, harnessing the wind to pull himself across a lake “without the least fatigue and with the greatest pleasure imaginable.”¹⁰ Perhaps this cast of mind was nurtured by his father, whom he recalled analyzing (and experimenting with means of changing) the spawning habits of herring by carrying their eggs from one river to the next.¹¹ Years later, after opening his own Philadelphia printing office, Franklin fixed his attention on earthquakes, lightning, and other extraordinary phenomena, and he began cataloging his observations more systematically in the hope of better understanding the “subtle actions of nature.” Perhaps wanting to spark public curiosity (or simply to satisfy an existing demand for novelties among his customers), he routinely published his findings in *Poor Richard's Almanack* and the *Pennsylvania Gazette*.¹² He complemented them with curiosities from whatever scientific publications he could collect, reprinting extracts from the Royal Society's *Philosophical Transactions* as early as 1732.¹³ When the Swedish botanist Peter Kalm visited America in 1747–51, Franklin proudly showed these articles to him one by one. Sporadic scientific stories had always appeared in colonial newspapers, but (as in other areas of his business) Franklin ambitiously elaborated on these timeworn book-trade practices. He regarded his scientific articles as something approaching a coherent reference collection and body of instruction, worthy of perusal even by a noted Continental naturalist.¹⁴

Besides setting out to educate himself and his community with simple articles and experiments, Franklin also helped found the Junto debating club (1727) and the Library Company of Philadelphia (1731) as spaces for gen-

10. Quoted in A. B. Tourtellot, *Benjamin Franklin: The Shaping of Genius: The Boston Years* (Garden City, N.Y., 1977), 161.

11. *Peter Kalm's Travels in North America: The English Version of 1770*, ed. A. B. Benson (New York, 1987), 154–55.

12. *Pennsylvania Gazette*, August 12, 1736; Dray, *Stealing God's Thunder*, xii, 65, 87, 89, 98, 106, 128.

13. For example, “On Colds,” *Pennsylvania Gazette*, November 30, 1732. Until 1741 Franklin concentrated on setting up his business: the 5 newspaper articles he printed employing “explicitly scientific” terms and 40 discussing “surprising phenomena” (between 1737 and 1741) were slightly fewer than the average 6 and 66.5 of his more established competitors. Between 1752 and 1756 his newspaper contained 73 scientific stories (compared to the industry average of 25), and 333 discussions of “wonders” (against 150). See Wrightson, “Franklin's Networks,” tables 9–11, pp. 46–50.

14. *Kalm's Travels*, esp. 625, 657, 687.

eral self-improvement and the discussion of "Morals, Politics or Natural Philosophy."¹⁵ Together these would provide a first makeshift hub around which a middling Pennsylvanian intellectual and, to a more limited extent, scientific community could gradually coalesce. Franklin advocated intellectual improvement both to strengthen the clientele and reputation of his business as a budding literary center and to propagate his own scholarly interests. Though his "insatiable curiosity" and business acumen drew him to scientific matters long before his "retirement" in 1748, however, for many years he could pursue his interest only casually.¹⁶ He had the innate ability, inquisitiveness, and enthusiasm to make a significant contribution to natural philosophy from the beginning, but there were limits to what he, as a tradesman and an American, could achieve—at least until his chance meeting with Colden on the Boston post road in 1743.

In Franklin's early years as a printer-bookseller the British colonies were a remote place to practice natural history and philosophy. British scientific interest in the New World was far stronger rhetorically than in practice, and the disregard of the mother country made it difficult for colonial naturalists to build the ties with London (the heart of imperial scientific activity) that they required to fulfil their aspirations. Only a tiny and diffuse circle of colonial intellectuals possessed the substantial wealth, incontrovertible status, appropriate education, and extensive trans-Atlantic correspondence required to pursue their scientific interests without metropolitan encouragement, importing equipment and private libraries and single-handedly bringing their findings to European attention.¹⁷ Even where they were present, these elite individuals remained aloof from their neighbors. Regarding themselves as Europeans in exile, they invested all their energy in preserving a vestigial place in the metropolitan scientific communities they had personally frequented in the past. They therefore scarcely perceived (let alone cultivated) whatever modest scientific activity was stirring around them. Even if Franklin and other minor enthusiasts had the intelligence and the leisure to develop their scientific ideas fully, therefore, they lacked the resources,

15. *Benjamin Franklin's Autobiography*, 48.

16. Morgan, *Benjamin Franklin*, 5.

17. Discussed in Wrightson, "Franklin's Networks," 37–40 and chap. 6, *passim*. Of the four Fellows of the Royal Society in America around 1730, Franklin had the good fortune of knowing Cotton Mather in his youth, and he was possibly inspired by him: F. R. Freemon, "American Colonial Scientists Who Published in the 'Philosophical Transactions' of the Royal Society," *Notes and Records of the Royal Society of London* 39 (1985); *Benjamin Franklin's Autobiography*, 9.

cohesion, and capacity to forge the relationships across the Atlantic that they needed to fulfill their promise.

European experimenters were usually familiar with a range of essential printed works and circulating manuscripts that initiated them into a common conceptual framework. Like T. H. Breen's "shared language of consumption," this collective experience created affinities between dispersed naturalists and smoothed the flow of their correspondence. It deepened their mutual understanding and promoted collaboration.¹⁸ It equipped them with the necessary expertise to interpret scientific data in situ for themselves rather than conveying their findings for analysis by more specialist taxonomists in London and other "centres of calculation."¹⁹ Finally, their common experience demolished social barriers; among Esprit Calvet's European "society of friends," for example, "one's place in [the] hierarchy was determined not by birth, wealth, or age but its members' perception of one's knowledge and expertise." Indeed, not cosmopolitanism and social superiority but "ordinariness, provinciality and [a] limited impact on the world of learning" were what characterized members of the "Republic of Letters"—*most* of whom could afford to "devote only their leisure hours to their intellectual interests."²⁰ Their shared knowledge was what earned them acceptance and the right to participate in the attribution of scientific meaning.

Yet these European "scientific amateurs" were still drawn mainly from those elite occupational groups (doctors, lawyers, government officials, and occasionally the clergy) enjoying the greatest access to professional networks and possessing the capital and prestige to penetrate the scientific community. At the very least, they benefited from the kind of intense local assemblages of power, patronage, and polite values that could extend scientific resources to those outside the elite. These had no colonial equivalents, and their absence created a gulf in status and opportunities dividing scientific Americans (and other relatively isolated outliers) from European experimenters working in areas of concentrated scientific activity. James Logan's private library at Stenton, near Philadelphia, boasted some 188 scientific books and manuscripts, the largest collection in the British colonies. As late as 1746, however, those Pennsylvanians relying only on membership in the

18. T. H. Breen, "'Baubles of Britain': The American and Consumer Revolutions of the Eighteenth Century," *Past & Present* 119 (1988): 76.

19. B. Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, Mass., 1987), chap. 6.

20. L. W. B. Brockliss, *Calvet's Web: Enlightenment and the Republic of Letters in Eighteenth-Century France* (Oxford, 2002), 400, 19.

Library Company for their natural history and philosophy had access to just sixty titles, whereas nonmembers might readily purchase fewer than fifteen from colonial bookstores. Given such limited public availability, those with a professional or personal need for scientific material had to rely on their own sources of supply.²¹ Like Europeans on the fringe, therefore, most scientific Americans "could not make much improvement . . . for want of bookes," and they had no entrée into international correspondence networks.²²

These conditions barred aspirant American naturalists from the common conceptual framework of the Republic of Letters and (even if their findings found their way to the metropolitan centers of science) undermined their credibility as interpreters.²³ In 1742 one of the few ordinary Americans to enjoy scientific contacts in England, the Pennsylvanian botanist John Bartram, expressed this difficulty when he subordinated his interpretive ambitions to the demands of his metropolitan backers. He confined himself to the role of provincial—"send[ing] over to some of the Members of the Royal Society in London, *at their Request*, Plants, Seeds and Specimens . . . in order to be farther discovered and made useful by the Learned and Ingenious *there*."²⁴ As the short life of the first American Philosophical Society (1743–47) has shown, these conditions persisted even at midcentury. Middling scientific Americans remained too few and fragmented to coordinate themselves institutionally.

As a printer-bookseller, Franklin was unusually well placed among such middling people to compensate for these difficulties.²⁵ He was quick to recognize the potential synergy between his working life and his intellectual enthusiasm: he appreciated even then his "Access to better Books" during his apprenticeship and devoured them day and night to satisfy his "Thirst for Knowledge."²⁶ As a shopkeeper and newspaperman, moreover, he ad-

21. Wrightson, "Franklin's Networks," 42–44.

22. Bartram to Alexander Catcott, May 26, 1742, *The Correspondence of John Bartram, 1734–1777*, ed. E. Berkeley and D. S. Berkeley (Gainesville, Fla., 1992) (hereafter *JBP*), 193.

23. Shapin, *Social History of Truth*, chap. 8; R. D. Brown, *Knowledge Is Power: The Diffusion of Information in Early America, 1700–1865* (Oxford, 1989), chaps. 2–6.

24. "Subscription paper, for the Encouragement of Mr. John Bartram," *Pennsylvania Gazette*, March 17, 1742, [3]; my emphasis.

25. T. Powell, *The Art of Thriving; or, The Plaine Path-way to Preferment* (1635), analyzed in Muldrew, *Economy of Obligation*, 166. Powell listed printers alongside apothecaries, surgeons, and jewellers as having the highest mobility potential.

26. *Benjamin Franklin's Autobiography*, 9–10.

vanced his own intellectual agenda in small ways by giving specific instructions to the (still weak) business contacts supplying his store with assorted European print. Franklin's career in the book trade, in other words, exposed him to a world of information and ideas otherwise beyond his reach.

The meager but important access to intellectual print that Franklin's employment provided helped him educate himself better than most curious Americans. Composing articles and pamphlets built up his analytical fitness. Finally, his work supported his social and intellectual progress by connecting him to the prosperous and educated sections of society that routinely bought books and engaged with ideas. The offices of the Philadelphia postmaster (starting in 1735), clerk of the Pennsylvania Assembly (from 1736), and government printer (soon after) familiarized him with meeting and manipulating both the wider reading public and the colonial elite. Some of the contacts he made even provided direct support for his naturalist ambitions—exchanging their scientific books for his and increasing his confidence with marks of respect. It was partly by this mechanism that, despite his lack of formal education, Franklin became “well read in the literature of experimental science and was fully aware of Newton's [work]” some years “before he began his studies in electricity.”²⁷ Autodidact though he was, therefore, Franklin achieved a rigorous education during his years as a printer-bookseller. He harnessed the opportunities his job provided to obtain the basic level of social and intellectual education required to study natural philosophy, albeit casually, in the emergent scientific culture of British America.

Franklin never regarded the book trade as merely his passport into scientific circles. Instead, he invested in science and commerce as reciprocally reinforcing concerns. The knowledge, manners, and cultural capital he obtained as a provider of information and ideas filtered through into the articles and pamphlets he wrote, and into his personal reputation, strengthening the credentials of his store as a source of European culture and helping secure its long-term competitiveness. Time spent on science, furthermore, contributed directly to making Franklin's business profitable. The Junto was more than an outlet for his intellectual interest. Its cofounder, the amateur botanist Joseph Breintnall, “assisted him in his stationer's shop” and the two collaborated on the “Busy Body” essays in the *American Weekly Mercury*. Breintnall helped Franklin buttress his overstretched infant printing house while these witty essays in the style of Addison and Steele's

27. Cohen, *Benjamin Franklin's Science*, 3–4.

iconic *Spectator* began to establish it as a center of British fashion.²⁸ Franklin's press benefited further from the Library Company's success. This institution generated regular printing orders for catalogs and handbills and supplied frequent advertising revenue to the *Gazette*, which secured regular commissions as its public mouthpiece and paper of record. Franklin's position as a director of an increasingly important cultural hub (whose membership matured from a group of thirty-eight intellectually receptive tradesmen in 1732 to more than one hundred subscribers, including a former mayor and several principal inhabitants of Philadelphia, by 1747) unmistakably consolidated his position as a key culture broker. It further enhanced his personal standing, the respectability of his writing, and the appeal of shopping at his bookstore.²⁹ Finally, Franklin's early experiments yielded marketable discoveries that also fueled his commercial success. He may not have patented his famous "New Invented" stove in 1741, but he did aggressively market it through pamphlets and the *Gazette*, appoint "two of his brothers and several friends as agents [selling it] in a number of cities," and attempt to grant his Junto friend and Library Company regular Robert Grace "exclusive rights to manufacture" it.³⁰ As his *Account of the . . . Pennsylvanian Fire-Places* (1744) spread, it considerably enhanced his reputation as "a man of Sense & of a good Stile" in both America and Europe. Whether the stove was "free of the inconveniencies which attend the Dutch & German Stoves," therefore, Franklin was obviously working to maximize the collective benefits of his intellectual and business interests by encouraging their convergence and interpenetration wherever possible.³¹

28. S. Bloore, "Joseph Breintnall, First Secretary of the Library Company," *Pennsylvania Magazine of History and Biography* 59 (1935): 42–43; G. W. Boudreau, "'Highly Valuable & Extensively Useful': Community and Readership among the Eighteenth Century Philadelphia Middling Sort," *Pennsylvania History* 63 (1996), 320–21.

29. Minutes for July 11 and 27, 1737, in J. Breintnall, B. Franklin, et al., *Book of Minutes containing an Account of the Proceedings of the Directors of the Library Company of Philadelphia Beginning November 8th 1731 taken by the Secretary to the Company* (recopied in an unidentified hand), Library Company of Philadelphia, Ms., Minutes 1:70 (hereafter *LCP Minutes*). William Allen, mayor of Philadelphia (1735–36) and later Pennsylvania chief justice, was accepted on July 11 and bought his share on July 27, 1737.

30. Dray, *Stealing God's Thunder*, 37; *Pennsylvania Gazette*, February 5, 1741; December 3, 1741; January 20, 1742.

31. B. Franklin, *An Account of the New Invented Pennsylvanian Fire-Places* (1744), *BFP*, 2:419–46; S. Y. Egerton Jr., "Supplement: The Franklin Stove," in Cohen, *Benjamin Franklin's Science*, 203, 207. The stove (rather than the *Experiments and Observations*) introduced many naturalists to Franklin after his *Account*

In 1733 Franklin helped write a Library Company address to the Penn family, urging them to make Philadelphia the “Future Athens of America.”³² Considering the interdependence of his business and intellectual interests, perhaps he had in mind both the growing cultural contribution of his business and the part played by his intellectual ventures in helping realize this objective. Certainly, by 1748, the commercial infrastructure he had built to undergird trans-Atlantic cultural dialogue was as instrumental to Philadelphia’s refinement as his efforts to set up dedicated arenas for intellectual engagement. He would doubtless himself have measured Philadelphia’s cultural maturation according not only to the intrinsic public benefit of intellectual engagement, but also to the private commercial advantage he secured by making knowledge and debate defining features of the colony. Indeed, when he first explained the purpose of the Library Company to its London book agent, he made this connection explicitly—identifying roles for both commercial and institutional information providers in shaping Philadelphia’s cultural climate. He justified the Library Company as “useful; there being no manner of Provision made by the Government for public Education, either in this or the neighbouring Provinces, nor so much as a good Book-Sellers shop nearer than Boston.”³³ In the next sixteen years he would work to remedy this situation on two fronts. His book-trade and scientific interests served the same interwoven purposes: the cultural convergence of his colony with Britain and his personal advancement as an overseer of that process.



Franklin was relatively fortunate in finding ways of making his working life and scientific interests complement one another. Even so, compared to his

was sent to Europe through Peter Collinson’s network. Alexander to Colden, November 12, 1744, *Letters and Papers of Cadwallader Colden*, 9 vols. (New York, 1918–37), 3:83 (hereafter *CCP*); Colden to J. F. Gronovius, [December 1744], *CCP*, 3:91; Gronovius republished it in Dutch (1746): Franklin to Colden, October 16, 1746, *CCP*, 3:275.

32. Minutes for May 24, 1733, *LCP Minutes*, 28.

33. “Signed by order of the Directors of the Lib. Co. of Phil. Joseph Breintnall, Secr.” to Peter Collinson, in Minutes for November 14, 1732, *LCP Minutes*, 13; my emphasis. Franklin drafted this letter. He later repeated this sentiment, adding, “In New York and Philadelphia the Printers were indeed Stationers, they sold only Paper, etc., Almanacs, Ballads, and a few common School Books. Those who lov’d Reading were oblig’d to send for their Books from England”: *Benjamin Franklin’s Autobiography*, 63.

European counterparts and the tiny elite of colonial experimenters with robust connections to metropolitan science, his potential for progress remained severely limited. He needed a far more intimate relationship with London (ideally with European naturalists themselves rather than book dealers and dry goods merchants) to graduate from casually conducted and rudimentary scientific observations to working at the forefront of contemporary natural philosophy. The development of his book trade, moreover, and particularly his ambition to continue providing a gateway to British cultural life, was similarly constrained by his haphazard contact with the imperial center. In both cases, he needed a formally appointed and trustworthy "resident [London] agent to manage the affair" on his behalf, yet no opportunity of recruiting one in either sphere had presented itself.³⁴

Franklin felt the absence of these connections keenly and attempted repeatedly to establish them. In the 1730s he used the synergy between his business and his science to link himself to several Pennsylvanian experimenters with ties to Britain, including Joseph Breintnall, John Bartram, and even James Logan.³⁵ Breintnall and Bartram's British links had recently been established and were still very one-sided, however, entailing the sending of plants, seeds, and botanical observations to Peter Collinson.³⁶ Al-

34. J. Raven, *London Booksellers and American Customers: Transatlantic Literary Community and the Charleston Library Society, 1748–1811* (Columbia, S.C., 2002), 9; J. Bidwell, "Printers' Supplies and Capitalization," in H. Amory and D. D. Hall, eds., *The Colonial Book in the Atlantic World* (Worcester, Mass., 2000), 181–82.

35. "Of all the Philadelphia Philosophers except James Logan [Bartram] was probably the best known beyond the City," *BFP*, 2:378–79.

36. Breintnall and Collinson were in close correspondence in the 1730s. Breintnall sent three volumes of leaf prints made on Franklin's press to Collinson in 1733 and contributed his observations to Collinson's study of rattlesnake behavior in 1735. *Benjamin Franklin's Autobiography*, 48. They often discussed natural history; Collinson to Joseph Breintnall, January 31, 1738, in *"Forget Not Mee & My Garden . . .": Selected Letters, 1725–1768 of Peter Collinson, F.R.S.*, ed. A. W. Armstrong (Philadelphia, 2002) (hereafter *PCP*), 60; Collinson to Breintnall, July 27, 1741, Historical Society of Pennsylvania, Ms. 193 (Frank M. Etting Collection), Scientists, 15. This points to an earlier, indirect link between Franklin and Collinson, a connection strengthened both by Franklin's growing ties to Collinson's protégé Bartram, and by Collinson's possible role as Franklin's merchant book agent for his first large London book order in 1738. Nevertheless, the dynamics of Collinson's growing American scientific network were complex in the 1730s. His treatment of American naturalists was initially tinged with prejudice, and in the 1730s these relationships were tightly circumscribed. Though Collinson acted as London fixer for many Franklin associates (and perhaps Franklin himself), the fact that he knew Franklin as the ingenious printer of the rattlesnake plant leaf in the 1737 *Poor*

though Collinson was the one British naturalist actively working to establish a community of middling correspondents in America, these men probably saw little point in forging links between him and Franklin, who displayed little interest in botany. Even if they had, moreover, they were probably mindful of Collinson's apparent importance as a Fellow of the Royal Society, and they preferred not to risk their relationship with him by wasting his time on a colonial printer. Indeed, despite knowing of Collinson since 1731 (when he agreed to be book agent to the Library Company), Franklin himself was probably too fearful of offending against Collinson's status and jeopardizing his patronage to ask for his support before 1747.³⁷

Logan, by contrast, had a wealth of connections to British intellectual life as America's most learned classicist and the former administrator of Pennsylvania. He was willing to support the Library Company somewhat by advising Franklin on book orders, and he nurtured Franklin's own intellectual interest by offering him access to his Stenton library in return for "a sight of" the occasional book from Franklin's store.³⁸ Even so, Logan never treated Franklin as more than a printer before 1744 and apparently disapproved of his efforts to manufacture extralocal scientific ties. When Franklin produced Logan's *Cato Major* in 1744, he took the opportunity in the preface to assert the contribution of his printing house to colonial cultural life, saying that this production was "a happy Omen, that Philadelphia shall become the Seat of the American muse."³⁹ Yet Logan rejected as hubristic Franklin's (and indeed any other nonelite American's) pretensions to more than a local scientific role. He was ready to indulge Franklin's enthusiasms and talk over scientific questions with him and Bartram, but Logan long remained rigidly opposed to what he saw—until Franklin's electrical experiments in 1747—as these men's overreaching themselves.⁴⁰ He declined to

Richard's Almanack seems not to have persuaded him to engage Franklin in scientific exchanges. There is not space to discuss these connections fully here, but they are analyzed in Wrightson, "Franklin's Networks," esp. 121–24, 129–37, 219–28.

37. For full discussions of Collinson's intellectual network in America, see Wrightson, "Franklin's Networks," chaps. 6, 8–10; S. S. Parrish, *American Curiosity: Cultures of Natural History in the Colonial British Atlantic World* (Chapel Hill, 2006), chaps. 3–4. It is often assumed that Franklin and Collinson must have been in direct contact before 1747. A close analysis of all available correspondence offers no evidence to support this theory.

38. Logan to Franklin, May 6, 1741, *BFP*, 2:306.

39. "Preface to Logan's *Cato Major*," *BFP*, 2:404.

40. Franklin to Colden, October 25, 1744, *CCP*, 3:77; Logan to Franklin, August 6, 1747, *BFP*, 3:168. Logan informed Franklin in early 1747, "Yesterday was the first time that I ever heard one syllable of thy Electrical Experiments," and

support their American Philosophical Society's efforts to create an intercolonial scientific community, blocked Bartram's attempts to become a full-time seed collector, and dismissed the colonial population as too ignorant to be scientifically engaged.⁴¹

Franklin's unavoidably casual pursuit of science may have elicited only indifferent support from Logan and the rest of Philadelphia's naturalists, and London's general apathy may have prevented him from making deep connections in the European book trade or the Republic of Letters for more than a decade. Nevertheless, when he met Colden on the road in 1743, it was precisely Franklin's unusual combination of attributes (as both a printer-bookseller and an amateur natural philosopher) that finally presented him with a chance to achieve both these goals. Around 1740 Colden had become one of Peter Collinson's most respected American correspondents.⁴² As he often did when cementing a new relationship, Collinson had laid out his vision of the potential of American science to Colden and rekindled his excitement at the prospect of participating in the European Republic of Letters. As Colden later informed him: "I may truly say that it is owing to you that ever [my revised Indian History] had a Birth by your giving me your approbation of the first part & desining it to be continued as a work which you thought may be useful for I had for several years laid aside all thoughts" of learned pursuits.⁴³ Thus sensitized to the potential of colonial science, Colden immediately recognized a kindred spirit when, shortly afterward, he met Benjamin Franklin.⁴⁴ Colden also had another reason for valuing Franklin. He was directing some of his newfound enthusiasm at a subject close to Franklin's heart: printing.

expressed his newfound admiration, "your own Experiments in my judgement exceed them all"; Logan to Franklin, February 23, 1747, *CCP*, 3:110–11.

41. Logan's name is conspicuously absent from the membership of the American Philosophical Society; Franklin to Colden, April 5, 1744, *BFP*, 2:406–7. The editors of the Franklin Papers note that "only Logan remained aloof" (379). Bartram to Collinson, June 11, 1743, *Correspondence of John Bartram, 1734–77*, ed. E. Berkeley and D. S. Berkeley (Gainesville, Fla., 1992), 216 (hereafter *JBP*). Logan's patronage was generous but had limits: F. B. Tolles, *James Logan and the Culture of Provincial America* (Boston, 1957), 203–4, 206, 213–14.

42. Collinson to Colden, March 5, 1741, *CCP*, 2:207.

43. Colden to Collinson, April 9, 1742, *CCP*, 2:250.

44. Colden may have recognized Franklin from his *Pennsylvania Gazette* articles ("the most widely read newspaper in America") or Bartram's accounts of his character and contribution to the Library Company: R. D. Harlan, "A Colonial Printer as Bookseller in Eighteenth-Century Philadelphia: The Case of David Hall," *Studies in Eighteenth-Century Culture* 5 (1976): 357. He had not yet heard about the American Philosophical Society; Franklin to Colden, November 4, 1743, *CCP*, 3:34.

Soon after their encounter, Colden wrote to ask Franklin's advice on "a Method of Printing which I mentioned to you" on the road, "which I last year sent to Mr. Collinson in London."⁴⁵ Knowing that he was both a printer and an experimenter, Colden probably hoped Franklin would be receptive to innovation in his business. Indeed, Franklin's publication of Breintnall's leaf prints in his 1737 *Poor Richard's Almanack* appears to have been the inspiration for Colden's new method, an early form of stereotyping.⁴⁶ Although ultimately Colden's scheme came to nothing, Franklin "consider[ed] it very attentively and particularly" and the episode provided the basis for future intellectual correspondence.⁴⁷ Franklin respected Colden as a source of scientific insight, while Colden enjoyed Franklin's vivacity and mental dexterity, informing a colleague that "I accidentally last summer fell into Comp^y with a Printer (the most ingenious in his way without question of any in America[[]]) . . . a man very lucky in improving every hint."⁴⁸ Galvanized by Collinson's enthusiasm, moreover, Colden now shared Collinson's desire to build an intercolonial scientific network and sought to expand his small mid-Atlantic naturalist community by finding ways to correspond with other (previously unknown) scientific Americans. Since by this time Franklin managed a printing house in Charleston and oversaw the postal network throughout Virginia and the Carolinas, Colden hoped Franklin would draw on the advice of his handful of scientific friends in Philadelphia and on the infrastructure he commanded to build links with men of science in the South on Colden's behalf. In 1744 Colden bemoaned knowing "none besides Mr. Logan, Mr. Alexander and your self in this part of the world to whos judgement I can refer any thing" scientific.⁴⁹ By 1746, however, he had become acquainted with many more, not least through Franklin, who enabled him to distribute his draft of *Explication of the First Causes of Action in Matter* throughout the southern colonies for critical comment.⁵⁰ For two decades Collinson had patiently advocated his botanical agenda and desire for an integrated colonial scientific community among his correspondents across the Atlantic, but with limited success. The turning point came when Colden embraced these objectives and enlisted Franklin to help pursue them.

45. Colden to Franklin, [October 1743], *BFP*, 2:386–87.

46. *Poor Richard's Almanack* (Philadelphia, 1736). Thanks to Jim Green.

47. Franklin to Colden, November 4, 1743.

48. Colden to Strahan, [probably sent December 3, 1743], *CCP*, 3:38.

49. Colden to Franklin, December 1744, *BFP*, 2:447.

50. Franklin to Colden, July 10, 1746, *BFP*, 3:80–82.

Franklin, for his part, received wholly unexpected benefits from the friendship. In 1742, as we have seen, Colden also sent his "Method of Printing" to Peter Collinson. Collinson was a voracious reader, and he managed many of his colleagues' orders for metropolitan print (including the Library Company's and those of other European and American correspondents). He consequently maintained close links with the London book trade, and he naturally passed Colden's proposal to his printer acquaintance William Strahan for comment.⁵¹ After Strahan dismissed the idea as impractical, Colden defended his scheme, informing Strahan that an American printer friend of "uncommon abilities" had shown greater optimism. Strahan responded: "I am sure it must be Mr Franklin you mean, whose Fame has long ago reached this Part of the World, for a most ingenious Man in his Way. I have had the Pleasure of corresponding with him lately, and have Sent him by the Mercurey Captain Hargrave, one of my Journey-men, to whom he intends to give the Management of one of his Printing houses. His Name is David Hall."⁵²

The conventional interpretation of Franklin's relationship with Strahan (the London book agent who finally secured the cultural importance and commercial success of his business) is that Franklin learned of Strahan's intention to send David Hall to America from James Reid—a Philadelphian lawyer-bookseller who doubled as his next-door neighbor and relative by marriage.⁵³ Seizing the opportunity of securing a capable partner and a London agent, Franklin then contacted Strahan to offer Hall a place in July 1743. This timetable suggests that Strahan had written to Reid some months earlier, probably shortly after Collinson informed him of Colden's

51. Colden to Strahan, November 1743, *CCP*, 3:37.

52. Strahan to Colden, May 9, 1744, *CCP*, 3:59.

53. Strahan had few systematic dealings in America before 1744. He did, however, supply Reid (whom he had met when Reid visited London in 1739–40) with several book shipments in the early 1740s. After 1748 Strahan attempted unsuccessfully to recover £131.16.4 from Reid for unpaid book debts, which he told David Hall were several years old—probably dating partly from before he began dealing with Franklin; Strahan to Hall, February 10, 1751, Historical Society of Pennsylvania, Ms. 638; Strahan, William, 1715–85, *Letters 1751–76* (hereafter *Strahan Letters*). Strahan's significance for Franklin and Hall's book trade cannot be overstated. He served them with £18,000 worth of books and printing material between 1760 and 1772 alone, and he was absolutely vital to their commercial success between 1744 and 1760; Wrightson, "Franklin's Networks," chap. 5; Raven, *London Booksellers*, 87; R. D. Harlan, "William Strahan's American Book Trade, 1744–76," *Library Quarterly* 31 (1961): 235–44; J. A. Cochrane, *Dr. Johnson's Printer: The Life of William Strahan* (London, 1964), 61–62.

new “Method of Printing.” What the established narrative does not consider is the relationship between these two events. In wanting “to see [Hall] in better Business than that of a Journeyman,” Strahan must have considered other options before resolving on the drastic measure of sending his friend to America.⁵⁴ Indeed, after Hall’s departure he regularly expressed his regret at their separation, insisting that if his friend should ever return, “my house shall be your house, and my Purse as much yours as my own.”⁵⁵ We know that contemporary British book men regarded the American market as immature, risky, and unprofitable. Why, then, would Strahan settle on America as his friend’s best hope of advancement? Reid had probably begun ordering book shipments from Strahan around 1740, after meeting him in London, and it has often been assumed that it was Reid who sparked the London printer’s desire for an American connection.⁵⁶ In fact, Peter Collinson played a hitherto unrecognized pivotal role.

Collinson knew little about printing in America, and it seems he had no regular connection to Franklin in late 1742. Nevertheless, he believed passionately in America’s potential and invested in strengthening the colonies’ literary and scientific community despite the prevailing climate of indifference. J. Bennett Nolan has shown that it was Collinson who acted as Reid’s agent when he imported his first books from London in 1738. This is likely to have been on the recommendation of Reid’s uncle James Logan, with whom Collinson corresponded. When Reid visited London in late 1739, he met Collinson in person, and he met Strahan soon afterward—quite possibly introduced at Collinson’s instigation. Two years later, as we know, Collinson contacted Strahan about Colden’s printing proposal and held conversations with him on the subject. Surely it is likely that in advancing the interests of his American colleagues on these occasions, Collinson also excited Strahan’s interest in the colonies themselves, as he had done with many others before.⁵⁷ Reid was part of Collinson’s network, therefore, and Strahan may have proposed sending Hall to America at Collinson’s suggestion.

By the time Franklin offered Hall a place in the summer of 1743, he had

54. Franklin to Strahan, July 10, 1743, *BFP*, 2:383–84.

55. Strahan to Hall, June 10, 1758, *Strahan Letters*.

56. Reid met Strahan before March 15, 1740, a fact demonstrated by a letter Reid sent him (now lost) on that date; J. Bennett Nolan, *Printer Strahan’s Book Account* (Reading, Pa., 1939), 7–9.

57. Collinson to Colden, March 9, 1744, *CCP*, 3:52. Collinson discussed the matter with Strahan and knew of his intention to write to Colden.

already met Colden. Colden then wrote to Strahan directly by the last ships departing New York at the end of 1743, mentioning his ingenious friend Franklin. His letter probably reached Strahan in January or February 1744, three to four months before Hall set sail for Philadelphia, where he arrived in mid-June.⁵⁸ Though Colden did not mention Franklin by name, Strahan's response that "it must be Mr Franklin you mean" demonstrates that Strahan recognized him by his reputation, which (since Franklin had no direct London connections) he had most probably learned of from Reid. Taken alone, Reid's opinion was probably not sufficient to justify sending Hall to work in Philadelphia. Reid proved to be an unambitious, small-scale customer who had almost certainly begun defaulting on his debts, leading Strahan to "like [neither] his Character nor Management," to doubt his honesty, and to question his judgment.⁵⁹ The arrival of Colden's letter at this crucial moment (with its further endorsement of Franklin), however, would have served to allay any doubts about Reid's testimonial and to confirm Franklin's suitability as Hall's employer. This would have been so particularly after Collinson had explained Colden's credentials as a respected natural philosopher and colonial official.

What has not received sufficient attention, then, is that Strahan's decision to send Hall to Philadelphia—which finally ensured Franklin's commercial success by providing him with his long-desired "Friend in London whose Judgement I could depend on"—probably relied as much on Franklin's scientifically grounded affinity with Colden as on the contemporary state of his business network. This crucial connection was underpinned by Collinson's business dealings with the British book trade, in which he acted as agent for his existing American correspondents.⁶⁰ Franklin may have enticed Strahan by informing him, "I have already three Printing-Houses in three different Colonies, and purpose to set up a fourth if I can meet with a proper Person to manage it," but he needed the backing of Colden's character assessment to clinch the deal.⁶¹ Without the belief that Collinson persistently displayed in the potential of the colonies, furthermore, Colden

58. His departure date is unknown.

59. Strahan to Hall, February 10, 1751, *Strahan Letters*. In 1748 Strahan informed Reid, "I was in good Hopes your Affairs were in the most flourishing Condition from your former Accounts. . . . there must be some Misconduct on your Side, else Things must be better with you than you describe them to be.—You know the Balance due me has been long owing"; Strahan to James Reid, December 1, 1748, Historical Society of Pennsylvania, Ms. Am. 129.35, Papers of James Reid.

60. Franklin to Strahan, July 4, 1744, *BFP*, 2:410–11.

61. Franklin to Strahan, July 10, 1743, *BFP*, 2:384.

might not have been actively prospecting for ways to develop his American scientific community when he and Franklin met, and Strahan might never have been persuaded to make his career-changing offer to an American at all, let alone to Franklin. Franklin's business and scientific activities inextricably shared the responsibility for creating his chance encounter with Colden and determining its consequences.

Meeting Colden not only enhanced Franklin's book trade, it transformed his ability to practice science and paved the way for his famous electrical experiments. This was partly through the influence of the newfound alliance with Strahan and Hall on Franklin's lifestyle. The security of a London agent and a skilled and trustworthy partner created the conditions Franklin needed to confirm his business as a repository of British urbanity and fashion. In doing so, he enhanced his personal reputation and social opportunities as a broker of culture, and he secured the right conditions and personnel to steward his Philadelphia office when (after three years) he decided to "retire" from routine trade. Eager to use Franklin's business networks to pioneer a mutually beneficial intercolonial scientific community, moreover, Colden began to use Franklin as his intermediary in corresponding with other natural philosophers and as the logistical coordinator of that community. In the process, Colden gave Franklin opportunities to build intellectual connections of his own and to gain access to fresh scientific print on a scale he could never have achieved alone. Above all, he conferred on Franklin the legitimacy of a man of science he had formerly struggled to achieve.

When Franklin launched the first American Philosophical Society with his *Proposal for Promoting Useful Knowledge* (1743), he described how his book-trade infrastructure had made Philadelphia the natural center for the society. It was "the City nearest the Centre of the Continent-Colonies, communicating with all of them northward and southward by Post, and with all the Islands by Sea." His business network would also, he explained, convey "Communications . . . between the Secretary of the Society and the Members, Postage-free."⁶² The American Philosophical Society may have been too ambitious a project for the colonies' underdeveloped middling scientific community to maintain in 1743, but the maturing personal relationships between experimenters that it attempted to formalize and extend proved more valuable and durable than the institution (which did not meet with success until its relaunch in 1768).

After 1743 Colden encouraged Franklin to use this same infrastructure

62. *A Proposal for Promoting Useful Knowledge among the British Plantations in America*, BFP,2:381–82.

to integrate the small and largely independent knots of middling scientific inhabitants in each colony into a single community of correspondents. After Franklin's retirement from active business he continued to enjoy exceptional contacts throughout America, and to manage the flow of information through his network as part of his position as Philadelphia postmaster and, from 1751, deputy postmaster general of America. By 1753 Franklin was clearly using this network to harmonize colonial naturalist activity. In that year he distributed James Alexander's pamphlet calling on scientific Americans to observe the transit of Mercury, and afterward he collated the results for dispatch to London. Attempts were coordinated from New York to the Caribbean, and Benjamin Mecom (Franklin's junior partner in Antigua) quickly relayed the successful Caribbean measurements of a local resident, William Shervington, back to the Northeast.⁶³ Franklin even kept his promise of free postage for American men of science. As Bartram explained to Collinson in 1747 (just as the American Philosophical Society collapsed): "He was so kind as to tell me to acquaint thee that any letters thee pleas to send to me . . . if the incloseth it in A letter directed to him he will deliver it to me post free which is very kind indeed."⁶⁴

Franklin must have been aware of Peter Collinson's burgeoning connections among his friends, and among middling Americans generally, at this time. What Franklin may not have fully realized (looking at Collinson's connections from his position on the periphery of the Philadelphia botanical circle) was that almost all the scientific Americans Franklin helped introduce through his network in the 1740s were individually (and still largely independently) among Collinson's correspondents. During the 1730s, seeing himself as a facilitator of the transmission of colonial scientific discoveries rather than an experimenter in his own right, Collinson had established connections with small groups of curious Americans in New York, Philadelphia, and Virginia and encouraged their coalescence into local scientific communities. Willing to offer whatever support he could to improve their productivity—and by extension (as their publicist in London) his own reputation—Collinson also sponsored collaboration between these three groups in the hope of ultimately integrating them into one intercolonial

63. "A Letter of Mr. William Shervington to Benjamin Franklin, Esq; of Philadelphia, concerning the Transit of Mercury over the Sun, on the 6 of May 1753, as Observed in the Island of Antigua: Communicated by Mr. Peter Collinson, F.R.S.," *Philosophical Transactions* 48 (1753): 318–19; Cohen, *Benjamin Franklin's Science*, 187–92.

64. Bartram to Collinson, July 20, 1747, *JBP*, 289.

scientific community capable of contributing substantially to European knowledge. By sending Bartram from Pennsylvania to visit everyone from John Custis in Virginia (1737) to Colden in New York (1742), Collinson had even begun to rig up the first scaffolding for this future integration. Like Franklin, therefore, Collinson recognized Philadelphia's centrality to this proposed network, but, with limited knowledge of colonial infrastructure from his metropolitan vantage, he had no clear sense of how to achieve his objective.

After 1743, however, through Colden's initiative, Collinson's American correspondents gained access to one of only two major commercial information-distribution systems in America: the print "network presided over by Benjamin Franklin."⁶⁵ Franklin gave Collinson what he wanted, and yet he was working to secure his own aims (both commercial and scientific); he was at first perhaps only indirectly aware of the Londoner's pervasive influence on middling colonial natural history and philosophy. In 1746, however, still looking for a scientific agent in London who could provide him with access to the latest specialist print and equipment and usher him into the common conceptual framework enjoyed by British naturalists, Franklin finally approached Collinson himself. This had been too daunting a task before he began corresponding with Colden and contributing to the integration of scientific America, but three years of exposure to well-connected colonial naturalists and of earning their good opinion had given Franklin the confidence he needed.

When Collinson sent to the Library Company in 1745 "an Account of the new German Experiments in Electricity, together with a Glass Tube, and some Directions for using it, so as to repeat [them]," Franklin saw his chance to make his move.⁶⁶ He had already become excited by the possibilities of electrical experiments after meeting Dr. Archibald Spencer on the same 1743 business trip to Boston that led him to encounter Colden. He therefore studied the equipment as carefully as possible "and by much Practice acquir'd great Readiness in performing" both common experiments and "a Number of new Ones" of his own.⁶⁷ Even with the support of half of Collinson's network behind him, Franklin meticulously equipped himself in this way before addressing Collinson because he wanted to demonstrate

65. S. Botein, "'Meer mechanics' and an Open Press: The Business and Political Strategies of Colonial American Printers," *Perspectives in American History* 9 (1975): 152–54. The other was the Green family's New England-focused printing network.

66. Franklin to Collinson, [February 8, 1770], *BFP*, 17:66.

67. *Benjamin Franklin's Autobiography*, 130.

both his originality and some degree of celebrity ("my Friends and Acquaintances . . . come continually in crouds to see [my experiments]"). This, he hoped, was sufficient evidence of his genuine scientific ability and sufficient defense against any prejudice he might encounter as a printer in what he assumed to be august Royal Society circles.⁶⁸ Fortunately, Collinson (who was in fact an unpretentious man of relatively similar standing and temperament) gave Franklin's work a "friendly Reception" and encouraged him to continue his experiments. He famously presented them to the Royal Society and to his many European correspondents, and he secured their publication as the famous *Experiments and Observations* (1751).⁶⁹

Collinson was as important to Franklin's science as Strahan was to his book trade. Perhaps rewarding Franklin for contributing to his own grand design for a collaborative intercolonial scientific community, Collinson provided Franklin with the resources (the latest print, manuscripts, and correspondence) he needed to advance European electrical knowledge from America, and he faced down prejudice and vested interests to see Franklin's work celebrated as it deserved. Not only did he prove its value to a skeptical Royal Society by securing the approval of Louis XV and his court electricians, but he also helped secure Franklin the Copley Medal in 1753 and (more important) ensured his unanimous election as a Fellow of the Royal Society in 1756—the final seal on his acceptance in Europe as a "distinguished . . . natural philosopher" and a "gentleman."⁷⁰ Without the credentials Franklin gained after encountering Colden in 1743, it is possible that none of this would have occurred.



This article's strong but speculative claim has been that Franklin and Colden's "meeting on the road" was itself crucial in prompting Strahan to encourage Hall's move to Philadelphia. The evidence for this assertion is

68. Franklin to Collinson, March 28, 1747, *BFP*, 3:119.

69. Franklin to Collinson, [February 8, 1770], *BFP*, 17:66.

70. Abbé Mazéas to Stephen Hales, May 20, 1752 (read at the Royal Society, May 28, 1752), quoted in Cohen, *Benjamin Franklin's Science*, 71n16; "Certificate of Nomination to the Royal Society," January 29, 1756, *BFP*, 6:375–76; Collinson to Franklin, May 27, 1756, *BFP*, 6:449. Copley medals (valued at £5) reflected fashion more than merit, and although Franklin was its preeminent electrician winner, Stephen Gray, J. T. Desaguliers, William Watson, and Benjamin Wilson also won for electrical experiments in this period (1731, 1741, 1745, 1760). It is a profound misreading to treat it like the Nobel Prize today or call it the "century's highest scientific honor," as is common in nonacademic circles.

purely circumstantial, but it is clear that an awareness of Franklin's ingenuity and intellectual engagement influenced Strahan and Hall's decision, and that Colden was undoubtedly their most reliable source for this knowledge in 1743–44. Even if this claim fell in light of further evidence, the broader analysis of how (alongside Hall's arrival) the "meeting on the road" facilitated Franklin's scientific maturation and brought him into Collinson's naturalist network would still stand, as would the account provided of how these previously separate communities developed and mutually reinforced each other.



Franklin's two trans-Atlantic networks were indivisibly intermeshed and developed symbiotically. Together they secured his position as a conduit of European culture and a living demonstration that America both shared in that culture and could help determine its future direction. The communities of readers and experimenters these networks facilitated, and the "cultural cargoes" they conveyed, ensured that by the 1750s Americans could at last correctly claim that "The first Drudgery of Settling new Colonies, which confines the Attention of People to mere Necessaries, is now pretty well over," and that the opportunity existed to "cultivate the finer Arts, and improve the common Stock of Knowledge" together with their European kindred.⁷¹ The consequences also went further. Franklin's book-trade and scientific networks demonstrated to him the possibilities of a unified America.

In 1754 the Albany Congress attempted to negotiate strategies for protecting the colonies against the common threat of French and Indian attack. Franklin proposed his famous Plan of Union—arguing for a combined system of defense against the enemy and that "Britain and her Colonies should be considered as one Whole, and not as different States with separate Interests."⁷² Among those he advised of his intent before putting his case publicly were Colden, Alexander, and Collinson, who "express[ed] their Approbation" and considered it "extreamly well digested."⁷³ Franklin's opinion appealed to these men because their construction of an intercolonial and trans-Atlantic scientific community had powerfully demonstrated the benefits of pan-American collaboration for their individual research agendas. Frank-

71. Brown, *Knowledge Is Power*, 48; Franklin, *A Proposal for Promoting Useful Knowledge*, 380.

72. Franklin to Collinson, May 28, 1754, *BFP*, 5:332.

73. Franklin to Collinson, June 26, 1755, *BFP*, 6:83; Alexander to Colden, May [June?] 9, 1754, *CCP*, 4:442; Colden to Franklin, June 20, 1754, *CCP*, 4:451.

lin's own experience in both the book trade and science, moreover, had conditioned him to promote unification as a self-evident good. He had become one of the most connected people in an America filled with isolated individuals and introverted communities shying away from the wider world. Franklin did not begin life as insignificantly as Gordon Wood, or indeed he himself, suggested, but Wood is right to portray him as compulsively centripetal—forever fleeing the ignorance and obscurity he associated with his young life and vowing to save himself from a peripheral existence by closing the cultural gap between Britain and America.

Franklin did not attribute his personal enlightenment only to his scientific and intellectual relationships. His science, his business, and eventually his politics were three concurrent and codependent strands of the same strategy to bring himself, his community, his city, and his continent to European attention. Perhaps the best metaphor for this mutuality is the "JOIN or DIE" cartoon he printed in the *Pennsylvania Gazette* on May 9, 1754, in support of the Plan of Union. Franklin's retirement from printing did not prevent him from employing the press for his own political purposes. Nor did he forget that he owed much of his experience of the continent he was now shaping politically to a group of naturalists—for whom the rattlesnake held particular importance.⁷⁴ To Collinson, Bartram, Colden, and the rest it was the emblem of American fauna's mysteries, possibilities, fascinations, and dangers.⁷⁵ It was a fitting reflection not only of the contemporary political climate but also of the tradesmen and intellectuals who peopled Franklin's America and their similar struggles to unify British Atlantic print culture and science. When Franklin arrived in England in 1757 he came as a politician—the representative of the Pennsylvania Assembly. His closest companions in the capital, however, were a printer and an amateur naturalist named Strahan and Collinson, and he unashamedly acknowledged his debt to them as the two British men most responsible for his personal success and for defining his experience of the Atlantic world.

Franklin's rise to prominence was achieved through a combination of his own desire for advancement and the social opportunities his various

74. After 1747 Franklin continued to manage his business network closely, drawing up contracts, writing stories, and providing ink, paper, fresh types, and political help for his partners; Ledger D, Ms. 24434, photostat, Franklin Collection, Yale University, 18; Franklin to Colden, May 14, 1752, *CCP*, 4:324–25; R. Frasca, *Benjamin Franklin's Printing Network: Disseminating Virtue in Early America* (Columbia, Mo., 2006), chaps. 6–9.

75. All these figures (and many others) corresponded with Collinson on this subject.



Figure 1. Rattlesnake Evolution. *Pennsylvania Gazette*, May 9, 1754. Courtesy of the Library Company of Philadelphia.

communities conferred on him in return for mutual benefit. His skill was first in mingling, and then in mediating between, these diverse interests. The connection among his science, his business, and his politics was so fundamental that it endured long after most of his earliest scientific friends were dead. When he went to press after Christmas 1775 with another article on the “Rattle-snake as a Symbol of America” (this time warning the British, “Don’t tread on me”), Franklin could not resist expressing his political analogy in scientific terms. He distinguished his patriotic viper “from those of the same genus or class of animals” and noted zoologically, “The poison of her teeth is the necessary means of digesting her food, and at the same time is certain destruction to her enemies.” “The Rattle-Snake is solitary” he concluded, “and associates with her kind only when it is necessary for their preservation.” Franklin seems almost to have imagined Britain and its colonies as a nest of snakes that had huddled together merely to survive a long winter, but they were no longer the “one Whole” he had envisaged in 1754.⁷⁶ Now the thirteen had to fight as one to escape their mother

76. B. Franklin, “The Rattle-Snake as a Symbol of America,” *Pennsylvania Journal*, December 27, 1775.

and preserve their individual freedoms. With this essay on the eve of the Revolution Franklin publicly renounced his 1754 design for America’s formal union with Britain. Yet, in doing so, his choice of words (even his medium) subtly reaffirmed his faith in those informal trans-Atlantic networks for commerce and curiosity that had briefly made that possibility seem real.