



CHICAGO JOURNALS



History
of
Science
Society

Listing People

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Reviewed work(s):

Source: *Isis*, Vol. 103, No. 4 (December 2012), pp. 735-742

Published by: [The University of Chicago Press](#) on behalf of [The History of Science Society](#)

Stable URL: <http://www.jstor.org/stable/10.1086/669046>

Accessed: 08/02/2013 14:16

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Listing People

By James Delbourgo*

ABSTRACT

Historians and commentators have long discussed tensions between specialist and lay expertise in the making of scientific knowledge. Such accounts have often described quarrels over the distribution of expertise in nineteenth-century “popular” and imperial sciences. The “crowdsourcing” of science on a global scale, however, arguably began in the early modern era. This essay examines the lists of specimen suppliers, the artifacts of a worldwide collecting campaign, published by the London apothecary James Petiver at the turn of the eighteenth century. Listing suppliers helped Petiver advertise his status as a global specimen broker in the Republic of Letters. However, publicly listing his sources drew criticism over the social character of his collecting project, while lists became synonymous with the debasement of learning in polemics over natural history.

CURRENT COMMENTATORS on the capacity of digital technology to transform global sciences are apt to stress the possibilities for scientific crowdsourcing introduced by the Internet. According to David Weinberger, for example, contemporary science is beset by unprecedented problems of data saturation, to which enlisting the assistance of “citizen scientists” offers one promising solution. Among recent advances in open-source science, he cites the cataloguing of millions of galaxy shapes by online volunteers, the aggregation of nonspecialist observations to trace bird migration, and the use of Google Maps to identify previously unknown impact craters around the world. Digital crowdsourcing, moreover, generates a salutary social challenge to traditional scientific authority, promising greater democratic participation and public transparency in knowledge-making processes. “It’s hard to see anything except goodness in all these collaborative amateur efforts,” he concludes, yet warns that “the gated communities of science still exist.”¹

Questions concerning the relation between globalized collaboration and the social distribution of scientific authority are not new, however. In his *Musei Petiveriani*, pub-

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I thank Vera Keller, Laura Kopp, Bernard Lightman, Dániel Margócsy, Staffan Müller-Wille, Simon Schaffer, and Anna Winterbottom.

¹ David Weinberger, *Too Big to Know: Rethinking Knowledge Now That the Facts Aren’t the Facts, Experts Are Everywhere, and the Smartest Person in the Room Is the Room* (New York: Basic, 2012), pp. 132–139, on pp. 134, 136. See also Elizabeth Pisani, “Has the Internet Changed Science?” *Prospect*, 2010, 177, online at <http://www.prospectmagazine.co.uk/2010/11/has-the-internet-changed-science-big-data-hypothesis-driven-science/> (accessed 18 Apr. 2012).

lished beginning in 1695, the London apothecary James Petiver (ca. 1665–1718) printed numerous lists of exotic plants, animals, shells, and fossils, gathered from around the world. He also published lists of people: those who furnished him with his specimens. In “an abstract of what collections I have received the last twelve months,” published in August 1699, he named Edward Barter of Cape Coast, a key outpost of the slave trade in West Africa; Samuel Browne, a surgeon at Fort St. George in India; Edward Bulkley, “another ingenious surgeon at the same place” who also sent samples from Persia and Tonqueen; the Jesuit missionary Father George Camelli in the Philippines; William Clerk, a surgeon in Turkey; the surgeon James Cuninghame, who “made collections wherever he touched,” from Palma in the Canaries to Batavia, the Chinese islands of Emuy and Colonsu, the Straits of Malacca, the Cape of Good Hope, and Ascension Island; his “kind friend” John Foxe, another surgeon, who sent samples from the Cape of Good Hope and the Bay of Bengal; Jezreel Jones, secretary to the English envoy in Morocco, who also collected in Cadiz; the surgeon Walter Keir at Jehore in the Malaccas; Dr. David Krieg, FRS, in Maryland; Sylvanus Landon, a “worthy gentleman and ingenious surgeon” who collected in Spain, Borneo, the Flores Islands, and the Cape of Good Hope; the Reverend Henry Pasmore in Jamaica; Margaretha Hendrina van Otteren, widow of Henry Oldenland, a collector at the Cape of Good Hope; the respected Essex-based naturalist John Ray, that “most celebrated and worthy author”; Frederik Ruysch, “anatomick and botanick professor in Amsterdam”; Mr. Stocker, a “kind person (and altogether a Stranger)” in the Bay of Bengal; Alexander Sympson, a surgeon in Gallipoli, in the Ottoman Empire; Joseph Pitton de Tournefort, “of the royal academy of Sciences, and botanick professor of the royal garden at Paris”; and Richard Wheeler, his “kind and hearty friend” at Long-Sound, Norway. Petiver signed this remarkable list at its foot, “from my house in Aldersgate Street in London.”²

The role of long-distance networks in the circulation of knowledge has been a central concern for historians of the sciences in recent years.³ But how, why, and with what effects did practitioners make public the collectives that enabled worldwide sciences? Miguel Tamen reminds us of the pleasure of collecting and listing people, quoting Leporello’s famous “Catalogue Aria” from Mozart and Da Ponte’s *Don Giovanni*, “Delle vecchie fa conquista / Pel piacer di porle in lista”: “He seduces old ladies, just for the pleasure of adding them to the list.”⁴ Listing people was an art of self-construction through collective association: the production of a self defined by a collectivity. This brief essay examines how this was also true of Petiver’s lists of named suppliers—the artifacts of a campaign of global en-listment—which he used to assert his credibility as a broker of exotic specimens in the Republic of Letters. Listing collaborators promised power but also invited critique. Petiver’s supplier lists drew attacks questioning the social character of his natural history project. Global scientific reach, in other words, still turned on issues of local social credibility.

² James Petiver, *Musei Petiveriani* (London, 1695–1703), 1699 installment, pp. 43–47.

³ Steven J. Harris, “Long-Distance Corporations, Big Science, and the Geography of Knowledge,” *Configurations*, 1988, 6:269–304; and Simon Schaffer, “Newton on the Beach: The Information Order of *Principia Mathematica*,” *History of Science*, 2009, 47:243–276. See also Schaffer, Lissa Roberts, Kapil Raj, and James Delbourgo, eds., *The Brokered World: Go-Betweens and Global Intelligence, 1770–1820* (Sagamore Beach, Mass.: Science History Publications, 2009).

⁴ Miguel Tamen, “Collecting Experiences: The Very Idea,” *Collection: A Journal for Museum and Archives Professionals*, 2011, 6:205–214, on pp. 209–210. See also Bruno Latour and Peter Weibel, eds., *Making Things Public: Atmospheres of Democracy* (Cambridge, Mass.: MIT Press, 2005), introduction; and Jack Goody, *The Domestication of the Savage Mind* (Cambridge: Cambridge Univ. Press, 1977), Ch. 5.

The occupant of the house at Aldersgate was born at Rugby in Warwickshire, the son of a haberdasher; he established himself as an apothecarial tradesman, dispensing medicines in east London by the 1690s. He associated with some of the leading figures in English natural history, including the taxonomist John Ray and the prolific collector, society physician, and Secretary of the Royal Society Hans Sloane. The correspondence Petiver built up was integral to attracting the friendship of both. Sloane, who inherited Petiver's specimens after his death, commented that by taking "great Pains to gather together the Productions of Nature in *England*, and by his Correspondents, and Acquaintance, all over the World [he] procured, I believe, a greater Quantity than any Man before him." Sloane proved crucial to Petiver's advancement and legacy. His patronage helped Petiver to a fellowship at the Royal Society in 1695—no mean social feat for the apothecary, who quickly advertised his ascent into the genteel ranks of the membership by identifying himself on his title pages both as pharmacist ("*Pharmacop. Londinens*") and Fellow of the Royal Society ("*Regiae societatis Socio*"). Numerous Petiver specimens remain in the Sloane Herbarium at London's Natural History Museum (albeit in rather chaotic condition), while his manuscripts are at the British Library.⁵

Petiver became known for his energetic publication project of a series of paper museums of specimens. These consisted of lists of specimens and series of engravings. Here, Petiver relied on two main kinds of supply: exchanges with corresponding participants in the Republic of Letters across Europe (such as Ruysch and Tournefort) and with English travelers in global commercial companies (often surgeons). Petiver's principal object was to render specimens sent to him in Latin polynomials and list their synonyms in the existing literature.⁶ This was species identification rather than classification but nevertheless involved crucial judgments about anatomical description and translation that would inform the work of taxonomic specialists such as Ray. Petiver's manner of listing embodied three key aspects of what might be called sacred accumulations in the age of mercantilism. First, many such species were provided by commercial travelers as part of emergent global systems for accumulating wealth and goods; hence their appearance in lists that resembled inventories. Second, the purpose of their collection and documentation was to fulfill Baconian exhortations regarding the advancement of empirical knowledge. And third, Petiver imagined these inventories as documenting the multitudinous yet finite numbers of species designed by God to endure unchanged from the Creation to the end of time. He sometimes used the term "*Gazophylacium naturae*" to characterize his assembled species lists, a scriptural reference to the treasure chest that traditionally contained offerings in the temple.⁷

⁵ Hans Sloane, *A Voyage to the Islands of Madera, Barbados, Nieves, S. Christophers and Jamaica, with the Natural History of the . . . Last of Those Islands*, 2 vols. (London, 1707–1725), Vol. 2, p. iv. See also Raymond P. Stearns, *James Petiver: Promoter of Natural Science* (Worcester, Mass.: American Antiquarian Society, 1953); and Marjorie Swann, *Curiosities and Texts: The Culture of Collecting in Early Modern England* (Philadelphia: Univ. Pennsylvania Press, 2001), pp. 90–96.

⁶ This process of translation sometimes also retained indigenous names from informants *in situ*; see James Petiver, "A Catalogue of Some Guinea-Plants, with Their Native Names and Virtues," *Philosophical Transactions*, 1695–1697, 19:677–686.

⁷ For lists in natural history see Brian W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe* (Chicago: Univ. Chicago Press, 2006), pp. 192, 208; and Alix Cooper, *Inventing the Indigenous: Local Knowledge and Natural History in Early Modern Europe* (Cambridge: Cambridge Univ. Press, 2010), pp. 74, 79. On commercial accumulation and knowledge see Harold J. Cook, *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age* (New Haven, Conn.: Yale Univ. Press, 2007). On Baconian list making and the advancement of knowledge see Vera Keller, "The 'New World of Sciences': The Temporality of the Research Agenda and the Unending Ambitions of Science," in this Focus section.

Petiver's supplier lists were largely artifacts of a campaign of en-listment he conducted through the circulation of his "Directions for the Easie Making and Preserving Collections of All Natural Curiosities," printed as a broadsheet, reproduced in his pamphlets, and paraphrased in countless letters. They served to direct untrained collectors and enlist new ones. If you happen upon a curious surgeon or physician, he instructed one correspondent, "you may be pleased to give ym a copy of what in this paper may be most to their purpose . . . and I should be very glad to hold a correspondence with ym and most willingly inform ym of ye utmost of my power in any thing they shall demand."⁸ As Valentina Pugliano emphasizes in her essay in this Focus section, paper was itself the *sine qua non* of collecting, the physical means by which travelers enclosed and transmitted their finds. Thus, for example, Petiver directed a surgeon named Gidly on Tenerife to hire a Spaniard or native islander to carry a basket and quires of paper to fill with specimens from the island's mountaintops. These should be laid in a book as smoothly as possible and placed in a box for safekeeping and transport. Petiver offered to cover all costs and promised to supply any extra paper Gidly should need. Seeking to supervise the collecting process through virtual presence, he also turned himself into a mobile piece of paper to monitor Gidly *in situ*, directing him to paste his printed directions "on ye inside of yr surgery chest, that by yr daily sight of it I may prevent yr forgetting me." Petiver's didactic instructions to nonspecialists thus aimed to make his London list making govern others' fieldwork.⁹

The manifest presence of journeymen in his supplier lists reflected Petiver's determination to profit from the mobilization of commercial labor through and beyond English global networks in the mercantile era. Many of his suppliers, like Browne, Bulkley, and Cuninghame, were surgeons employed by the English East India Company, operating between South and East Asia. He drew on contacts in settler colonies (the West Indies and North America), trading outposts (West Africa, India, and China), and exploratory voyages (the South Seas), as well as Spanish and Portuguese travelers, Amerindians, and enslaved Africans in the American colonies. "Procure correspondents for me wherever you come," he instructed the America-bound servant George Harris, who sailed with Edmond Halley on the *Paramour* in 1698, "and take directions how to write them, and procure something from them [with whom] you stay, showing their slaves how to collect things by taking them along with you when you are abroad."¹⁰ Engaging the enslaved as collectors appears to have been routine in plantation societies. Petiver issued instructions for showing enslaved men and women how to collect "shells with live snails inside" and pin insects into pillboxes (or the inside of their hats). He offered half a crown per dozen flies, beetles, grasshoppers, or moths sent whole and twelve pence per dozen plants. Local territorial expertise in potentially hazardous terrain was essential, and associates like Samuel Browne were thus invaluable. Browne was "constantly employing several persons to make collections for me," Petiver glowed, "and many of them some days journey up the country,

⁸ James Petiver, "Directions for the Easie Making and Preserving Collections of All Natural Curiosities" (London, ca. 1700); and James Petiver to unknown, n.d., British Library, London, Sloane Manuscript 3332, fol. 5.

⁹ Petiver to Mr. Colbatch, n.d., Sloane MS 3332, fol. 73; and Petiver to Mr. Gidly, 28 Sept. 1694, *ibid.*, fol. 83. See also John Law and Michael Lynch, "Lists, Field Guides, and the Descriptive Organization of Seeing: Birdwatching as an Exemplary Observational Activity," *Human Studies*, 1988, 11:271–303, esp. pp. 274–276; Ogilvie, *Science of Describing* (cit. n. 7), pp. 254–256; and Jim Endersby, *Imperial Nature: Joseph Hooker and the Practices of Victorian Science* (Chicago: Univ. Chicago Press, 2008), Ch. 2.

¹⁰ Petiver to George Harris, 18 Oct. 1698, Sloane MS 3333, fols. 235–236. See also Susan Scott Parrish, "Diasporic African Sources of Enlightenment Knowledge," in *Science and Empire in the Atlantic World*, ed. James Delbourgo and Nicholas Dew (New York: Routledge, 2007), pp. 281–310.

from such places we never yet saw any plants before.” Here was Petiver’s genius: collecting collectors who themselves were collectors of collectors—Browne acted as a go-between connecting the London apothecary and indigenous suppliers in India.¹¹

Petiver’s lists of named suppliers sketched a map of the world for his botanical readers, casting him as a well-connected broker of exotic species at its center. This was an ambitious and carefully staged projection of global reach. Such lists, first of all, were exclusive as well as inclusive. Browne’s Indian sources went unnamed; so too did Petiver’s African collectors (Graman Quacy, the former Surinam slave after whom Linnaeus later named the *Quassia amara*, was exceptional).¹² In an era that witnessed the development of new biopolitical programs for counting people as labor resources, Africans were notoriously listed as anonymous priced commodities within the Atlantic slave trade—and so were not deemed creditable as named contributors to natural history. The logic of Petiver’s supplier list was the obverse of such quantitative assessment: the norms of genteel discourse in natural history, carried over from the intellectual sociability of Renaissance humanism, obliged him instead to characterize his assemblages through conceits of friendship, benefaction, and gift giving.¹³

This characterization was an “polite” gloss applied to a series of exchanges shaped by labor, commerce, and sometimes sheer acrimony. While it is hard to know how often Petiver offered cash for specimens, his payment for slaves’ material shows his willingness to do so. When dealing with naturalists, exchange in kind would likely have been the norm, while specimens from journeyman surgeons were procured in exchange for supplies like paper, hard currency (possibly bankrolled by Sloane), and promises of named recognition: Petiver hoped that the appearance of his supplier lists would encourage others by their “generous example.”¹⁴ In one instance, Joseph Lord of Carolina enigmatically insisted that his specimens be listed “without ye mention of my name” and Petiver ceremoniously obliged, albeit in a way that still signaled his obligation—at least to Lord, whom he identified as “A certain *Curious Person* whose Name at present I am obliged to conceal.” Underneath this veneer of courtesy, Petiver’s letters reveal a more contentious pattern of interaction. Correspondents complained that he sometimes sent the wrong kind of paper, and he could be abusively impatient: “any child of 6 years old” could follow his instructions, he blared; “we know not how long we have to live,” he sardonically informed one tardy correspondent.¹⁵

Not all his suppliers lacked gentility or learning. Later lists (evidence of his social

¹¹ Petiver to Colbatch, 5 Jan. 1696, Sloane MS 3332, fol. 174; and Petiver, *Musei Petiveriani* (cit. n. 2), 1699 installment, p. 43.

¹² Susan Scott Parrish, *American Curiosity: Cultures of Natural History in the Colonial British Atlantic World* (Chapel Hill: Univ. North Carolina Press, 2006), pp. 1–7; Andrea Rusnock, “Biopolitics: Political Arithmetic in the Enlightenment,” in *The Sciences in Enlightened Europe*, ed. William Clark, Jan Golinski, and Simon Schaffer (Chicago: Univ. Chicago Press, 1999), pp. 49–68; and Stephanie E. Smallwood, *Saltwater Slavery: A Middle Passage from Africa to American Diaspora* (Cambridge, Mass.: Harvard Univ. Press, 2007).

¹³ Ogilvie, *Science of Describing* (cit. n. 7), pp. 77–85.

¹⁴ Petiver, *Musei Petiveriani* (cit. n. 2), 1699 installment, p. 43. See also Dániel Margócsy, “‘Refer to Folio and Number’: Encyclopedias, the Exchange of Curiosities, and Practices of Identification before Linnaeus,” *Journal of the History of Ideas*, 2010, 71:63–89, esp. p. 68; and William J. Cook, “The Correspondence of Thomas Dale (1700–1850): Botany in the Transatlantic Republic of Letters,” *Studies in History and Philosophy of Biological and Biomedical Sciences*, 2012, 43:232–243, esp. p. 237. Petiver apparently also sent ale to quench suppliers’ thirst: Stearns, *James Petiver* (cit. n. 5), p. 315.

¹⁵ Joseph Lord to Petiver, 6 Jan. 1701/2, Sloane MS 4063, fol. 132; Petiver, *Musei Petiveriani* (cit. n. 2), 1703 installment (unpaginated); Petiver to George Wheeler, 18 May 1695, 29 Oct. 1696, Sloane MS 3332, fols. 124, 223–225; and Petiver to Edward Barter, 15 Oct. 1695, *ibid.*, fols. 164–166.

success and perhaps also his desire to answer detractors) included patrons such as the Duchess of Beaufort and Joannes Breynius. He also listed gentlefolk and aristocrats as dedicatees of the engravings he published.¹⁶ That the status of his surgeon suppliers concerned Petiver, however, is suggested by his preemptive characterization of the itinerant Sylvanus Landon as a “worthy gentleman and ingenious surgeon,” a characterization that would have struck some readers as contradictory, since surgeons, unlike physicians, were men of dexterity and trade, not learning and independent means.¹⁷ Including such suppliers in his lists was an ambiguous endeavor that involved multiple and potentially unstable conferrals of credit. While Petiver aimed to establish his own authority by publishing his sources, he was also busily buttressing the authority of those sources. In global specimen gathering, the geographical distribution of trust necessitated managing its distribution down the social hierarchy.

That he was less than wholly successful is evident from a stinging satirical attack published in 1700 in *The Transactioneer* (a jibe against Sloane’s editorship of the *Philosophical Transactions*) by the critic and self-appointed scourge of “modern” learning William King. King was an associate of Jonathan Swift’s and an ally in the so-called Battle of the Books. In his view, granting fellowships to mere tradesmen like Petiver brought the Royal Society into disrepute and tarnished its journal with the intellectual shallowness of descriptive natural history. Lists were held up as an example of the dross that now passed for learning. Swift drove the point home in a memorable attack on “index-learning” a few years later in his *Tale of a Tub* (1704), where he lamented the penchant for getting “a thorough insight into the index, by which the whole book is governed and turned, like fishes by the tail.” King assailed Sloane for his credulous dependence on his own exotic suppliers, while mocking Petiver as his chief botanical henchman: the “Darling of the Temple-Coffee-House-Club” (the London venue where they congregated with other botanists), their “Oracle,” the “Philosophick Sancho” to Sloane’s Don Quixote. King derided Petiver for his vernacular labels (“Blackamoors Teeth” for shells and West African names like “Bumbunny” and “Apputtasy”), which reeked of intellectual vulgarity. He also took aim at his carefully assembled supplier list: “Mr. Pett—r concludes his Museum, with a Catalogue of his Kind Friends.” The overreaching “Muffti” (another antiexoticist jibe) had only embarrassed his “friends” through his credit grubbing: “nobody sure will . . . envy them the honour of being in that catalogue.”¹⁸

Such attacks on Petiver the listmaniac were not isolated. In 1710, the German scholar Zacharias Conrad von Uffenbach remarked that he found Petiver unlearned, financially

¹⁶ Petiver, *Musei Petiveriani*, 1703 installment, p. 94 (more genteel suppliers), 1702 installment, pp. 78–80 (dedicatees of engravings).

¹⁷ Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago: Univ. Chicago Press, 1994), esp. Chs. 2–3; and Roy Porter, *English Society in the Eighteenth Century*, 2nd ed. (London: Penguin, 1990), pp. 49–50. Anna Winterbottom points out, however, just how valuable surgeons like Browne and Bulkley were, both as collectors and as diplomatic brokers between the East India Company and contacts in the Mughal empire in India; see Anna Winterbottom, “Company Culture: Information, Scholarship, and the East India Company Settlements, 1660–1720s” (Ph.D. diss., Univ. London, 2011), Ch. 2.

¹⁸ Jonathan Swift, *A Tale of a Tub and Other Works* (1704) (Oxford: Oxford Univ. Press, 1999), p. 70; and [William King], *The Transactioneer* (London, 1700), p. 38. See also Joseph M. Levine, *Dr. Woodward’s Shield: History, Science, and Satire in Augustan England* (Ithaca, N.Y.: Cornell Univ. Press, 1977), pp. 247–250; and Richard Coulton, “‘The Darling of the Temple-Coffee-House Club’: Science, Sociability, and Satire in Early Eighteenth-Century London,” *Journal for Eighteenth-Century Studies*, 2012, 35:43–65. On the connection between apothecarial and botanical list making see Valentina Pugliano, “Specimen Lists: Artisanal Writing or Natural Historical Paperwork?” in this Focus section.

abject, and socially profligate: “as soon as he receives an addition to his cabinet, he has an engraving made of it, and dedicates it to some one, with whom he has even the smallest acquaintance, and receives a present for his pains.” Naming plants after discoverers was “the highest honour that mortal man can desire,” Linnaeus later commented, and so he was “astounded when I see with what boldness, with what rashness Petiver . . . thrust priceless gifts, too brilliant and valuable for the uneducated, on florists, monks, relations, friends and the like.” Although he cited Petiver in his work, Linnaeus nonetheless considered such behavior “a source of derision and scandal to posterity.”¹⁹ For some, natural history itself was abject. “More than knowing the name, the shape and obvious qualities of an insect, a pebble, a plant, or a shell, was requisite to form a philosopher, even of the lowest rank,” commented the pro-Newtonian physician James Jurin, lamenting the triumph of the Sloane–Petiver axis when Sloane succeeded Newton as Royal Society president in 1727.²⁰

King had ridiculed Petiver’s assembly of his “Catalogue of his Kind Friends” as vulgar self-aggrandizement. This opposition to a tradesman claiming the status of gentlemanly author on the basis of commercial contacts grew out of Tory hostility to the social mobility produced by commercial endeavor, often perceived as antithetical to the traditional landed order of English society.²¹ In fact, however, listing people was a routine strategy in the realm of learned print—witness, for example, the subscription lists on show in print publications. In his unpublished journal, the Plymouth surgeon James Yonge recorded “a list of famous men and women I have seen in my travels,” echoing the scholarly *alba amicorum* of the Renaissance; his list named King Charles II, several nobles, and learned men including Sloane, Robert Boyle, and Robert Hooke. Intellectual travel entailed assembling and displaying learned acquaintance.²² In scientific circles, Petiver’s was arguably a newly list-conscious age, in which circulating printed lists publicly advertised the membership of scientific communities. Gazettes regularly listed the officers of the Royal Society in reporting their meetings, while the society published its own lists of both domestic and foreign fellows. These columns stoked anxiety and aspiration in equal measure. Consider the example of William Byrd II of Virginia, the English-educated planter, sometime naturalist, and importunate correspondent of Sloane’s. Apt to bridle at his lack of standing in metropolitan circles, Byrd complained to Sloane in 1741 on finding his name omitted from the Royal Society’s list of members. His chagrin at his exclusion was doubtless both personal and public: a loss of status in his own eyes and, he must have presumed, the eyes of others. “I suppose my long absence has made your secretaries rank

¹⁹ Diary of Zacharias Conrad von Uffenbach, 29 July 1710, excerpted in J. E. B. Mayor, ed., *Cambridge under Queen Anne* (Cambridge: Deighton, Bell, 1911), p. 370; and Carolus Linnaeus, *The “Critica Botanica” of Linnaeus*, trans. Arthur Hort (London: Ray Society, 1938), p. 54. Ironically, similar charges were leveled at Linnaeus. On Linnaeus’s use of lists as research tools see Staffan Müller-Wille and Isabelle Charmantier, “Lists as Research Technologies,” in this Focus section.

²⁰ James Jurin, quoted in Mordechai Feingold, “Mathematicians and Naturalists: Sir Isaac Newton and the Royal Society,” in *Isaac Newton’s Natural Philosophy*, ed. Jed Z. Buchwald and I. Bernard Cohen (Cambridge, Mass.: MIT Press, 2001), pp. 77–102, on p. 77.

²¹ Swann, *Curiosities and Texts* (cit. n. 5), pp. 90–96; and Linda Colley, *Britons: Forging the Nation, 1707–1837* (New Haven, Conn.: Yale Univ. Press, 1992), pp. 56–71.

²² F. N. L. Poynter, ed., *The Journal of James Yonge, 1647–1721, Plymouth Surgeon* (London: Longmans, 1963), pp. 24–26. On *alba amicorum* see Peter Burke, “Humanism and Friendship in Sixteenth-Century Europe,” in *Friendship in Medieval Europe*, ed. Julian Haseldine (Stroud: Sutton, 1999), pp. 262–274. On scientific subscription lists see David R. Brigham, “Mark Catesby and the Patronage of Natural History in the First Half of the Eighteenth Century,” in *Empire’s Nature: Mark Catesby’s New World Vision*, ed. Amy Meyers and Margaret Beck Pritchard (Chapel Hill: Univ. North Carolina Press, 1998), pp. 91–146.

me in the number of the dead,” he acerbically informed Sloane, “but pray let them know I am alive.”²³

Petiver envisaged his supplier lists as a two-way credit management system: an incentive to en-listment and a means of establishing his own authority. They offered participants notice in the Republic of Letters in exchange for allowing Petiver to define himself as the master of a global botanical collective. His aggressively inclusive project, however, provoked repeated criticism. Because of its globally distributed character—something often invoked to distinguish its status from that of natural philosophy, especially as construed through the heroic figure of geographically unitary Newtonian solitude—listing the sources of natural history opened its impressive worldwide reach to charges of social illegitimacy and intellectual promiscuity.²⁴ Problems of scientific trust across distance thus remained resolutely local problems of credibility.

Petiver’s en-listment campaign nonetheless presaged the globalization of European sciences and attendant quarrels over the distribution of expertise both across space and down social hierarchies. Imperial expansion and improved communications dramatically extended such campaigns from the nineteenth century. Imperial Victorian natural history witnessed conflict and negotiation among metropolitan and colonial practitioners, especially over the naming of species. Professionalization contentiously spawned categories like “popular” and “amateur” science that encompassed creative acts of description and collection by lay practitioners, subordinating them to the authority of ever-more-institutionalized scientists, even as the knowledge they supplied enabled entire new systems like Darwin’s theory of evolution by natural selection. Petiver’s was not, of course, an era defined by these later distinctions between professional and popular science. But his quest for learned credibility nevertheless foundered on questions concerning the social character of his natural history project in an age preoccupied with the alleged virtues of gentle rank. Globalized collaboration did not transcend local social criteria for establishing who counted as a credible scientific broker. Digital prophets of citizen science, and brave new crowdsourced worlds, might thus do well to bear such early modern tales in mind.²⁵

²³ William Byrd to Hans Sloane, 10 Apr. 1741, Sloane MS 4057, fol. 20. See also Raymond Stearns, “Colonial Fellows of the Royal Society of London, 1661–1788,” *William and Mary Quarterly*, 1946, 3:208–268.

²⁴ The historiography of Newtonian solitude is described and challenged in Schaffer, “Newton on the Beach” (cit. n. 3).

²⁵ Anne Secord, “Science in the Pub: Artisan Botanists in Early Nineteenth-Century Lancashire,” *Hist. Sci.*, 1994, 32:269–315; Endersby, *Imperial Nature* (cit. n. 9), esp. Ch. 5; James A. Secord, “Darwin and the Breeders: A Social History,” in *The Darwinian Heritage*, ed. David Kohn (Princeton, N.J.: Princeton Univ. Press, 1985), pp. 519–542; Gordon R. McOuat, “Cataloguing Power: Delineating ‘Competent Naturalists’ and the Meaning of Species in the British Museum,” *British Journal for the History of Science*, 2001, 34:1–28; and Andrew J. Lewis, *A Democracy of Facts: Natural History in the Early Republic* (Philadelphia: Univ. Pennsylvania Press, 2011).