



# History and Technology

## An International Journal

ISSN: 0734-1512 (Print) 1477-2620 (Online) Journal homepage: <http://www.tandfonline.com/loi/ghat20>

## Practicing oeconomy during the second half of the long eighteenth century: an introduction

Lissa Roberts

**To cite this article:** Lissa Roberts (2014) Practicing oeconomy during the second half of the long eighteenth century: an introduction, *History and Technology*, 30:3, 133-148, DOI: [10.1080/07341512.2014.988423](https://doi.org/10.1080/07341512.2014.988423)

**To link to this article:** <http://dx.doi.org/10.1080/07341512.2014.988423>



Published online: 11 Dec 2014.



Submit your article to this journal [↗](#)



Article views: 163



View related articles [↗](#)



View Crossmark data [↗](#)

## Practicing oeconomy during the second half of the long eighteenth century: an introduction

Lissa Roberts\*

This essay introduces a special issue on oeconomy during the second half of the long eighteenth century. In addition to summarizing the four contributions to the issue, it argues in favor of replacing common reference to ‘the economy’ with reference to the terminology, practices and ‘imaginaries’ which shaped both historical actors’ experiences and the history they made. Beginning with the proposition that ‘the economy’ was actually an invention which was introduced in the 1930s–1950s, this essay explores the various contextually framed ways in which oeconomy was practiced during the second half of the long eighteenth century. As part of the more general argument, the essay stresses the need to consider oeconomy as a set of practices (including conceptualization and communication), rather than as a prior concept or theory which could be applied to shape or explain activity. Among the practices it discusses, the essay includes a revised sense of the term ‘imagineering’.

**Keywords:** oeconomy; economy; practice; imaginaries; imagineering; economic societies

### Introduction

Studies that place the birth of modern economic growth during the eighteenth century (generally located in Great Britain) are legion.<sup>1</sup> What most of these studies share is an assumption that something called ‘the economy’ existed throughout most of human history – something that can be both measured quantitatively so as to chart its behavior over time and analyzed in terms of the changing historical conditions responsible for that behavior. A number of authors such as Michel Foucault, Keith Tribe and Margaret Schabas, however, have variously argued that ‘the economy’ is a concept that did not exist before the nineteenth century.<sup>2</sup> The historian and political theorist Timothy Mitchell considers it more a twentieth-century invention.

The idea of the economy in its contemporary sense did not emerge until the middle decades of the twentieth century. Between the 1930s and 1950s, economists, sociologists, national statistical agencies, international and corporate organizations, and government programs formulated the concept of the economy, meaning the totality of monetarized exchanges within a defined space. The economy came into being as a self-contained, internally dynamic, and statistically measurable sphere of social action, scientific analysis, and political regulation.<sup>3</sup>

What makes Mitchell’s perspective important is that it doesn’t regard ‘the economy’ only as a concept. More than just an idea and less than a universal and naturally occurring phenomenon, he explains, ‘the economy’ is composed of an active weave of conceptualizing, institutional organizing, instrumentalized forms of measurement and governance,

---

\*Lissa Roberts, Department of Science, Technology and Policy Studies (STePS), University of Twente, The Netherlands. Email: [l.l.roberts@utwente.nl](mailto:l.l.roberts@utwente.nl)

and social action. It denotes, that is to say, a time-bound, institutionally and instrumentally situated set of practices and tools.

Mitchell argues that experts and managers called ‘the economy’ into being during the 1930s–1950s, but this is surely not enough to account for its continuing existence and power. Leaving aside discussions of the interests of professional economists, institutions and capital, both the economy’s explanatory and motivating power must surely depend also on widespread belief. In this sense, we might argue that ‘the economy’ became a ‘reality’ in much the same way that ‘the nation’ did – through a process of forward-directed imagining that brought people and processes together around a set of symbols, activities and relations.<sup>4</sup>

It is with this in mind that this special issue takes us back to the second half of the long eighteenth century, to a time when widely used variations of the words *oeconomy*, *oeconomie* and *Ökonomie* were invoked in a number of European languages, not to gesture toward what modern day economists and others see as ‘the economy’, but toward a different constellation of practices, instruments and imaginaries.<sup>5</sup> Pointing out the anachronism entailed in looking for stirrings of ‘the economic’ during this period is thus only a first step. By turning our attention toward this constellation – which showed both local variety and signs of trans-local continuity and interaction – the essays of this issue present historical development as driven by practice rather than through the claimed agency of concepts and philosophical texts that might have found resonance at the time. They reveal a spatio-temporally situated realm of activity – including combined acts of conceptualizing, communicating and interpreting – in which the investigation of nature merged seamlessly with concerns for material and moral well-being, in which the interdependence of urban and rural productivity was appreciated and stewarded, in which ‘improvement’ was simultaneously directed toward increasing the yields of agriculture, manufacturing and social responsibility. Taking *oeconomy* on its own terms thus requires that we reassess a number of historiographically conventional categories, including those that too often continue to parse our historical inquiries anachronistically into examinations of science, technology and their relation with society.

My purpose here is to situate the essays that follow in this special issue in a more general introduction to the theme of ‘practicing *oeconomy*’. Beginning with a brief discussion that brings together this issue’s overall perspective with a look at how the various forms of the word *oeconomy* were used during the second half of the long eighteenth century, I next turn to the networks of practices covered by the word’s various articulations. I then move from this historical overview to a more historiographical discussion of the consequences of focusing on practice for our understanding of *oeconomy*. To conclude, I offer a gloss of the essays that make up this special issue, highlighting the ways in which they inform its theme. This brings me once more to the questions of how we can and why we should endeavor to account for historical development without falling prey to narratives that seek the present in the past and thereby miss how lessons from the past can enrich our own future-oriented imaginaries.

### **Oeconomy: domestic concerns in a global setting**

Whether spelled with or without an initial ‘o’, (o)economy and its cognates are etymologically rooted in the Greek words *oikos* and *nomos*, which together speak to bringing order to the domestic sphere. But by the mid-eighteenth century there were a variety of plans and practices directed toward bringing order to the domestic sphere. This was, not surprisingly, partially because there was also a variety of co-existing answers to what

constituted the domestic sphere: an individual household; a rural estate or environment; a region, a state or a colony, along with its resources and inhabitants. Both of these multiplicities, however, were also interactively bound up with the broader history of the period. For the second half of the long eighteenth century was marked by a range of phenomena including subsistence crises related to the Seven Years' War, state-led reform movements in Prussia and smaller German states such as Baden and Hesse-Kassel, as well as in Spain and its colonies; state debts in France and Britain; American and European revolutions; growing competition in the realms of global trade and colonial power; the turn toward increased 'patriotic' attention to domestic productivity and social responsibility; the proliferation of oeconomic societies; innovative projects in agriculture, manufacture and their material linkages; increased reliance on statistical surveys as an instrument of governance; and wars fought around the world.<sup>6</sup>

The question of how to connect the elements of this combined list of historical events and oeconomic practices is not a simple one. The answer is decidedly not a straightforward statement of causality: that the challenges of historical events simply demanded the development of certain practices. Rather, historical development was surely an evolving result of dynamic and transformative interaction between such events, actors' initiatives and the more mundane socio-material circumstances that framed them.<sup>7</sup> Among the things that both mediated among these elements and evolved out of this dynamic confluence were what I have already called 'imaginaries'. Drawing especially on Benedict Anderson, Sheila Jasanoff and Sang-Hyun Kim define imaginaries as "collectively imagined forms of social life and social order."<sup>8</sup> The philosopher Charles Taylor presents the concept of 'social imaginaries' as capturing 'something much broader and deeper than the intellectual schemes people may entertain when they think about social reality.' In his words, the term refers to

... the ways people imagine their social existence, how they fit together with others, how things go on between them and their fellows, the expectations that are normally met, and the deeper normative notions and images that underlie these expectations.<sup>9</sup>

What I want to stress here first is the future-oriented character of such imaginaries, which include beliefs and expectations about how the present ought to stretch out into the future.

It remains tempting to conflate our understanding of 'social imaginaries' with a kind of intellectual history that roots historical development in the field of philosophical ideas. In his discussion of 'the economy', for example, Taylor states that the evolving social imaginary of modernity, to which an understanding of 'the economy' was crucial, was rooted in the prior 'Grotian-Lockean idea of order.'<sup>10</sup> But if we accept that talk about the influence of ideas can be no more than directive shorthand for the practices whereby what humans conceive enters the world through a transformative combination of communicating, interpreting and appropriating, we are moved to consider historical agency from a different – action-based – perspective. To stress this point and consider how we might capitalize on what I just referred to as the 'future-oriented character' of imaginaries, it might be useful to move from a discussion of 'imaginaries' to the more active 'imagineering'. Originally coined in the early 1940s to foster imaginative uses of aluminium at the Alcoa Company and to advertise the new world that such practices could bring about, imagineering was publicly defined as 'letting your imagination soar, and then engineering it down to earth.'<sup>11</sup> While thus initially directed toward boosting corporate profits through the coupling of an in-house program of stimulating innovative product development with

an ad campaign that wrapped Alcoa, its engineers and products with the lustre of forward-looking modernity, the term is amenable to de- and re-contextualization. For the purposes of this special issue, we can consider the term ‘imagineering’ as an invitation to explore the practices whereby social groups during the second half of the long eighteenth century sought to ‘engineer’ socio-material environments and populations that manifested the norms, values and expectations they held dear.<sup>12</sup>

A first clue to what this entailed can be found in the various ways that, oeconomy and its word family were used during the second half of the long eighteenth century. Throughout this period (and beyond), it retained its long-standing use as a synonym for thrift and prudent management.<sup>13</sup> ‘Rural oeconomy’ was popularly portrayed as an arcadian idyll on contemporary consumer goods such as wallpaper and porcelain, items that were occasionally produced by workers who took part in oeconomic programs to educate the poor to become productive citizens.<sup>14</sup> So too was it a key field of interest for oeconomic reformers, as described in this issue by Elena Serrano. But as Serrano demonstrates, rural oeconomy extended in practice beyond issues of agriculture to embrace domestic productivity more generally, whether in terms of village soap producers and shared reading of foreign accounts of improved bread baking, or in connection with urban projects such as oeconomic soup kitchens and botanical gardens.<sup>15</sup> Reference to the ‘oeconomy of nature’ and ‘political oeconomy’ invited the examination of nature and the body politic as well-ordered (and sometimes divinely created or sanctioned) realms, quite often with an eye toward further ordering and regulation.<sup>16</sup> We can, in fact, see engagement with nature’s oeconomy and political oeconomy coming together during this period in cases ranging from Linnaeus’ oeconomically informed attempts to domesticate foreign plants in Swedish soil to Pierre Poivre’s introduction of insect-eating birds to the Isle de France (present-day Mauritius) to rebalance local nature and society through the process of eradicating the scourge of locusts.<sup>17</sup> Oeconomic chemistry, to name another example, was defined, taught, discussed and promoted as a vehicle for improving agriculture and manufacture, and in this way, helped fuel the material cycles that stimulated both urban and rural productivity.<sup>18</sup> Finally, as defined by Linnaeus, oeconomy was the most useful of sciences, which brought together knowledge of nature’s elements and their interactions with insights into how those interactions could be humanly directed toward particular ends.<sup>19</sup> Importantly, these definitions were not only articulated in a broad range of texts that circulated throughout Europe and the Americas, they were also performed in oeconomic societies that inhabited an equally expansive geography, as well as in a telling array of both privately initiated and state sanctioned projects. Here they joined with enunciated ideals of improvement and patriotism to offer blueprints for the inextricably linked goals of ameliorating material productivity, public welfare and morality. As such, ‘oeconomy in action’ spoke to a world in which the material and the moral were inseparable facets of societal being, linking humans both with each other and with the resource-filled but vulnerable environments they inhabited.<sup>20</sup> Narrowly construed, stand-alone measurements of productive ‘efficiency’ and ‘economic growth’ made little sense in this context.

And yet, historians continue to err in attributing just this narrow purpose to oeconomic activity. Koen Stapelbroek and Jani Marjanen, for example, introduce the volume on oeconomic societies they recently edited with precisely this claim.<sup>21</sup> So too does the volume present a too-narrow view of oeconomy by privileging agriculture as the central concern of oeconomic societies, framing it as the historical ‘other’ of commerce. Where especially the editors bring agriculture and trade together, they do so only in terms of agriculture’s dependence on trade, not in terms of the cycles that connected agriculture to other sectors of production and exchange; this despite evidence presented by a number of

their volume's individual essays that society members recognized the close and desirable inter-relation between agriculture, manufacture and trade.<sup>22</sup>

To their credit, though, the editors and their volume's contributors do offer an important indication of the geographical spread of oeconomic societies, which were established throughout Europe, the Americas and other colonial settings during this period, and provide extensive bibliographical information for further research.<sup>23</sup> So too do some of the contributions indicate how activities in which members of oeconomic societies engaged were continuous with the broader field of oeconomic practice.<sup>24</sup> Essay competitions and widely spread reports on both competition topics and winning essays, as well as reports of actual improvement projects carried out, for example, helped focus public attention on the discussions and experiences which society members, their contacts and collaborators pursued. Societies' targeted promises of monetary rewards and medals further stimulated oeconomic participation and communication.

Focusing on the important and often under-appreciated case of Germany, historian Marcus Popplow has recently attempted to situate oeconomic societies in the broader context of oeconomic practice. Unfortunately, as discussed by Andre Wakefield in this issue, his efforts are similarly marred by anachronistically identifying oeconomic practices with modernization and 'expert' mediation rather than considering them as acts of imagineering that need to be understood on their own terms.<sup>25</sup> Popplow argues that the second half of the eighteenth century witnessed an 'economic enlightenment, which, in modern terms, attempted to encompass all the stages of production up to the nationwide implementation of successful improvements.' German oeconomic societies played an important role in this movement and in terms of their legacy, according to him, by establishing 'an approach and an institutional setting in which agricultural resources were investigated as materials exclusively in order to facilitate their economic exploitation.'<sup>26</sup> Encouraging wealth creation and 'cultures of innovation' went hand in hand during Popplow's 'economic enlightenment'.<sup>27</sup> This explains why the very success of oeconomic societies, in his view, was tied to their practical failure and decline in popularity by 1800. By demonstrating the insufficiency of amassing and circulating 'expert' knowledge as the prime vehicle for increasing agricultural productivity and profit, they pointed to the need to replace an enlightened appeal to 'moral patriotism' with state-organized administration and education. Their inability to generate widespread wealth production, that is to say, justified the removal of moral issues from policy-making. In Germany at least, state 'experts' would have to take matters in hand in order for 'useful' knowledge to be generated, imparted and implemented efficiently and effectively.<sup>28</sup>

The essays that follow offer a rather different view, one in which the practices in which members of oeconomic societies engaged were neither the exclusive vehicles for circulating oeconomic knowledge and news nor classifiable as the exercise of 'expert' mediation. Neither, these essays cumulatively argue, should their history be told as one of eclipse by state policy-making. Rather, they show that the relationship between society members, publicists, educators and state officials is often better seen and explored as one of collaboration than in terms of historical displacement. So too was it not infrequently the case that the actors in question experienced hybrid careers; it was precisely through the mix of practices in which they engaged that they sought to further oeconomic projects and goals.

It is also relevant here to consider the question of the geography entailed in the circulation of oeconomic knowledge and news. While the German context Popplow addresses did not include the administration of colonies, their presence was important in other contexts. As Etienne Stockland and others recount, seemingly peripheral colonies such as the



Isle de France could prove to be quite central – both for the accumulation of economically interesting experience and knowledge (some through circulation and some through local examination and experimentation) and for the export of locally developed practices.<sup>29</sup> Of particular interest is that oeconomic practices that were initially colonially based could thus make their way to metropolitan Europe, adapted both as domesticated practice and as policy measures, which might further oeconomic surveying and other practices. Finally, examining the experiences of oeconomic society members in Spanish America reveals cases with yet another historical trajectory. Particularly in New Granada, engagement with tying the exploration of local nature and its resources to advances of the ‘civil republic’ led to a successful struggle for independence from Spain.<sup>30</sup>

### Oeconomy as theory or practice?

A central goal of this special issue is to propose an alternative to analyses which offer an intellectual history of oeconomy or related terms such as improvement, patriotism and cameralism (that is, which focus primarily on theoretical formulations and concepts) or which prioritize concepts and the texts in which they were originally developed as the formative cause behind oeconomic practices. The approach advocated here considers not concepts, but conceptualizing as a practice of consequence precisely because and when it was part of a more extended practical field.<sup>31</sup> On this score, acts of conceptualization were both informed by oeconomy’s other practices and the larger contexts in which they were situated, and linked to them through communicative processes of articulation and embodied circulation.<sup>32</sup> More than just a historiographical pose or principle, this approach is intimately connected to the chronological framing of oeconomic practice and justifies this special issue’s focus on the second half of the long eighteenth century.

It is fairly common for studies of oeconomy and its related terms to return to the seventeenth century for the theoretical origins of their subject matter. Stapelbroek and Marjanen, for example, look back to ‘the development of the discourse of improvement around 1650.’<sup>33</sup> They and other authors turn to the words of people such as William Petty and members of the Hartlib Circle for the genesis of ideas about how to improve material prosperity and social welfare.<sup>34</sup> Strikingly, the historian Carl Wennerlind is even willing to credit the Hartlib Circle with ‘providing the foundation for much of [Adam] Smith’s own thinking,’ despite his admission that Smith either ‘ignored – or was unaware of’ their work.<sup>35</sup> In the introduction to their oft cited collection on ‘oeconomy in the age of Newton’ Margaret Schabas and Neil Di Marchi begin by defining oeconomy as a kind of economic thought and argue that to understand how its ‘colorful’ range of concerns gave way to the more narrow discipline of modern economics, it is necessary to return to the ‘oeconomic concepts and constructs of the seventeenth and eighteenth century.’ And while they announce that an explanation of this transition goes beyond the purview of their publication, they depict it as having entailed an eventual weaning of oeconomy’s conceptual dependence on its original Greek heritage. Thus, leading up to the final conceptualization of ‘the economy’ in the early 1800s, in their view, ‘most contributions to economic discourse of the early modern period [were] piecemeal rather than synthetic.’<sup>36</sup>

In a provocative review of Schabas and Di Marchi’s collection, Keith Tribe portrays its essays as ‘establishing the early modern conception of “oeconomy” as a system of order applied to human activity, rather than arising out of it.’ What makes this claimed distinction between conception and activity possible, he discerns, is the authors’ dominant concern with ‘image’ rather than ‘reality’.<sup>37</sup> While ‘reality’ is a risky word, it must be admitted that historiographical debates regarding both the choice of whether to focus on

concepts and theories or on conceptualizing as practice and the question of how to situate the result of that choice within a broader practical field (the configuration of which is itself a matter of choice) generally speak to how we perceive historical ‘reality’. Do we want to accept an essential distinction between theory and practice as fundamental to historical analysis and investigate the past in terms of theories and their practical application? Or should we seek to move beyond a view of history that grants causal power over society and historical development to ideas and those whose ideas are sanctioned as having been sufficiently philosophical or influential?<sup>38</sup>

Among other things, as indicated above, the choice we make has consequences for how we choose to frame our analyses in chronological terms. What, then, is the rationale for this issue’s focus on the second half of the long eighteenth century? In general, it speaks to a decision to focus on conceptualizing and communicating as part of history’s practical ‘package deal’. In other words, it entails a decision to discuss particular authors and texts only if they were somehow appropriated by those engaged in oeconomic pursuits. And, what counts in such cases, is not the original intent of the author – if, indeed, that can be determined – but the ways in which his/her reputation and what (s)he wrote were appropriatively put to work. This approach further insists on a recognition of how such practical trajectories and their content were interdependently woven into a broader fabric of practice and contextual framing. Not surprisingly, this potent mix led to a number of important changes on virtually all fronts, leading ultimately – if ironically – to the development of (economic) imaginaries so different from the eighteenth century that they obscured our vision of the past.

With this in mind, we can return to this essay’s introduction, which argues against considering ‘the economy’ as a universally occurring phenomenon, the analysis of which provides an objective measure of change across the sweep of time and space. As I have tried to indicate, the project of this special issue is not to recover the historical specificity of a particular economic system. It is, rather, to provide accounts of how individual social groups during the second half of the long eighteenth century attempted to ‘imagineer’ futures that modified the socio-material environments they inhabited in keeping with variously conceived and articulated oeconomic norms, values and expectations. If one had to indicate earlier authors who have engaged in similar projects, a good place to start would be with the historian E.P. Thompson. In his classic article “The Moral Economy of the English Crowd in the Eighteenth Century,” Thompson argues against the ‘crass economic reductionism’ of ‘growth historians’ such as W.W. Rostow, which shuts off discussion before questions of explanation can be posed. Interested to understand eighteenth century food riots as expressions of more than just a spasmodic reaction to hunger and dearth, Thompson asks not only what people did when they were hungry, but also whether their behavior was ‘modified by custom, culture and reason.’ And, in turn, did ‘their behavior contribute towards any more complex, culturally mediated function, which cannot be reduced ... back to stimulus once again?’<sup>39</sup>

Thompson’s analysis leads him to uncover a world in which the periodic fury of rioting in eighteenth-century Britain should be seen as a desperate practice which was nonetheless guided by the norm-based, future-oriented expectation that subsistence was as much a morally as a materially necessary phenomenon. Unfortunately, while he is quite right to account for the ultimate transformation of the ‘moral economy’ he presents as a consequence of changing social, material and cultural conditions related to industrialization, Thompson ends his article by taking refuge in the misleading shorthand of conceptual opposition. He writes, ‘The breakthrough of the new political economy of the free market was also the breakdown of the old moral economy of provision.’<sup>40</sup> While it is



thus all too easy to gloss the ‘moral economy’ as the modern economy’s backward looking other, to do so misses a number of important points. First, it identifies forms of social action that adhere(d) to values other than those associated with capitalism as non-progressively quaint or archaic. Second, it obscures the presence of other future-oriented sets of practices that co-existed with these two supposed ‘opposites’ during the second half of the long eighteenth century. Among these alternatives were those which engaged the actors whose stories are presented in this special issue. Recovering these stories is thus not only of historical interest. It is also a crucial step toward recognizing that the currently dominant economic system is neither the ineluctable product of the past nor the exclusive pathway to the future.<sup>41</sup>

### Practicing oeconomy: a preview of things to come

The essays of this special issue take up the theme of ‘practicing oeconomy during the second half of the long eighteenth century’ by focusing on a variety of distinct, yet inter-related, cases. Together they offer an understanding of oeconomy, not as a concept, but as a variegated form of imagineering which operated in a hybrid field of material and moral concerns. Oeconomy is thereby shown to have encompassed the composition and circulation of texts that transmitted information and fed imaginaries; experimental projects aimed at increasing fertility, crop yields and improved domestically produced goods; entrepreneurial endeavors aimed at increasing material productivity and educating a productive and moral citizenry; forms of sociability; government surveys and programs for resource management; collaborative attempts to manage urban-rural cycles; and efforts to balance the socio-natural world.

In the first essay Elena Serrano examines the career of the *Semanario de agricultura y artes dirigido a los Párrocos*, a weekly oeconomic magazine which was published in Madrid between 1797 and 1808.<sup>42</sup> Though backed by ministerial approval, the *Semanario* was a private entrepreneurial venture originally designed with two closely related goals in mind. It was intended to provide a vehicle for disseminating knowledge and materials (such as new seeds) throughout Spain and its colonies aimed at improving agriculture, domestic manufacture, public education and social welfare. It was also intended to offer parish priests and their communities a widespread forum for sharing their local experiences with oeconomic experiments and novel production processes. Juan Antonio Melón served as editor for the first nine years of the magazine’s existence. A culturally well-connected priest and amateur chemist, Melón was also appointed to coordinate all of Spain’s oeconomic societies in 1798.

Between his contacts, experience and drive, Melón seemed in a good position to advance the magazine’s two ideals. That is to say, he shared with the magazine’s supporters a vision of Spanish society’s future and of how various groups within it could contribute to that future’s realization. In this regard, he was joined by a large number of Spanish clergy, many of whom had been active in Spain’s numerous oeconomic societies since the 1770s and who saw themselves as designated to teach Spain’s poor and uneducated how to become productive members of society. But not everyone shared this vision. The Spanish Church was also densely populated by elements with much more conservative views, especially following the enactment of anti-clerical policies in neighboring revolutionary France. These were clerics who neither shared their fellows’ reforming zeal nor their faith in the ability of peasants and workers to learn and become productive citizens. Especially because the strategy of the *Semanario* called for Spain’s clergy to serve as intermediaries both for the dissemination of knowledge published in the magazine and

for the organization of and reporting back on local experiments and improving projects, this could not but work against the magazine's success. As Serrano recounts, success was thus spotty, limited to regions where local priests and populations already shared or were willing to answer the call of the magazine's patriotic dream of a better future. Melón was finally replaced in 1805 by two professors of the Royal Botanical Garden in Madrid, whose elite institutional positions underlined the gulf between their orientation and those whom the magazine was originally intended to serve.

One of the primary practices advocated by the *Semanario* involved transforming material wastes into useful elements of production. Harnessing the 'oeconomy of nature' to domestic cycles of productivity in this way was projected as a kind of Janus-faced program of improvement leading simultaneously to increased output of better quality goods and a population of oeconomic citizens who understood the values of thrift and thoughtful engagement with the (social and natural) world around them. As discussed in the essay by Joppe van Driel, a similar calculation was at work in the Netherlands by the late eighteenth century.<sup>43</sup> Of note, the establishment of the first Dutch oeconomic society, the *Oeconomische Tak* (1777), drew its claimed inspiration the work of the Spanish oeconomic reformer Pedro Rodríguez Campomanes.<sup>44</sup> But stimulating the practice of productive sustainability as a coordinated societal endeavor was taken up in both a more targeted and broader fashion. On one hand, a select group of Amsterdam regents established the *Maatschappij ter Bevordering van den Landbouw* (Society for the Encouragement of Agriculture) in 1776 as a vehicle for the exchange of knowledge and experience related to the intertwined goals of agricultural and social improvement. On the other hand, as recorded in the society's journal and essay competitions, as well as references to their work by reforming educators and government administrators, the society's efforts simultaneously built on and furthered other practices in the field.

This last phrase – 'practices in the field' – requires explanation, which is amply provided by Van Driel's essay and which brings us to the heart of this special issue's theme: the need to understand 'oeconomy', not in terms of concepts which could be applied or as the official concern of certain aptly named societies, but as a set of inter-related and forward-looking practices. As Van Driel convincingly illustrates, writing and circulating texts were certainly among these practices, but they gained meaning only in interaction with a number of other forms of oeconomic engagement. These included public lectures and university teaching, *in situ* experimentation directed toward both manufacture and agriculture, the establishment of manufacturing endeavors that simultaneously served as training programs for the promotion of oeconomic citizenship, government-sponsored statistical surveys and, key to Van Driel's case, concerted efforts to bind improvements in urban manufacturing to rural agricultural improvement through intertwined cycles of waste reclamation, fertilization and material productivity.<sup>45</sup> Rather than think in causal terms, such as the application of concepts or the impact of a form of Enlightenment sociability, the point here is to appreciate oeconomy as a dynamic whole, the interactive components of which were a variety of practices driven by contextually varied imaginaries of interdependent moral and material improvement.

Contextual variety leant oeconomy both its richness and, despite the recognizably shared vocabulary, retrospectively difficult identifiability. Serrano presents Spanish oeconomy as a field inhabited by activities ranging from urban (oeconomic) soup kitchens overseen by polite bourgeois women to rural soap production managed by village priests, with elite reformers and an entrepreneurial publication serving as go-betweens. The more highly commercialized and densely populated Netherlands, which lacked a priestly class and obtained a centralizing state only in the wake of the Batavian Revolution of 1795,

was bound to provide a different setting – one that was highly sensitive to the intertwined issues of international trading competition, commodity substitution and self-sufficiency. But if international competition among trading nations and companies framed Dutch oeconomic practices, this was even more pertinently the case in colonial settings such as the Isle de France, where the case examined in Etienne Stockland's essay was situated.<sup>46</sup>

A French possession since 1715 and temporarily inhabited by the Dutch before that, the island had been radically altered by European colonization. When the colonial administrator Pierre Poivre spoke of its natural oeconomy in the late 1760s, then, he was talking about a permeable system that had been thrown out of balance by the very processes and goals that had brought him there. Poorly managed exploitation of resources had led to deforestation and environmental degradation. To make matters worse, the colonial order's trans-oceanic movement of humans, plants, animals and foodstuffs had introduced (among other things) the scourge of locusts to the island. Charged with transforming the colony into a site of bountiful harvests for feeding the fleets sent to pursue France's imperial ambitions in the Indian Ocean, Poivre responded with an oeconomic strategy. If the island's natural oeconomy was shot through with (the effects of) human presence, establishing a new balance would have to take this into account. The island's inhabitants, many of whom viewed their sojourn there as temporary, would have to reconsider their relationship with the local environment. The Isle de France was their home – their *oikos* – deserving of their patriotic allegiance, Poivre declared. It was thus incumbent upon them to take up their moral responsibility for its stewardship.

But agricultural stewardship and improvement required 'the right tools for the job'.<sup>47</sup> While oeconomic discussions around the world included a focus on innovative farming technology and techniques, Poivre turned to nature for his instrument of choice. By introducing insect-eating mynah birds, imported from other parts of France's colonial empire, he looked forward to a new and productive balance in which humans and their natural allies cooperated to attain an island paradise. But having actually to engineer and manage a balance among human self-interest, the competing interests of nature's various elements and the forces of both nature and imperial competition, were beyond what Poivre and those who shared his vision could achieve. While the overwhelming tensions that kept his idyll in the realm of the imaginary were lyrically portrayed by Bernadin de Saint-Pierre's famous novel *Paul et Virginie*, the mynahs remained to haunt his vision until today – considered by the World Conservation Union as one of the world's most invasive species.<sup>48</sup>

Rather than consider the impact of introducing an invasive species into a local oeconomy of nature, Andre Wakefield concludes this special issue with a focus on the analytical categories that scholars have introduced into what we might call our oeconomy of historical understanding.<sup>49</sup> A trio of terms and their cognates – the economy, science and expertise – are not only ubiquitous in current discussions of how to measure, restore and increase profit-generating productivity. As Wakefield recounts, they also enjoy a highly visible presence in discussions about the past – especially those which seek to explain the birth and development of the modern world. His interest is to make equally visible the work their presence does by structuring the categorical spaces within which historical analysis unfolds. By underscoring the ideological consequences of their organizing importation into explanation of the past – that is, by making clear the path from past to present and future traced out by their framing presence, Wakefield's essay provides a fitting close to this issue.

Though his argument takes us beyond the narrowly conceived chronological focus of this issue's theme, it offers a critical frame for his exposé of how relying on anachronistic categories to pursue a historical examination of oeconomy can lead to contentious claims. As a specific case in point, he turns to historian Marcus Popplow's argument that the

second half of the eighteenth century witnessed an ‘economic enlightenment’. But, if ‘it wasn’t the economy (or science or expertise), stupid’, what are we talking about?<sup>50</sup> Wakefield implies one answer by staking a claim for what good history ought to do. Though recapturing the past on its own terms is never fully possible (or, perhaps, even desirable), he argues, trying nonetheless to stay true to now strange terms and categories can work to denaturalize what might otherwise seem an inevitable March to the present – or, rather, to a particular interpretation of the present.<sup>51</sup> This is an important point, which responds to historian A. Rupert Hall’s classic question, ‘How did we arrive at the condition we are now in?’ by asking why we should have to answer from the perspective of current norms and values.<sup>52</sup> Shouldn’t their rise to dominance be part of the story as well? Posed in these terms, grappling with the informing categories and values of a past age gains crucial import.

Convinced of the current need to develop new models of production and consumption that embody a commitment to care for our increasingly threatened global *oikos*, the French philosopher Pierre Calame recently published *L’Essai sur l’oeconomie*. Arguing that maintenance of the term ‘economy’ stands in the way of this future-looking vision, Calame makes a point of (re-) turning to the term *oeconomie*, which he defines as ‘the art of organizing the material and immaterial exchanges between human beings, between human societies and between humanity and the biosphere.’<sup>53</sup> The sensed crisis to which he and others currently speak surely adds gravity to the already cited question: ‘How did we arrive at the condition we are now in?’ In seeking to answer this question, we need to consider, not only what we have gained, but also what we have lost in our ‘March of progress’ to the present. Which eighteenth-century insights and imaginaries might be salutary to recover as part of this process? Perhaps a good place to start is with this quotation from Mirabeau’s *L’ami des hommes* of 1756: ‘You who look only for money without taking notice of where it goes or where it comes from, you are the true ministers of chaos.’<sup>54</sup>

## Notes

1. Among the most recent are Jacob, *The First Knowledge Economy*; Mokyr, *The Enlightened Economy*.
2. Foucault, *Les mots et les choses*; Tribe, *Land, Labor and Economic Discourse*; Schabas, *Natural Origins of Economics*.
3. Mitchell, *The Rule of Experts*, 4. This historical perspective takes us one step farther than the important critical stance enunciated a few years earlier by the sociologist Michel Callon. ‘... economics, in the broad sense of the term, performs, shapes and formats the economy, rather than observing how it functions.’ For Callon, ‘the economy’, ‘really’ exists as a synonym for ‘the marketplace’, which he recognizes as manifesting a variety of concrete historical specificities. Callon, ‘Embeddedness,’ 2.
4. Anderson, *Imagined Communities*.
5. See my discussion of ‘imaginaries’ below.
6. The literature on this historical confluence is too large to cite. Though framed in terms of intellectual history, one work worth mentioning is Hont, *The Jealousy of Trade*; Firth, “From Oeconomy” also contains a number of important insights that deserve consideration. It is also worth noting a long and fruitful tradition of examining the historical specificity of what authors going back to the Scottish Enlightenment and students of political economy such as Ricardo and Marx have cast as distinct economic systems – generally set in a longer term, teleological narrative of capitalist development. For an informative overview, see Hodgson, *How Economics Forgot History*.
7. My mention of ‘socio-material circumstances’ is intended as a reminder that historical development should not be seen solely as the work of human actors. A large and growing literature stresses the need to frame our analyses of history in terms of how human agency is

- interactively bound up with material powers and performances in evolutionary spirals of socio-environmental development. See e.g. Pickering, "Decentering Sociology"; Pritchard, *Confluence*; idem., Jørgensen Jørgensen, eds., *New Natures*; Beattie et al, "Rethinking the British Empire."
8. Jasanoff and Kim, "Containing the Atom," 120. See also the informative site for Jasanoff's NSF-financed project on 'sociotechnical imaginaries'. <http://sts.hks.harvard.edu/research/platforms/imaginaries/>
  9. Taylor, *Social Imaginaries*, 23.
  10. Ibid., 69.
  11. Alcoa advertisement, *Time Magazine*, February 16, 1942, 59.
  12. It should be noted that this is a slightly different usage of 'imagineering' than that employed by scholars who study the 'Disneyfication' of culture and heritage, especially for the purposes of tourism. See, e.g. Salazar, "Imagining Otherness."
  13. Furetière, *Dictionnaire*, unpaginated entry "oeconomie." Steuart, *Principles* integrates this definition with a broader understanding of the term, allowing a distinction between oeconomy and government. Steuart argued that the former requires paternal care, directed toward prudence and frugality in order to provide for entire family. The equation of oeconomy with thrift can still be found Babbage, *On the Economy*, along with its use to denote rational organization.
  14. Two examples from the Netherlands are the porcelain factory established by Johnnes de Mol in Loosdrecht in 1774 and the wallpaper factory of the *Vaderlandsche Maatschappij van Reederij en Koophandel te Hoorn*. See Zappey, *Loosdrecht Porselein* and Loos-Haaxman, "De behangselfabriek." See also Driel, "Ashes to Ashes."
  15. Serrano, "Making *Oeconomic* People."
  16. Jefferson, *Notes*; Steuart, *Principles*; Rousseau, *Discours*.
  17. Koerner, *Linnaeus*; Stockland, "Policing." Contrast this view with the claim that natural history and political oeconomy were distinct and competitive disciplines during this period. Charles and Cheney, "The Colonial Machine."
  18. Shaw, *Essays*, Section IV; Kasteleyn, *Beschouwende en ... chemie*. See Roberts, "Kasteleyn." Driel, "Ashes to Ashes."
  19. "On donne le nom d'Economie à la Science qui nous enseigne la maniere de préparer les choses naturelles à notre usage par le moyen des élémens. Ainsi la connoissance de ces choses naturelles &, celle de l'action des élémens sur les corps, & de la maniere de diriger cette action à de certaines fins, sont les deux pivots sur lesquels roule toute l'Economie." Linnaeus, *Principes de l'oeconomie*, 41.
  20. Compare with Albritton Jonsson, *Enlightenment's Frontier*.
  21. Their first line reads, 'One of the most prominent and geographically widespread phenomena in the eighteenth century was the rise of societies that aimed at improving the economic basis of European states.' Stapelbroek and Marjanen, *The Rise of Economic Societies*, 1. Despite this claim, it should be noted, individual contributions present evidence that can be read in a less anachronistic way.
  22. See, for example, the discussion of the influential Society of Improvers in the Knowledge of Agriculture, which – despite its name – expressed from the start an understanding of both the need and possibility of linking improvement in agriculture and manufacture. Bonnyman, "Agrarian Patriotism," esp. 32–33. The theme of agriculture's interconnectedness with manufacturing and trade is also accentuated in this issue by Driel, "Ashes to Ashes."
  23. Stapelbroek and Marjanen, *The Rise of Economic*. Of special note are the following works: Engelhardt, *Borgerskab og fælleskab*; Calderón España, ed, *Las Reales Sociedades Económicas*; Hudson, *Patriotism with Profit*; Justin, *Les sociétés royales*; Lowood, *Patriotism*; Popplow, ed., *Landschaften*; Enciso Recio, *Las sociedades económicas*; Roche, *Le Siècle des Lumières*; Llobart Rosa and Astigarraga Goenaga, "Las primeras" antorchas de la economía; Jones Shafer, *The Economic Societies*; Stuber, Moser, Gerber-Visser, and Pfister, eds. *Kartoffeln*; Vierhaus, ed. *Deutsche patriotische und gemeinnützige Gesellschaften*.
  24. See, for example, Bödecker, "Economic Societies," esp. 202–203.
  25. Compare with Raeff, "The Well-Ordered Police State," on whom Popplow draws: '... the essence of what we call "modern", ... is society's conscious desire to maximize all its resources and to use this new potential dynamically for the enlargement and improvement of its way of life.' Quotation on 1222.
  26. Klein, "Economizing Agricultural Resources," 262 and 287.



27. Popplow, "Knowledge Management."
28. Though Popplow doesn't discuss this, historians such as Joel Mokyr – whose 'industrial enlightenment' provides a model for Popplow – and Margaret Jacob would see this development as evidence for their claim that true modern progress could only have its birthplace in Great Britain, where dedication to the generation and application of 'useful' knowledge took place in a cultural atmosphere of *laissez faire*.
29. The Isle de France was widely recognized as an important center of oeconomic botany, most famously in relation to attempts by Pierre Poivre and others to domesticate spice plants. So too did local 'oeconomists' broadcast their experiences with the development of products such as indigo and arak. Roberts, "*Le centre de toutes choses*."
30. Lafuente, "Enlightenment in an Imperial Context." Quoted term on 170.
31. For the consideration of the hybrid history of mental and other forms of (bodily) engagement, see Roberts, Schaffer, and Dear, eds. *The Mindful Hand*.
32. For a discussion of the kinds and quantities of oeconomic texts that circulated in France, see Shovlin, *The Political Economy of Virtue*, 2–3.
33. Stapelbroek and Marjanen, 11–12.
34. Slack, "Material Progress," esp. 587–589.
35. Wennerlind, "Money," esp. 77.
36. Schabas and Di Marchi, "Introduction," quotations on 1, 5. On 'the economy' as a category of economic thought rooted in the early nineteenth century, see Tribe, *Land*.
37. Tribe, "Oeconomic History," 595.
38. Roberts, Schaffer and Dear, eds. *The Mindful Hand*.
39. E.P. Thompson, "The Moral Economy of the English Crowd in the Eighteenth Century," *Past and Present* 50 (1971): 76–136, quotations on 78.
40. *Ibid.*, 136.
41. Gibson-Graham, "Diverse economies" (p. 620) notes the liberating power of recognizing that multiple modes of economic practice continue to operate today, which opens a space for imagining alternatives to capitalism.
42. Serrano, "Making *Oeconomic* People."
43. Driel, "Ashes to Ashes."
44. Campomanes, *Discurso*.
45. For an interesting contemporary observation on the contextually bound meaning and practice of statistics, see Sinclair, *Statistical Account*, 226. 'I found that in Germany they were engaged in a species of political inquiry to which they had given the name of "Statistics", and though I apply a different meaning by that word, for by "Statistical" is meant in Germany, an inquiry for the purpose of ascertaining the political strength of a country or questions respecting matters of state; whereas, the idea, I annex to the term is an inquiry into the state of a country, for the purpose of ascertaining the quantum of happiness enjoyed by its inhabitants, and the means of its future improvement.'
46. Stockland, "Policing the Oeconomy of Nature."
47. Clarke and Fujimura, *The Right Tools*.
48. Bernardin de Saint-Pierre, *Paul et Virginie*.
49. Andre Wakefield, "Butterfield's Nightmare."
50. [http://en.wikipedia.org/wiki/It's\\_the\\_economy,\\_stupid](http://en.wikipedia.org/wiki/It's_the_economy,_stupid)
51. Contrast this with the teleological character of much history of economic theory. See Tribe, "The 'Histories'."
52. Hall, "On Whiggism."
53. Calame, *L'Essai*, 167. "J'ai donc pris le parti de parler d'oeconomie pour désigner l'art de l'organisation des échanges matériels et immatériels des êtres humains entre eux, des sociétés entre elles et de l'humanité avec la biosphère."
54. Mirabeau, *L'ami des hommes*, 21. "Vous, qui ne cherchez que l'argent sans prendre garde où il va ni d'où il vient, vous êtes les vrais ministres du cahos."

## References

- Albritton Jonsson, Fredrik. *Enlightenment's Frontier*. New Haven, CT: Yale, 2013.
- Anderson, Benedict. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. London: Verso, 1983.



- Aublet, Jean Baptiste Christian Fuseé. *Histoire des plantes de la Guiane françoise*. Paris: P.F. Didot jeune, 1775.
- Babbage, Charles. *On the Economy of Machinery and Manufactures*. London: C. Knight, 1832.
- Beattie, James, Emily O’Gorman and Edward Melillo. “Rethinking the British Empire through Eco-cultural Networks: Materialist-Cultural Environmental History, Relational Connections and Agency,” *Environment and History* 20 (2014): 561–575.
- Bernardin de Saint-Pierre, Jacques-Henri. *Paul et Virginie*. Paris: Imprimerie de Monsieur, 1789.
- Bödecker, Hans Erich. “Economic Societies in Germany, 1760–1820: Organisation, Social Structures and Fields of Activities.” In *The Rise of Economic Societies in the Eighteenth Century: Patriotic Reform in Europe and North America*, edited by Koen Stapelbroek and Jani Marjanen, 182–210. Basingstoke: Palgrave, 2012.
- Bonnyman, Brian. “Agrarian Patriotism and the Landed Interest: The Scottish ‘Society of Improvers in the Knowledge of Agriculture’, 1723–1746.” In *The Rise of Economic Societies in the Eighteenth Century: Patriotic Reform in Europe and North America*, edited by Koen Stapelbroek and Jani Marjanen, 26–51. Basingstoke: Palgrave, 2012.
- Calame, Pierre. *L’Essai sur l’oeconomie*. Paris: Éditions-diffusion Charles Léopold Mayer, 2009.
- Callon, Michel. “The Embeddedness of Economic Markets in Economics.” In *The Law of the Markets*, edited by Michel Callon, 1–57. Oxford: Blackwell, 1998.
- Charles, Loïc, and Paul Cheney. “The Colonial Machine Dismantled: Knowledge and Empire in the French Atlantic.” *Past and Present* 219 (2013): 127–163.
- Clarke, Adele, and Joan Fujimura. *The Right Tools for the Job: At Work in Twentieth-century Life Sciences*. Princeton, NJ: Princeton University Press, 1992.
- Campomanes, Pedro Rodríguez. *Discurso sobre el fomento de la industria popular*. Madrid: Imprenta de Antonio Sancha, 1774.
- Driel, Joppe van. “Ashes to Ashes: Oeconomic Cycles and the Stewardship of Waste for Agricultural Improvement.” *History and Technology*.
- Engelhardt, Juliane. *Borgerskab og fælleskab. De patriotiske selskaber i den danske helstat 1761–1814*. Copenhagen: Museum Tusulanum Forlag, 2010.
- España, Calderón, and María Consolación, eds. *Las Reales Sociedades Económicas de Amigos del País y el Espíritu Ilustrado: análisis de sus realizaciones*. Seville: Universidad de Sevilla, 2001.
- Firth, Ann. “From Oeconomy to ‘the Economy’: Population and Self-interest in Discourses on Government.” *History of the Human Sciences* 11 (1998): 19–35.
- Foucault, Michel. *Les mots et les choses: une archéologie des sciences humaines*. Paris: Gallimard, 1966.
- Furetière, Antoine. *Dictionnaire universel, contenant généralement tous les mots françois*. Rotterdam: Arnout et Reinier Leers, 1690.
- Gibson-Graham, J. K. “Diverse Economies: Performative Practices for ‘Other Worlds’.” *Progress in Human Geography* 32 (2008): 613–632.
- Hall, A. Rupert. “On Whiggism.” *History of Science* 21 (1983): 45–59.
- Hodgson, Geoffrey. *How Economics Forgot History*. London: Routledge, 2001.
- Hont, Istvan. *The Jealousy of Trade: International Competition and the Nation-state in Historical Perspective*. London: Belknap Press, 2005.
- Hudson, Kenneth. *Patriotism with Profit: British Agricultural Societies in the Eighteenth and Nineteenth Centuries*. London: Hugh Evelyn, 1972.
- Jacob, Margaret. *The First Knowledge Economy: Human Capital and the European Economy, 1750–1850*. Cambridge: Cambridge University Press, 2014.
- Jasanoff, Sheila, and Sang-Hyung Kim. “Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea.” *Minerva* 47 (2009): 119–146.
- Jefferson, Thomas. *Notes on the State of Virginia*. London: John Stockdale, 1787.
- Jones Shafer, Robert. *The Economic Societies in the Spanish World, 1763–1821*. Syracuse, NY: Syracuse University Press, 1958.
- Jonsson, Fredrik Albritton. “Rival Ecologies of Global Commerce: Adam Smith and the Natural Historians.” *The American Historical Review* 115 (2010): 1342–1363.
- Justin, Emile. *Les sociétés royales d’agriculture au XVIIIe siècle (1757–1793)*. Saint-Lo: 15 Rue de la Marne, 1935.
- Kasteleyn, Petrus Johannes. *Beschouwende en werkende pharmaceutische-, oeconomische- en natuurkundige chemie*. Amsterdam: V. Holtrop, 1786.

- Klein, Ursula. "Economizing Agricultural Resources in the German Economic Enlightenment." In *Materials and Expertise in Early Modern Europe*, edited by Ursula Klein and E. C. Spary, 261–287. Chicago: University of Chicago Press, 2010.
- Koerner, Lisbet. *Linnaeus: Nature and Nation*. Cambridge: Harvard University Press, 1999.
- Lafuente, Antonio. "Enlightenment in an Imperial Context: Local Science in the Late-eighteenth-century Hispanic World." *Osiris* 15 (2000): 155–173.
- Linnaeus, Carl. *Principes de l'oeconomie*. Paris: Librairie Jean-Jacques Magis, 1752.
- Llombart Rosa, Vicent, and Jesús Astigarraga Goenaga. 2000. "Las primeras 'antorchas de la economía': las sociedades económicas de amigos del país en el siglo XVIII." In *Economía y Economistas españoles: la Ilustración*, edited by Enrique Fuentes Quintana, 677–707. Barcelona: Galaxia Gutenberg.
- Loos-Haaxman, J. "De behangselfabriek der Vaderlandsche Maatschappij te Hoorn." *Netherlands Yearbook for History of Art/Nederlands Kunsthistorisch Jaarboek* 12 (1961): 149–192.
- Lowood, Henry E. *Patriotism, Profit, and the Promotion of Science in the German Enlightenment: The Economic and Scientific Societies 1760–1815*. New York: Garland Publishing, 1991.
- Mirabeau, Victor Riqueti. *L'ami des hommes*. Avignon, 1756.
- Mitchell, Timothy. *The Rule of Experts: Egypt, Techno-politics, Modernity*. Berkeley: University of California Press, 2002.
- Mokyr, Joel. *The Enlightened Economy: An Economic History of Britain, 1700–1850*. New Haven, CT: Yale University Press, 2010.
- Pickering, Andrew. "Decentering Sociology: Synthetic Dyes and Social Theory." *Perspectives on Science* 13 (2005): 352–405.
- Popplow, Marcus, ed. *Landschaften agrarisch-ökonomischen Wissens. Strategien innovativer Ressourcennutzung in Zeitschriften und Sozietäten des 18. Jahrhunderts*. Münster: Waxmann, 2010.
- Popplow, Marcus. "Knowledge Management to Exploit Agrarian Resources as Part of Late-eighteenth century Cultures of Innovation: Friedrich Casimir Medicus and Franz von Paula Schrank." *Annals of Science* 69 (2012): 413–433.
- Pritchard, Sara. *Confluence*. Cambridge, MA: Harvard University Press, 2011.
- Pritchard, Sara, Dolly Jørgensen, and Finn Arne Jørgensen, eds. *New Natures: Joining Environmental History with Science and Technology Studies*. Pittsburgh, PA: University of Pittsburgh Press, 2013.
- Raeff, Marc. "The Well-ordered Police State and the Development of Modernity in Seventeenth- and Eighteenth-century Europe: An Attempt at a Comparative Approach." *The American Historical Review* 80 (1975): 1221–1243.
- Recio, Enciso, and Luis Miguel. *Las sociedades económicas en el siglo de las luces*. Madrid: Real Academia de la Historia, 2010.
- Roberts, Lissa. "P. J. Kasteleyn and the 'Oeconomics' of Dutch Chemistry." *Ambix* 53 (2006): 255–272.
- Roberts, Lissa. "'Le centre de toutes choses': Constructing and Managing Centralization on the Isle de France." *History of Science* 52 (2014): 319–342.
- Roberts, Lissa, Simon Schaffer, and Peter Dear, eds. *The Mindful Hand: Inquiry and Innovation from the late Renaissance to early Industrialization*. Amsterdam: Edita, 2007.
- Roche, Daniel. *Le Siècle des Lumières en Province: Academies et Academiciens Provinciaux 1680–1789*. Paris: Mouton, 1978.
- Rousseau, Jean Jacques. *Discours sur l'oeconomie politique*. Geneva: Chez Emanuel Du Villard, Fils, 1758.
- Salazar, Noel. "Imagineering Otherness: Anthropological Legacies in Contemporary Tourism." *Anthropological Quarterly* 86 (2013): 669–696.
- Schabas, Margaret. *The Natural Origins of Economics*. Chicago: University of Chicago Press, 2009.
- Schabas, Margaret and Neil Di Marchi. "Introduction to *Oeconomies in the Age of Newton*." In *Oeconomies in the Age of Newton*, edited by Margaret Schabas and Neil Di Marchi. *Annual Supplement to History of Political Economy* 35 (2003): 1–13.
- Serrano, Elena. "Making Oeconomic People: *The Magazine of Agriculture and Arts for Parish Rectors*, 1797–1808." *History and Technology*.
- Shaw, Peter. *Essays for the Improvement of Arts, Manufactures and Commerce, by means of Chemistry*. London: Printed for T. Longman, R. and J. Dodsley, 1761.

- Shovlin, John. *The Political Economy of Virtue: Luxury, Patriotism and the Origins of the French Revolution*. Ithaca, NY: Cornell University Press, 2006.
- Sinclair, John. *Statistical Account of Scotland*. Edinburgh: Creech, 1791–1792.
- Slack, Paul. “Material Progress and the Challenge of Affluence in Seventeenth-century England.” *The Economic History Review* 62 (2009): 576–603.
- Stapelbroek, Koen, and Jani Marjanen, eds. *The Rise of Economic Societies in the Eighteenth Century: Patriotic Reform in Europe and North America*. Palgrave: Basingstoke, 2012.
- Steuart, James. *Principles of Political Oeconomy*. London: Printed for A. Millar and T. Cadell, 1767.
- Stockland, Etienne. “Policing the Oeconomy of Nature: The *Oiseau Martin* as an Instrument of Oeconomic Management in the Eighteenth-century French Maritime World.” *History and Technology*.
- Stuber, Martin, Peter Moser, Gerradina Gerber-Visser, and Christian Pfister, eds. *Kartoffeln, Klee und kluge Köpfe. Die Oekonomische und Gemeinnützige Gesellschaft des Kantons Bern OGG (1759–2009)*. Bern: Haupt, 2009.
- Taylor, Charles. *Modern Social Imaginaries*. Durham: Duke University Press, 2004.
- Tribe, Keith. *Land, Labour, and Economic Discourse*. London: Routledge, 1978.
- Tribe, Keith. “The ‘Histories’ of Economic Discourse.” Chap. 4 in *Genealogies of Capitalism*. London: MacMillan Press, 1981.
- Tribe, Keith. “Oeconomic history.” *Studies in History and Philosophy of Science Part A* 36 (2005): 586–597.
- Vierhaus, Rudolf, ed. *Deutsche patriotische und gemeinnützige Gesellschaften*. Munich: Kraus International, 1980.
- Wakefield, Andre. “Butterfield’s Nightmare: The History of Science as Disney History.” *History and Technology*.
- Wennerlind, Carl. “Money: Hartlibian Political Economy and the New Culture of Credit.” In *Mercantilism Reimagined: Political Economy in Early Modern Britain and its Empire*, edited by Philip Stern and Carl Wennerlind, 74–96. Oxford: Oxford University Press, 2014.
- Zappey, W. M., A. L. den Blaauwen, A. W. A. van der Goes, and A. C. Pronk. *Loosdrecht Porselein, 1774–1784*. Zwolle: Waanders, 1988.