

Introduction: A Kingdom of Vast Extension

The Kingdom of Guatemala in the late eighteenth century was a paradox. It was simultaneously rich and poor, according to its colonial administrators, priests, merchants, and ordinary residents. It was a ‘kingdom of vast extension’ that should by all accounts be a wealthy province within the Spanish empire, as puzzled observers noted. As the Spanish administrative region spanning modern-day Chiapas, Guatemala, El Salvador, Honduras, Nicaragua, and Costa Rica, it had great natural advantages, from being a place where ‘the most exquisite fruits of all climes grow in abundance’ to possessing harbours on both the Atlantic and Pacific coasts. Indeed, it might well be ‘the best of all the King’s possessions’.¹ Yet, as a contributor to Guatemala’s newspaper remarked in 1803, ‘this kingdom, which should be one of the most prosperous, is one of the most miserable ones in America’. How to square these contradictions, and help fulfil the true potential of the region, was the mission of a group of reformers who came together in patriotic associations in the late eighteenth and early nineteenth centuries. They believed that geographical, climatic, botanical, agricultural, and demographic knowledge held the key to ‘enlightened’ progress. True patriots would not just be content with gathering such knowledge. Instead, theirs was a practical Enlightenment that would offer prosperity by applying scientific knowledge to the management of landscapes. As this book argues, Central American reformers found the meaning of a homeland not in abstract ideas of idealised national landscapes, but in experiential engagement with them.

By the early nineteenth century, reformers imagined a new region, one that was self-confidently connected to the rest of the world through scientific communication networks, and one whose inhabitants were dedicated to developing its bountiful landscapes into ever more prosperous spaces. Although patriotic identities of the eighteenth century map onto nineteenth-century nationalisms imprecisely at best, the legacy of new visions of Central

¹ ‘Apuntamientos estadísticos del Br. Talamávida, sobre la agricultura, industria y comercio de este reyno’, *Gazeta de Guatemala* (hereafter: *Gazeta*), Vol. 7, no. 313 (25 July 1803), 297; ‘Descripción geográfica’, *Gazeta*, Vol. 6, no. 279 (2 October 1802), 245. While Costa Rica was technically a part of this jurisdiction, the Audiencia (High Court) had little effective power there.

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America created by late-colonial reformers shaped the nation-states that emerged after the region's independence from Spain in 1821.² Statesmen would draw on these earlier shifts in thinking about nature and strategies for managing landscapes to help define national identities within a larger Central American Federation, as well as the place of Central America in global networks. This contribution of the natural world to ideas of identity and nationalism has sometimes been placed in the realm of the literary, the learned, the intellectual. Jorge Cañizares-Esguerra has pointed to the legacies of a scientific patriotism in the nineteenth century as offering 'ideological tools that allowed those communities to think of themselves as central to the world', while Mark Thurner has made the argument for the intellectual history of Peru that a 'romantico-scientific' idea of soil and natural productions was a crucial hallmark in the formation of the idea of a 'nation'.³ Central American scientific Enlightenment must certainly be placed in the context of such intellectual traditions, and the reformers' most ambitious goals of a social and environmental transformation of entire tracts of land indeed remained merely a powerful ideal.

However, exponents of enlightened reform in the eighteenth century insisted that their patriotic worlds were already taking shape in the countryside. They constructed patriotic ideals not just from studying landscapes, but from intervening in them. Their ideals had much in common with other scientific-patriotic traditions of Spanish America embodied by José Antonio de Alzate y Ramírez, Hipólito Unanue, José Celestino Mutis, or Francisco José de Caldas, who argued that scientific knowledge was at its most useful when it found practical application. Central American reformers doubled down on these concepts of utility and applicability forcefully and made it clear that it was the practical effects of knowledge that concerned them. Although they also developed a particular localist epistemology to fend off doubts about the reliability of different kinds of knowledge, information was not an end in itself. Instead, reformers worked within a political-economic framework of controlling landscapes and labourers rather than an abstract learned one. They attempted to intervene directly in agricultural activities, planned new villages,

² Anthony McFarlane, 'Identity, Enlightenment and Political Dissent in Late Colonial Spanish America', *Transactions of the Royal Historical Society*, 6th Series, 8 (1998): 309–35; Anthony Pagden, 'Identity Formation in Spanish America', in Nicholas Canny and Anthony Pagden (eds.), *Colonial Identity in the Atlantic World, 1500–1800* (Princeton, NJ: Institute for Advanced Study, 1987), 51–94; Luis Monguió, 'Palabras e ideas: "patria" y "nación" en el virreinato del Perú', *Revista iberoamericana*, 44 (1978): 451–70. Gabriel Paquette, 'The Dissolution of the Spanish Atlantic Monarchy', *The Historical Journal* 52, no. 1 (2009): 175–212, is a useful review of historiographic trends.

³ Jorge Cañizares-Esguerra, *Nature, Empire and Nation: Explorations of the History of Science in the Iberian World* (Stanford University Press, 2006), 127; Mark Thurner, *History's Peru: The Poetics of Colonial and Postcolonial Historiography* (Gainesville, FL: University of Florida Press, 2011), 90–2.

acclimatised plants, designed infrastructure projects, and even tried to improve public health through controlling vegetation. Indeed, the late eighteenth century was a time of particular importance when it came to thinking about landscapes and their potential for change in the Kingdom of Guatemala (also known as the Audiencia de Guatemala), in practical terms as much as in the sense of patriotically imagined abundant soils. The memory of recent natural disasters, such as a major 1773 earthquake, still loomed large, while reformers drew new lessons from other natural disturbances, such as overgrown roads, rains, and locust plagues. The questions that members of the colonial administration asked of topographies, the travels of merchants, the agricultural and natural-historical designs of scholars and ‘enthusiasts’, as well as the practices of farmers who worked the land, helped to draw up their new programme for imagining progress that was built around experiences and understandings of landscape.

To speak of ‘landscapes’ in this context may be an anachronistic amalgamation of a number of Spanish concepts that are discussed in this book such as *pais*, *tierras*, *terreno*, *montaña* or even *temperamento* or *clima*, but it is a fitting concept because of its multi-layered ability to encompass man-made as well as natural space, the physical environment, and human settlements. In addition, across Spanish America governments and scholars themselves were preoccupied with creating knowledge about these spaces. Many historians have consequently noted the importance of spatial practices to understanding the governance and intellectual culture of Spanish America.⁴ Drawing on the work of historical geographers, landscape is here taken to be the ‘surface of the land’ as perceived and recorded (and therefore constructed as landscape) by bureaucrats, engineers, reformers, farmers, and travellers.⁵ Although these perceptions never resembled a nineteenth-century sense of the ‘picturesque’, any implication of a European

⁴ Nuria Valverde and Antonio Lafuente, ‘Space Production and Spanish Imperial Geopolitics’, in Daniela Bleichmar et al. (eds.), *Science in the Spanish and Portuguese Empires, 1500–1800* (Stanford University Press, 2009), 198–215; Ricardo Padrón, *The Spacious Word: Cartography, Literature and Empire in Early Modern Spain* (University of Chicago Press, 2004); Barbara Mundy, *The Mapping of New Spain: Indigenous Cartography and the Maps of the Relaciones Geográficas* (University of Chicago Press, 1996); Raymond Craib, *Cartographic Mexico: A History of State Fixations and Fugitive Landscapes* (Durham, NC: Duke University Press, 2004). Mariselle Meléndez, ‘The Cultural Production of Space in Colonial Latin America’, in Barney Warf and Santa Arias (eds.), *The Spatial Turn: Interdisciplinary Perspectives* (London: Routledge, 2009), 173–91, at 187.

⁵ Denis Cosgrove, *Social Formation and Symbolic Landscape* (London: Croom Helm, 1984), 1; Alan Baker, *Geography and History: Bridging the Divide* (Cambridge University Press, 2003), 109–13 and 128–30; Denis Cosgrove and Stephen Daniels, ‘Introduction’, in Cosgrove and Daniels (eds.), *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments* (Cambridge University Press, 1988); Henri Lefebvre, *The Production of Space* (Oxford: Blackwell, 1991), Introduction. Jorge Cañizares-Esguerra has spoken about ‘patriotic landscapes’ for the case of nineteenth-century Mexico, but uses the term in the aesthetic sense of landscape painting: *Nature, Empire and Nation*, chapter 7.

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'gaze' in the use of 'landscape' in this book reflects this history of largely European or Creole authors recording their attempts to make sense of a country. Definitions of landscape as social and cultural construct do not negate the importance of materiality. They rather underscore the importance of conceptualising the land through mapping and bureaucratic practices in eighteenth-century state governance, as well as through civic reform.⁶ In the case of Guatemala, George Lovell and Severo Martínez Peláez have drawn influential conclusions about landscape as a historical category. George Lovell is concerned with the 'cultural landscape' of the Cuchumatanes region as a whole, that is, the interaction of history, land, and people. For Martínez Peláez, landscape is a more narrow and necessarily superficial term that appears as a foil to contrast with a true understanding of the land as means of production, but has explanatory power in the erasures of indigenous labour it contains.⁷ My argument is influenced by these observations about the relationship between land, governance, and people. However, this book also contends that descriptions of landscapes broadly conceived as they appear in a variety of archival documents of the late eighteenth and early nineteenth centuries reveal further intellectual worlds and practical attitudes alike.

These intellectual and practical worlds came together in the actions of a patriotic association founded by a group of men who saw themselves as enlightened reformers, the *Real Sociedad Económica de Amantes de la Patria de Guatemala*, from 1795 onwards.⁸ It became the key forum for exchanging knowledge deemed 'useful' in the sense that it could be applied to Central American landscapes. In bringing new ideas and scientific knowledge to their projects, the reformers drew on a range of sources from local as well as more global correspondents. Their ideologies and practices can therefore be better

⁶ Charles Withers, *Placing the Enlightenment: Thinking Geographically about the Age of Reason* (Chicago, IL and London: University of Chicago Press, 2007), 12–13; Catarina Madeira Santos, 'Administrative Knowledge in a Colonial Context: Angola in the Eighteenth Century', *The British Journal for the History of Science* 43, no. 4 (2010): 539–56, at 542.

⁷ George Lovell, *Conquest and Survival in Colonial Guatemala: A Historical Geography of the Cuchumatán Highlands, 1500–1821* (4th edition, Montreal and Kingston: McGill-Queen's University Press, 2015); Severo Martínez Peláez, *La patria del criollo. Ensayo de interpretación de la realidad colonial guatemalteca* (Mexico City: Fondo de Cultura Económica, 2006), 99–103.

⁸ Royal Economic Society of the Lovers of the Homeland of Guatemala. Historians often interchangeably refer to it as *Real Sociedad Económica de Amigos del País* or Royal Economic Society of Friends of the Country of Guatemala, since some official correspondence refers to it that way, but its own statutes and publications are by the name of 'amantes de la patria'. The classic work is Elisa Luque Alcaide, *La Sociedad Económica de Amigos del País de Guatemala* (Seville: Escuela de Estudios Hispano-Americanos, 1962), which mainly relies on archival documentation from the AGI. José Luis Maldonado Polo, *Las huellas de la razón: la expedición científica de Centroamérica (1795–1803)* (Madrid: Consejo Superior de Investigaciones Científicas, 2001) also outlines many of the Economic Society's activities, and biographical information on the Central American Enlightenment's main proponents.

understood by thinking spatially about the practice of scientific knowledge. This approach draws the established link between science and the affirmation of American identities into dialogue with historical geography and the spatial history of science, and is more broadly influenced by the ‘spatial turn’ in intellectual history and the history of science over the last three decades.⁹ For Guatemala, it relies especially on Sylvia Sellers-García’s work for understanding the possibilities of correspondence and conceptions of distance.¹⁰ In Central America, increasingly localist views of spaces developed through the practical application of scientific and other empirical knowledge. Although these projects of useful nature did not define future national boundaries, they helped to re-imagine the relationship between different regions. However, these spatial views were often contradictory and fragmented, especially during the early independence period, as Jordana Dym’s conclusions on the construction of political and cultural spaces have demonstrated.¹¹ The ‘patriotism’ of these eighteenth-century reformers did not meaningfully prefigure the political territories of the nineteenth century. Instead, reformers’ efforts took place in a broader context of imperial governance, where enlightened ideas interacted with local social and economic priorities and routine bureaucratic practices.¹² Theirs was less a coherent intellectual programme than a patchwork of specific responses and solutions to social, economic, or geographical problems that they perceived around them.¹³ There are similarities here to the observations of Lina

⁹ On science and political identity: Anthony McFarlane, ‘Science and Seditious in Spanish America: New Granada in the Age of Revolution, 1776–1810’, in Susan Manning and Peter France (eds.), *Enlightenment and Emancipation* (Lewisburg, PA: Bucknell University Press, 2006), 97–116; Maria Rachel Fróes da Fonseca, ‘La construcción de la patria por el discurso científico: México y Brasil (1770–1830)’, *Secuencia* 45 (1999): 5–26; José Luis Peset, *Ciencia y libertad: el papel del científico ante la independencia americana* (Madrid: CSIC, 1987). On spatial turn, for instance: David Livingstone, *Putting Science In its Place: Geographies of Scientific Knowledge* (University of Chicago Press, 2003); Crosbie Smith and Jon Agar (eds.), *Making Space for Science: Territorial Themes in the Shaping of Knowledge* (Basingstoke, New York, and Manchester: Palgrave Macmillan and Manchester University Press, 1998); Kapil Raj, *Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe, 1650–1900* (Basingstoke and New York: Palgrave Macmillan, 2007).

¹⁰ Sylvia Sellers-García, *Distance and Documents at the Spanish Empire’s Periphery* (Stanford University Press, 2014).

¹¹ Jordana Dym, *From Sovereign Villages to National States* (Albuquerque, NM: University of New Mexico Press, 2006); Jordana Dym, ‘Democratizing the Map: The Geo-body and National Cartography in Guatemala, 1821–2010’, in James Akerman (ed.), *Decolonizing the Map: Cartography from Colony to Nation* (University of Chicago Press, 2017), 160–204, and other publications on the history of cartography.

¹² Renán Silva, *Los Ilustrados de la Nueva Granada, 1760–1808: genealogía de una comunidad de interpretación* (Medellín: Banco de la República; EAFIT, 2002), 48–9, calls this the ‘context of application’ of enlightened ideas.

¹³ This builds on Sebastian Conrad’s definition of ‘Enlightenment’ as local reaction: Conrad, ‘Enlightenment in Global History: A Historiographical Critique’, *The American Historical Review* 117, no. 4 (2012): 999–1027.

del Castillo and especially María José Afanador Llach, who have recently described a blending of political-economic thought and geographical knowledge for the case of New Granada and independent Colombia.¹⁴ I argue that reformers' belief in the material consequences of practical interventions rather than just a detached vision of landscape helped to shape imaginations of territory. This case study alongside the Colombian parallels therefore suggests that ideas of the nation-state across Latin America were constructed by a larger range of colonial and independent, political, and scientific influences than has hitherto been recognised. If there was a spatial dimension to patriotism, it was the extent of the places where reform impacted the cultural landscape, what we might call the 'territory of intervention'. The reformers' homeland was an ever-shifting concept, able to accommodate political changes in the geographical territory.

Enlightenment and Reform

Ideas about the improvement and management of nature emerged within the context of two much-debated historical phenomena: the Enlightenment, and the Spanish Empire's so-called Bourbon Reforms. For self-proclaimed Central American reformers, they provided a set of tools as well as values: a belief in progress through applied scientific learning and ideals of good governance, but also an institutional framework to support associations dedicated to the furthering of these causes, including not just the Economic Society but also the Guatemala City merchant association, the *Consulado de Comercio*, which was established in 1793 and often supported similar ideals. Economic Societies, or Patriotic Societies as they were sometimes known, had originated on the Spanish mainland (following models from other continental European countries) and were encouraged by the Crown overseas.¹⁵ As 'quasi-governmental' organisations, to use Gabriel Paquette's term, their objective was a broader revitalisation of commerce and trade as well as promotion of locally specific initiatives covering everything from growing more wheat to establishing schools, which would in turn lead to *felicidad pública*, or 'public

¹⁴ María José Afanador Llach, 'Political Economy, Geographical Imagination, and Territory in the Making and Unmaking of New Granada, 1739–1830' (PhD dissertation, The University of Texas at Austin, 2016); Lina del Castillo, *Crafting a Republic for the World: Scientific, Geographic, and Historiographic Inventions of Colombia* (Lincoln, NE: University of Nebraska Press, 2018).

¹⁵ Gabriel Paquette, 'State-Civil Society Cooperation and Conflict in the Spanish Empire: The Intellectual and Political Activities of the Ultramarine Consulados and Economic Societies, c. 1780–1810', *Journal of Latin American Studies* 39 (2007): 263–98; Koen Stapelbroek and Jani Marjanen (eds.), *The Rise of Economic Societies in the Eighteenth Century* (Basingstoke and New York: Palgrave Macmillan, 2012); Robert Shafer, *The Economic Societies in the Spanish World, 1763–1821* (Syracuse University Press, 1958), esp. 204–34 on Guatemala.

happiness'.¹⁶ Since these were voluntary associations, but not 'private' in the sense distinguished, for instance, by Henry Lowood in the context of similar German societies, the reformers' actions had the capacity to be tied not just to their roles as 'patriots' but as officers of the state, as village priests, as bishops.¹⁷ This meant that many of their members' visions for landscape interventions were supported or even shaped by some form of state authority, as well as by more obviously non-gubernatorial forms of power such as being a landowner. Guatemala's Economic Society was quite typical in that some of their grandest projects did not come to fruition: they did not succeed in completely transforming Central America's economic fortunes.¹⁸ However, Society members' work offers an example of remarkable ambition across different fields of knowledge, as well as the establishment of new local and global intellectual networks and print cultures which endured into the nineteenth century. This book argues that we should take seriously many scattered short reports from across the kingdom, mainly in matters of agriculture or natural history, sometimes infrastructure, geography, or medicine, which reported attempts at improvement, progress, and pride in members' achievements. To them, this was Enlightenment in action.

Reformers often used the Spanish term *las ciencias* to refer to the body of structured knowledge that would render Central American nature useful.¹⁹ Although *ciencia* can be a much broader term than the English 'science' (encompassing all branches of knowledge), many of the Economic Society's approaches can be described as embracing 'scientific knowledge' in the English meaning of the word as well. Its members, for instance, turned to natural history, geography, but also some historical archival materials as the basis for understanding landscapes, for applying new industrial methods, and as key to producing knowledge that would be useful and applicable to Central America. In 1815, the Society succinctly explained the ideology behind such useful science. In their opinion, there was a direct correlation between knowledge and wealth. Europe was the

¹⁶ Gabriel Paquette, *Enlightenment, Governance, and Reform in Spain and Its Empire, 1759–1808* (Basingstoke: Palgrave Macmillan, 2008), 56–8; Miles Wortman, 'Bourbon Reforms in Central America', *The Americas* 32 (1975): 222–38, at 229.

¹⁷ Henry Lowood, *Patriotism, Profit, and the Promotion of Science in the German Enlightenment: The Economic and Scientific Societies, 1760–1815* (New York: Garland Publishing, 1991), 25.

¹⁸ A parallel can be drawn with what Cañizares-Esguerra sees as the failure of Bourbon Spain's ultimate ambition for its scientific projects, to break Dutch and British monopolies: *Nature, Empire and Nation*, 127.

¹⁹ Joaquín Fernández Pérez, 'La ciencia ilustrada y las Sociedades Económicas de Amigos del País', in Manuel Sellés, José Luis Peset and Antonio Lafuente (eds.), *Carlos III y la ciencia de la Ilustración* (Madrid: Alianza, 1988), 217–32; Lowood, *Patriotism*, 26–7 explains that similar German societies differentiated between 'economic' and 'scientific' societies by the 1790s, but the Guatemalan society embraced all these interests. Joel Mokyr, *Enlightened Economy: An Economic History of Britain, 1700–1850* (New Haven, CT and London: Yale University Press, 2009), 188, notes that 'enlightened agriculture' in Britain also entailed a plethora of practices that were termed 'useful knowledge', but that we might not 'recognise as formal science'.

richest part of the world, and also ‘the most enlightened [*la parte mas ilustrada*]’. It followed that studying and applying the sciences would give prosperity to ‘even the most sterile lands’, and unleash ‘the genius of industry’ to drive progress.²⁰ Europe, however, would not be directly copied. Instead, careful selection of methodologies and sources would ensure that such scientific knowledge was relevant to Central America. In Central America, as elsewhere in Latin America, reformers considered a plethora of different branches of knowledge and an eclectic range of sources.

Eighteenth-century scholars believed that only through a holistic approach that took into account geography, political economy, medicine, demography, and natural history could their political visions be achieved. Concepts of scientific learning, utility, and progress were linked throughout European statecraft and scientific thought. Theorists of political economy from Hume to Smith engaged closely with questions of nature and its productions, while botanists at Kew, Paris, and Madrid also espoused principles of the utility of natural history to the broader political economy. From French physiocrats to Charles III’s ministers in Madrid, eighteenth-century scholars and politicians looked to the production of useful knowledge through the scientific study of nature as key to exploiting a kingdom’s natural wealth. German cameralists even imagined themselves to be leading an entirely new academic discipline that would do away with the boundaries of learned and applied knowledge in their studies of the natural world, considering political economy, agricultural, and technical approaches as one.²¹ Political economy in particular was inseparable from agronomy, natural history, and natural philosophy.²² Central Americans’ attitude of selecting a range of models and influences that included, where relevant to them, Adam Smith’s writings on slavery, rice-growing

²⁰ *Periódico de la Sociedad Económica de Guatemala*, No. 4 (15 June 1815), 56–8.

²¹ Richard Drayton, *Nature’s Government. Science, Imperial Britain, and the ‘Improvement’ of the World* (New Haven, CT and London: Yale University Press, 2000), 67–128; Lissa Roberts, ‘“*Le centre de toutes choses*”: Constructing and Managing Centralization on the Isle de France’, *History of Science* 52, no. 3 (2014): 319–42; Emma Spary, ‘“Peaches Which the Patriarchs Lacked”: Natural History, Natural Resources, and the Natural Economy in France’, *History of Political Economy* 35: Annual Supplement (2003): 14–41; Meyer Reinhold, ‘The Quest for “Useful Knowledge” in Eighteenth-Century America’, *Proceedings of the American Philosophical Society* 119, no. 2 (1975): 108–32; Sellés, Peset, and Lafuente (eds.), *Carlos III y la ciencia de la Ilustración*; Joel Mokyr, *The Enlightened Economy: An Economic History of Britain, 1700–1850* (New Haven, CT and London: Yale University Press, 2009), 40–62; Andre Wakefield, ‘Cameralism: A German Alternative to Mercantilism’, in Philip J. Stern and Carl Wennerlind (eds.), *Mercantilism Reimagined: Political Economy in Early Modern Britain and Its Empire* (Oxford University Press, 2014).

²² Richard Drayton, *Nature’s Government. Science, Imperial Britain, and the ‘Improvement’ of the World* (New Haven, CT and London: Yale University Press, 2000), esp. 70–2; Margaret Schabas, *The Natural Origins of Economics* (Chicago, IL and London: University of Chicago Press, 2005); David Lindenfeld, *The Practical Imagination: The German Sciences of State in the Nineteenth Century* (University of Chicago Press, 1997), esp. chapters 1–2; Lowood, *Patriotism*.

technologies in the Carolinas, or English technologies of spinning and weaving cotton reflected more general practices of emulation and translation within the political economies of Europe, and the interactions of political-economic theory with the practices of empire.²³

Although Central Americans developed particular definitions for what they considered useful knowledge, these ideas were also part of the wider background of Spain's 'Bourbon Reforms'. In the second half of the eighteenth century, Spain's new rulers of the House of Bourbon tried to implement a series of reforms in their American colonies, through policies for the most part devised by the Spanish ministers José del Campillo y Cosío, Pedro de Campomanes, José Moñino, and José de Gálvez. These reforms have been associated with Spanish 'enlightened absolutism' and top-down centralisation, although in Guatemala, as elsewhere in the empire, the reach of these administrative and fiscal reforms was never quite as far-reaching as their designers intended.²⁴ Broadly speaking, their aims were a reorganisation of local administration, a stimulation of economic growth, and an attack on the privileges of religious orders, and to some extent the Church. The centrepiece of administrative reform was the establishment of intendancies, a new layer of regional government in the Americas aimed at making government more uniform and more powerful. Other aspects of the reforms promoted new philosophies of political economy (for instance, through the works of political economist Bernardo Ward), support of road-building schemes, tax reforms to increase revenue, and in the 1780s and 90s experimentation with limited free trade. They also included support for the systematic study of nature, manifested most decisively in the scientific expeditions that the Crown sent to the Americas, but also botanical gardens and cabinets of natural history.²⁵ The most prolific of the

²³ Sophus Reinert and Pernille Røge (eds.), *The Political Economy of Empire in the Early Modern World* (Basingstoke: Palgrave Macmillan, 2013), esp. chapter by Gabriel Paquette, 'Views from the South: Images of Britain and Its Empire in Portuguese and Spanish Political Discourse, ca. 1740–1810', 76–104; Sophus Reinert, *Translating Empire: Emulation and the Origins of Political Economy* (Cambridge, MA: Harvard University Press, 2011). Cotton is discussed e.g. in Real Sociedad Económica, *Quinta Junta Pública de la Real Sociedad Económica de Amantes de la Patria de Guatemala* (Guatemala City: Viuda de Sebastian de Arevalo, 1799), Real Sociedad, *Quinta junta pública*, 9–12; Adam Smith and rice cultivation in Chapter 5.

²⁴ Classic works and recent revisions on the reforms include Paquette, *Enlightenment, Governance, and Reform*; Jeremy Adelman, *Sovereignty and Revolution in the Iberian Atlantic* (Princeton University Press, 2016); Barbara and Stanley Stein, *Apogee of Empire: Spain and New Spain in the Age of Charles III, 1759–1789* (Baltimore, MD: The Johns Hopkins University Press, 2003); Agustín Guimerá (ed.), *El reformismo borbónico: una visión interdisciplinar* (Madrid: CSIC, Alianza, 1996). For Guatemala, see: Jordana Dym and Christophe Belaubre (eds.), *Politics, Economy and Society in Bourbon Central America* (Boulder, CO: University of Colorado Press, 2007), especially chapters by González Alzate, Dym, and Palma Murga; Dym, *From Sovereign Villages*, 33–61.

²⁵ The vast historiography on botanical expeditions includes: Neil Safier, *Measuring the New World: Enlightenment Science and South America* (University of Chicago Press, 2008); Daniela Bleichmar, *Visible Empire: Botanical Expeditions and Visual Culture in the*

expeditions were the botanical expeditions sent to New Spain and New Granada, as well as Alejandro Malaspina's circumnavigation of the world, and Jorge Juan and Antonio Ulloa's participation in La Condamine's geodetic expedition. Expeditions were often influenced by local elites, or included elements of negotiation between metropolitan and local scholars, just as local elites in many places were able to negotiate their own interests within the broader Bourbon project.²⁶ While Central American elites generally welcomed the visit of some members of the New Spain expedition, principles of enlightened reform existed in Central America before and independently of this, and were influenced by a much wider array of factors, as local as they were oriented towards the overall success of the empire.²⁷

Guatemalan reformers were certain that their pursuits were 'enlightened'. While there are few historical terms as disputed as 'Enlightenment', it is a useful framework for connecting these Central American reformers to global history. Historians have defined a multitude of phenomena that fall under this umbrella term, and increasingly embrace forms of Enlightenment that were not included in traditional narratives centred on northern Europe: Enlightenment among Catholics, monarchists, and anti-imperialists; 'practical', 'eclectic', and 'agricultural' Enlightenment; and movements not simply centred on canonical European texts.²⁸ In the Spanish historical context, Francisco Sánchez-Blanco

Eighteenth-Century Hispanic World (University of Chicago Press, 2012); Mauricio Nieto Olarte, *Remedios para el imperio: historia natural y la apropiación del Nuevo Mundo* (Bogotá: Instituto Colombiano de Antropología e Historia, 2000); Francisco Puerto Sarmiento, *La ilusión quebrada: Botánica, sanidad y política científica en la España ilustrada* (Madrid: Consejo Superior de Investigaciones Científicas, 1988); Ingrid Engstrand, 'Of Fish and Men: Spanish Marine Science During the Late Eighteenth Century', *The Pacific Historical Review* 69, no. 1 (2000): 3–30; Paula De Vos, 'Natural History and the Pursuit of Empire in Eighteenth-Century Spain', *Eighteenth-Century Studies*, 40 (2007): 209–39; Juan José Saldaña (ed.), *Science in Latin America. A History* (Austin, TX: University of Texas Press, 2006).

²⁶ Antonio Lafuente, 'Enlightenment in an Imperial Context: Local Science in the Late-Eighteenth-Century Hispanic World', *Osiris* 2nd Series, 15 (2000): 155–73, at 158–9; Susan Migden Socolow, *The Bureaucrats of Buenos Aires, 1769–1810: Amor al Real Servicio* (Durham, NC and London: Duke University Press, 1987); John Coatsworth, 'The Limits of Colonial Absolutism: The State in Eighteenth-Century Mexico', in Karen Spalding (ed.), *Essays in the Political, Economic, and Social History of Colonial Latin America* (Newark, DE: University of Delaware, 1982), 25–51.

²⁷ Maldonado Polo, *Huellas de la razón* is a meticulous narrative of the expedition's work in Guatemala. It also includes an account of the Central American Enlightenment that is based on a detailed examination of sources in the AGI, but establishes a more diffusionist model of 'Enlightenment' than my study, e.g. 171–4, 180–6. See also Arturo Taracena Arriola, *La expedición científica al reino de Guatemala* (Guatemala City: Editorial Universitaria de Guatemala, 1983); María Luisa Muñoz Calvo, 'Las actividades de José Mariano Mociño en el Reino de Guatemala (1795–1799)', in José Luis Peset (ed.), *Ciencia, vida y espacio en Iberoamérica*, Vol. 1 (Madrid: CSIC, 1989), 3–19.

²⁸ Conrad, 'Enlightenment in Global History'; Roy Porter and Mikuláš Teich, *The Enlightenment in National Context* (Cambridge and New York: Cambridge University Press, 1981); Sankar Muthu, *Enlightenment Against Empire* (Princeton University Press, 2003); Peter