Introduction: cultures of enquiry in the eighteenth-century British world

This is a book about the character of enquiry in the eighteenth century. It focuses on the years c. 1660 to 1830, an era synonymous with ‘Enlightenment’ and consolidation of the ‘new science’. A vast body of scholarship has discussed the activities of this period’s famous intellectuals: fellows of the Royal Society, university men, letter-writers in far-reaching networks of scholarly exchange or the new industrialists making connections between the art and science of manufacture. The individuals at the heart of this book are more difficult to categorise; their achievements were rarely proclaimed in print. They were members of a large and diverse population of the intellectually curious and they conducted their enquiries from home.

The eighteenth-century home was a complex space, capable of providing its inhabitants with sustenance of a physical, social and emotional kind. As such, it was also an environment uniquely conducive to scientific work. The materials, equipment and skills of home produced the goods necessary to feed, clothe and heal a family. Households were sustaining and generative; they were simultaneously the sites of childbirth and cheese-making. Many aspects of domestic labour demanded in-depth material knowledge and techniques were honed through repetition. As Bathsua Makin observed in 1673, ‘To buy wooll and Flax, to die scarlet and purple requires skill in natural philosophy.’ Thus, people worked busily and skilfully to achieve the necessary cycles of production and consumption. They cheated the deprivation of winter with preserved fruit and meat and they carefully recorded the results of their resourcefulness in pounds, shilling and pence. These domestic practices, in all their variety, equipped occupants with the tools of their intellectual
A culture of curiosity
	rade. Whether it was the secrets of nature, the physical properties of materials or the changing features of the night sky, individuals of a curious disposition used their domestic space, possessions and understanding to find out more. The extent to which these little-known domestic experimenters contributed to larger cultural and intellectual developments is a question worthy of an answer.

In offering an answer, this book strives to overcome systems of value that have promoted an exclusive conception of intellectual culture, thereby reassessing that culture. The research draws on disparate archival survivals, from inventories to life writing, that collectively reveal the scale of popular engagement with natural knowledge. This knowledge-making of the many was comprised of practices, communications and exchange, and was forged in the porous spaces of home. However, the discussion is less concerned with the ‘knowledge’ itself than with what people were doing, how they understood their activities and how their participation intersected with wider currents of thought. Far from scientific enquiry being a rarefied activity conducted by a special few, the chapters that follow reveal it as one integrated aspect of the variegated labour of home.

Of course, some people have seen their contributions to knowledge better documented than others. Though beyond the scope of this study, since the turn of the twenty-first century, research has engaged more concertedly with indigenous knowledge and the experimental activities of free and enslaved Africans in colonial contexts. This scholarship begins to address long-term historiographical silences, which are themselves the result of unequal and unjust power relations. Another outworking of such biases is that women are less likely to be described as producers of knowledge than men, although a vibrant literature has emphasised their engaged consumption of ideas in this era. The same could be said of many lower-status men.

Artisans are one category of (predominantly male) workers who have seen their contributions to science acknowledged. By contrast, historians often view the labour of domestic servants as creatively unproductive. This book shifts focus from the labour enacted in the workshop to that of the home. In doing so, servants’ detailed understanding of materials, techniques and technologies become visible. By making plain the agency of marginalised people and
the centrality of domestic labour to the more celebrated aspects of eighteenth-century cultural life, the characteristics of enquiry take on a different complexion.\textsuperscript{6}

However, a focus on the material does not banish language to the sidelines. Taxonomy and terminology were crucial to many eighteenth-century scholars and experimenters, many of whom spent their time naming things, describing processes and identifying relationships between things. The process of naming things was, of course, materially embedded and Carl Linnaeus himself thought that plants could ‘reliably speak their [own] character’ and be named accordingly. Taking this belief seriously, ‘the eloquent testimony of that epoch’s material worlds’ has become a key concern of many recent Enlightenment studies and is a central interest of this book.\textsuperscript{7} However, it was not until the 2000s that scholarship fully acknowledged that some parts of the British world even experienced an ‘Enlightenment’. For example, Ireland was traditionally cast as an intellectual backwater. Irish examples are drawn upon extensively here and this book’s findings build on the growing body of work that demonstrates the cultural and scholarly vibrancy of this colonised island.\textsuperscript{8}

In the chapters that follow, several categories of people are analysed, including servants, masters and mistresses; apprentices, tradespeople, professionals and the leisured, landed classes. All of them engaged in enquiry using practices learned at home. The research draws on a messy multiplicity of domestic, manuscript sources and contemporary print culture. Whilst the terms ‘home’ and ‘ household’ are used interchangeably, an encompassing understanding of that space is employed, one that incorporates the land surrounding a property – outhouses and alike – as part of the infrastructure of domestic production. Some of the examples also show people using skills honed at home, outside of its parameters. The research thus focuses on domestic practices that could lead to increased understanding of natural phenomena. In doing so, it emphasises the experience of previously under-studied experimenters as opposed to the results of their enquiries.\textsuperscript{9}

Of course, experience is a fraught category of historical analysis. Nonetheless, since E. P. Thompson argued that the emergence of the working class at the turn of the nineteenth century rested on the experiences of working people, social, economic and cultural
historians have all engaged with this realm.\textsuperscript{10} Even fragmentary evidence of the mundane or routine actions of everyday existence offers useful information about people’s common expectations, limitations and aspirations.\textsuperscript{11} To look up, from below, offers new insight – it aims to describe the larger sphere; it is also difficult to achieve and tends to require more methodological justification.

The rise of cultural history and the consolidation of gender history as a field at the end of the twentieth century have ensured the place of marginalised groups and their experiences at the centre of historical understandings of the past.\textsuperscript{12} Whilst historians of culture and gender have often amplified personal experience and subjectivities, they have also articulated how individual experience was shaped by larger structures and power relationships. In these ways, several generations of scholars have paid attention to the quotidian with the precise intention of subverting the societal hierarchies that obscure the agency and intention of ‘ordinary’ people. This book continues that tradition.

In the same vein, historians of science have rapidly advanced research into the social contexts, practices, objects, environments and embodied experiences of scientific enquiry in a process described by Steven Shapin as ‘lowering the tone’.\textsuperscript{13} This development responded to the critique that histories of science were much more likely to examine the product of knowledge-making than the process itself, despite the significance of the process for the outcome.\textsuperscript{14} These efforts to contextualise intellectual activity have resulted in a more material and embodied understanding of enquiry, as historians of science have argued – ideas simply cannot travel without objects and bodies.\textsuperscript{15} With this in mind, global histories of science have championed the agency that exists at all social levels and emphasised the links in the chain, the human and non-human interactions, the intermediaries and brokers.\textsuperscript{16} Scholarship has also revealed deep-rooted practices of repair and reuse of both domestic and scientific equipment alongside the novel possibilities offered by technological advancement, thereby unsettling traditional interpretations of ‘Enlightenment science’.\textsuperscript{17} This book contributes to a developing social history of domestic space, material culture and science that can move firmly beyond a model that confers the lion’s share of agency on the male and the genteel.
Histories of science are most interested in experience that is ‘contrived and disciplined’, the kind that conditions the body and mind in specific ways.\textsuperscript{18} Forms of experience such as observation or experimentation could be converted into verifiable knowledge, depending on the context in which they occurred and the status of the actors involved. Despite seventeenth-century criticisms of Aristotelian natural philosophy as overly focused on wordy reasoning as opposed to observable phenomena, the connection between knowledge and the senses was an ancient one.\textsuperscript{19} Whilst the complexity of the developments described as the ‘new science’ is often underplayed, the changes they wrought did increase emphasis on sensory experience as a route to knowledge.\textsuperscript{20}

Whilst informed by these histories, this book takes a different approach. The evidence analysed offers insight into experience of this kind – focused and disciplined – but also of the kind discussed above, everyday and ordinary. In fact, this research sees the former as an outgrowth of the latter. The practice of scientific knowledge-making is understood as embedded in the conditions, labour and knowledge associated with domestic life. This shift in perspective allows a different range of scientists to move into the foreground.

Women have often been understood as appendages to scientific enquiry, rather than central players with questions and practices of their own. Their experiences of scientific enquiry were, of course, conditioned by their circumstances and the gendered prescriptions of the day. That said, a range of scholarship has illuminated the important role many women played in the scientific knowledge-making in this period and others.\textsuperscript{21} Lynette Hunter and Sarah Hutton’s foundational contribution, Women, science and medicine 1500–1700, identified the kitchen and stillroom as female spaces of key importance to chemical, biological and medical knowledge.\textsuperscript{22} Their analysis saw ‘modernity’ as the catalyst for ultimately separating knowledge from the domestic. Whilst the findings discussed in this book deviate from that model of change over time, Hunter and Hutton’s proposal that knowledge was embedded in the everyday rightly endures. This book makes that case for the eighteenth century.

With the diversification of the history of intellectual work comes a tendency to see knowledge as circulating rather than as being produced neatly in one time and place and by one person.\textsuperscript{23} In the
chapters that follow, a wide range of curious individuals are examined, people who used their own experience to develop natural knowledge and who often regarded their personal experience as scientifically valid. As Carolyn Steedman has noted, analytical advantage is enhanced by comparing the everyday experiences of different kinds of people. This study considers women as well as men, servants as well as employers and a spectrum of households from the modest to the elite. By analysing the marginalised alongside the privileged, a more accurate understanding of both is possible.

Curiosity

Curiosity was rife in the eighteenth century, and many acted upon it to investigate the natural world. These enquiries of different types and scales amounted to more than the sum of their parts. Taken together, the actions of many interested individuals can be considered a culture of curiosity, with ramifications for the characterisation of intellectual life in this period. Whilst this study focuses very strongly on the particulars of practice — what people were actually doing — it does not ignore the motivation for such actions. In a domestic setting, practices of trying and testing in order to alter and finesse material processes were commonplace. No clear distinction exists between this bedrock of home oeconomy and activities of a more investigative quality. After all, the development of a fermentation process might secure a better consumable product as well as elicit an understanding of the properties of ingredients, singly and combined, and their reactions under a range of conditions. The urge to take a domestic observation or experiment a step further than strictly required was fuelled by curiosity and this is a recognisable trait across a wide range of examples discussed here.

Whilst a lively ‘culture of curiosity’ has been well documented by scholars of eighteenth-century Britain, many definitions of this phenomenon remain exclusive. Typically the activities of curiosi and virtuosi sit centre stage — in other words, landed and educated men, motivated by awe and articulate in their wonder. However, even in the hands of the wealthy, curiosity was not always considered a force for good. Where there were the curious, there was self-indulgence, unfettered desire and a dangerous rejection of the status quo.
When curiosity fuelled the collecting of specimens or artefacts, passion, avarice and an urge to possess and control might follow.\textsuperscript{26} The loss of discipline associated with curiosity was thought particularly acute for women and the lower classes whose intellectual pursuits were more likely to be censured.

The negative connotations of curiosity have been enduring. In an anonymous interview published in \textit{Le Monde} in 1980, a philosopher – later revealed to be Michel Foucault – commented, ‘Curiosity is a vice that has been stigmatized in turn by Christianity, by philosophy, and even by a certain conception of science.’ Curiosity had become equated with futility.\textsuperscript{27} Nevertheless, in the late twentieth century, Foucault dreamt of ‘a new age of curiosity’ based on the generative possibilities of this urge:

\begin{quote}

it evokes ‘concern’; it evokes the care one takes for what exists and could exist; a readiness to find strange and singular what surrounds us; a certain relentlessness to break up our familiarities and to regard otherwise the same things; a fervour to grasp what is happening and what passes; a casualness in regard to the traditional hierarchies of the important and the essential.\textsuperscript{28}
\end{quote}

The historical examples discussed here strongly reflect this characterisation of curiosity. A motivation to grasp the particularities of the familiar whilst attending to the unfamiliar is visible in the domestic enquiries of many. By exploring the conditions and substance of their activities, the significance of seemingly unimportant people, things and actions is reappraised.

Historians have identified a new drive for innovation as motivating social and economic change in the eighteenth century. Recent scholarship has described this ‘improving mentality’ as contagious; in other words, ardent individuals were keen to share their intention to innovate and ensured that innovation was a practice that spread, person to person.\textsuperscript{29} This assessment maps onto a general upsurge in popular engagements with science. An inclusive culture of innovation, dependent more on personal motivation than role, education or training, corresponds closely with the findings of this book. However, for the individuals explored here, an urge to innovate appears as just one strand of many motivations – which, taken as a whole, are better described by the term curiosity. In fact, this study illuminates the compound nature of the impulse to enquire.
For some, knowledge for its own sake was inducement enough. For others, an interest in uncovering the ‘secrets of Nature’ in order to contribute to a larger, collective project of knowledge-making was the motivation. Concern with the economic and cultural vitality of the nation or the furthering of Britain’s global, imperialist exploits also drove enquiry. These external factors combined with personal agendas, such as the discharge of a given role (or moving beyond its boundaries) or the performance of an identity (or the subversion of expected norms).

For the curious enquirers of this volume, exchange and community were often crucial. That is not to say that the lone wolf of home experiment did not exist, but the people discussed in detail here sought out communication with others on their subjects of interest. This volubility might be an artefact of the archive – those who wrote a lot were more likely to have their words preserved to the advantage of the historian. However, it is also true to say that a network of like-minded friends eased a range of obstacles to enquiry, especially for the intellectually marginalised – information, ideas, reading material, specimens and access to other people all came to those who engaged with a network of contacts on matters of mutual interest. The curious individuals who populate this book did not all understand themselves to be a part of a national or international culture of curiosity per se, but they typically believed in a community of enquiry beyond the threshold of their own home. This recognition of shared purpose acted to affirm curiosity itself.

Making and sharing knowledge

Access to information

Eighteenth-century people learned new knowledge and skills in many different ways, much as people do today. For good reasons, histories of knowledge have tended to emphasise the tools and technologies at humankind’s disposal. The invention of the printing press, the consequent proliferation of print culture, the growth of certain institutions, the emergence of new spaces for public debate and the increasing availability of diverse material culture have all been identified as drivers of new ideas in this period. This approach
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has prioritised certain technologies and cultural practices as routes to making knowledge over others, namely ‘books and bookishness’ and the design and production of scientific instruments. Whilst it is undoubtable that access to a broader range of reading material and the use of specially designed apparatus helped curious individuals expand their understanding of the world, other practices did so too. Forms of labour, observations, conversations with like-minded others, practices of record-keeping and habits of collecting and categorisation were all valid modes of learning that provided paths to new understanding. All of these actions took place at home.

For those for whom the price of a book was too much, a wealth of other reading material was accessible. Magazines and periodicals also proliferated in this period and many of these publications covered subjects of a scientific nature. It is also worth remembering that the well-to-do and wealthy were avid consumers of cheap print alongside those whose means extended no further. For younger audiences, a growing educational literature presented natural knowledge in accessible ways – often utilising the format of a conversation to inform the child reader. Didactic formats such as dialogues, grammars and lexicons shaped the way people learned, and the gendered prescriptions in published texts went through considerable transformation in this period, reflecting changing social attitudes towards education and masculinity.

Here, the development of knowledge is seen as widely distributed – both in terms of the kinds of people and things involved in enquiry and also concerning the manner in which learning came about. Eighteenth-century people learned through reading and doing and engaged collaboratively with other people, objects and spaces to discover the answers to questions of all kinds. Actions that were understood in the context of ‘keeping house’ also fulfilled investigative goals. Tacit knowledge learned in the process of brewing ale was put to work in the service of curiosity.

Networks of exchange

Eighteenth-century society supported a growing population of letter-writers who were able to forge geographically extensive and socially encompassing networks. Whilst correspondence oiled
the wheels of all manner of human relationships, from courtship to commerce, intellectual life was a major beneficiary of the post coach. Networks of a modest scale were facilitated through correspondence just as much as person-to-person contact, and many exchanges involved both. In urban environments, it was more likely that contacts might be reachable on foot in nearby streets, but a letter could overcome considerable distances to reach the rural or remote. Members of the landed classes often enjoyed greater mobility than working people, the wealthiest benefitting from the seasonal migration between city and countryside. However, neighbourhood connections were powerful across the social hierarchy. So, whilst the question of scale is an interesting one, the notion of contributing to a collective endeavour of some kind was commonly held, even if that sense of community had to be derived primarily from the periodical press.

The contributions of the ‘big names’ of early modern science are now understood in the context of their diligently fostered and far-reaching epistolary connections. Experimental work involved multiple actors and, to gain traction, a new finding needed the validation of a wider community. This community encompassed a wide social makeup. The natural philosopher and general polymath, Robert Hooke (1635–1703), was regularly in personal contact with labourers, servants, craftsmen (e.g. glassblowers or clockmakers), gentlemen and noblemen as he conducted his many projects across the city of London. As historians have looked back on the work of eighteenth-century natural philosophers, the influence of the Romantic notion of authorship is clear. A scholarly obsession with attribution to a single (usually) male instigator of a particular idea or work has been difficult to dislodge and has served to obscure important characters and characteristics of knowledge-making. The individuals in this book might have had fleeting contact, at best, with institutions of intellectual note, but they were often well networked and entirely capable of using their contacts to further their interests.

Aside from more informal networks of letter-writers, institutions also played an important role in connecting people and providing a destination for information garnered in other environments. This period saw the rise (and sometimes fall) of a number of learned societies that have been considered influential in shaping intellectual life.
With their different emphases, the Society of Antiquaries, the Royal Society, the Dublin Society, the Society for the Encouragement of Arts, Manufactures and Commerce, the Physico-Historical Society and a plethora of local philosophical societies all accepted incoming correspondence from scattered individuals and an outlet in print for the findings that emerged from those diverse quarters. On a smaller scale, clubs and domestic sociability offered other meeting points for the intellectually engaged.

The eighteenth century famously witnessed a flourishing of debate in the coffeehouses of urban centres. These spaces were public although it is worth remembering that the demonstrations and discussions that took place there were not universally accessible. Coffeehouse culture was intimately connected with the flourishing of periodical publications, such as the *Spectator* or the *Gentleman’s Magazine*. They were also associated with the Royal Society’s networks of scientific sociability. Moreover, coffeehouses performed a range of services for publishers, including advertising and collecting book subscriptions. These spaces offered an alternative social space, one that could accommodate debate, whilst avoiding the seriousness of more formal locations. The sheer regularity of some individuals’ visits to coffeehouses is witnessed by the many letters addressed to these premises instead of homes or offices. Whilst coffeehouse culture has received much scholarly attention, it seems likely that other social spaces such as inns and taverns also provided opportunities for sharing news and ideas. However, whilst these semi-public spaces proliferated in this period and provided some people with new opportunities to learn and share ideas, they excluded many others. Here, the household is the key unit of analysis, not to diminish the importance of other spaces and places but because the intellectual possibilities of the home were significant and have been, by comparison, under-explored. Moreover, it is through shifting focus from talking and exchanging to doing and making that the importance of the home as a site of knowledge-making becomes clear.

A challenge of locating scientific activity in one kind of space is the difficulty in simultaneously tracking its leaps and bounds between people, through objects and across boundaries. However, if knowledge-making is treated as a communicative activity in itself, then the unhelpful distinctions between the making and disseminating...
of knowledge can be diminished, distinctions that often locate the making with the privileged and imagine the communication of that knowledge as eventually reaching the marginal. One way to access the talkative dimension of domestic knowledge-making is to focus attention not on the print culture of this period, but on the manuscript materials of everyday life – recipe books, account books, inventories, lists and receipts. This is the approach taken here. Among these manuscript survivals, it is possible to imagine the curious taking pen in hand, producing as well as consuming lines on the page.

**Working at home**

There are distinct advantages to using the home to examine larger currents of intellectual life. For one, domestic space was available to almost everyone and had some unifying characteristics, such as the inclusion of spaces and equipment to aid in provisioning, socialising and resting, although homes differed dramatically in their scale and affordances. The household and its inhabitants also sat in a conceptual relationship with the state and whilst it serves the purposes of this research to look at the home as a site of intellectual work, those engaged in these activities were likely to have understood the home as a miniature nation. Seeing parallels between domestic order and national prosperity, many eighteenth-century householders also made connections between their own home experiments and the pressing concerns of their age.

The evidence for this book takes in modest urban dwellings above shops through to grand country seats, set in acres of parkland. It draws on people who lived, mainly, in the British Isles including Ireland, but it sometimes looks to the emigrants who headed across the Atlantic to the east coast of America for information about the kinds of homes they built and practices they undertook as they forged their lives in a very different climate and terrain. The somewhat blurred edge of the group of examples used here allows the book to look outwards to the truly global circuits of trade, networks of exchange and colonial relations of domination and extraction whilst retaining its centre of gravity in the domestic spaces of British and Irish people across these islands. Undoubtedly,
increasing numbers of people read about and even travelled to places that would have seemed highly exotic – almost mythical – to previous generations. As botanic gardens, some long-established, gathered seeds from the Caribbean, the East Indies and Australia to cultivate in British soil, paradoxically, the world seemed increasingly knowable and exponentially variegated in its natural wonder.

**Household labour, space, materials and things**

Domestic work was constant and larger households contained one or more rooms that were designed and equipped to produce domestic necessities. There was much ‘doing’ at stake in eighteenth-century homes. At this time, the home made many more of its everyday necessities from raw ingredients than is common in twenty-first-century western society. Moreover, where a household had access to land, raw ingredients might be cultivated. In the absence of refrigeration, preserving and pickling were strategies for making food last and ensuring a varied diet during the cold winter months. Household accounts and recipe books reveal the wide range of ingredients familiar to those in charge of household provisioning, but also the expansive repertoire of processes enacted on those ingredients in order to maximise their value and use.48

Domestic work has often been treated as an unchanging continuum, in contrast with the large-scale changes that are seen to take place in other forms of work in this period. Moreover, shifts in labour relations in the eighteenth and early nineteenth centuries are often cited as key determinants of the emergence of ‘modernity’. The way work is understood, then, is of critical importance to understanding this period as a crucible of social and economic change. However, as Jane Whittle has eloquently unpacked, common scholarly definitions of work are flawed, principally because they misunderstand work that took place in the home, especially when it was done by women.49 In this context, it is perhaps unsurprising that a significant body of scholarship on the home as a place of work focuses on the labour relations of domestic service, precisely because of the insight they offer into the larger socio-economic shifts associated with industrialisation.50 By contrast, Carolyn Steedman’s analysis casts new light on the qualities of servants’ labour, the feelings it provoked and the material dimension of domestic service, arguing
that ‘material things – jokes, jests and the well-set jam a maidservant had just produced – were objects and entities, part of the social world’ and as such critical to understandings of the ‘social order’ of that time and place.\footnote{51} It is worth emphasising that not all domestic labour promoted scientific enquiry, and that the eighteenth-century home entailed a great deal of drudgery. Nevertheless, small acts of domestic labour were meaningful in manifold ways, and certainly no less so than the flick of an official’s pen.

Twenty-first-century studies of eighteenth-century domestic work have examined practices relating to food, record-keeping and domestic upkeep and revealed their larger social relevance.\footnote{52} This scholarship builds on at least fifty years of research by gender historians that has debated women’s experiences of domestic life and labour at length, also addressing male contributions to domestic work.\footnote{53} Such analysis of gender, work and the home has been closely shadowed by debates concerning ‘public’ and ‘private’ space. The line between the two has increasingly been viewed by historians as blurred and a stark dichotomy is now largely rejected. The research presented here aims to further dismantle these restrictive categories, which have frequently served to obscure the action taking place around, outside or in contradiction with them.

In approaching the subject of domestic work, this book understands the pre-industrial economy as one that included lots of unpaid work that was often geared towards subsistence. The chapters that follow see no clear distinction between domestic processes of money-earning and money-saving and incorporate men and women alike in the labour of the home. It is hoped that by avoiding unhelpful contortions that count male domestic work as ‘productive’ and female domestic work as ‘unproductive’, this book can contribute to a more accurate and heterogeneous understanding of the work of the home, extending that definition further to include activities of enquiry.\footnote{54}

In domestic tasks, individuals derived status, performed gendered roles and cared for others. When gentlewoman Anne Dormer of Rousham House in Oxfordshire complained that her husband was ‘much taken with all sorts of cookery and spends all his ingenuity in finding out the most commodious way of frying broiling resting stewing and preserving his whole studdy’\footnote{55} or ‘loiter[ing] aboute, somtimes stues prunes, somtimes makes Chocolate, and this somer
he is much taken with preserving’, her point was clear – these tasks and who did them mattered, not only for the home economy but also for the moral order of her household. These kinds of domestic experiments are the subject of this book. Whilst conduct manuals of the period were clear in their prescriptions for how domestic work should be undertaken, for what purpose and by whom, plenty of individuals ploughed their own furrow. A permeability existed between skills learned at home and those put into practice in other places, whether they were institutional, artisanal, industrial or commercial. Moreover, for many, the home was also the workshop.

A home for ‘Enlightenment science’

As Steven Shapin highlighted in the 1980s, domestic space was commandeered and adapted by natural philosophers to serve their investigative needs. These men employed common household utensils, furniture and spaces to serve experimental ends, and employed materials ready to hand in the home to learn about nature. The motives for such practices were varied, ranging from practical and economic constraints of poverty and scarcity to religious and social values of thrift and stewardship.

Whilst historians have demonstrated that the household, including gardens, were crucial spaces in ‘the making of modern science’, the ways in which different domestic activities interacted are less well understood. Histories reflect the differentials in status attributed to the process of making jam versus conducting a scientific experiment. However, both of these activities involved an in-depth knowledge of material properties, the use of specialised equipment, the heating and cooling of materials to change their quality and the tacit knowledge of having performed these actions repeatedly and with particular aims in mind. Moreover, scholarship can sometimes compound this distinction by failing to recognise the high status of some domestic labour – especially the kinds of knowledge and skill that were required to operate a stillroom effectively.

A number of studies have traversed this terrain and in doing so situated recipe books at the centre of day-to-day investigations of natural knowledge in the genteel household, positioned cooking as an epistemological practice and identified the kitchen as an explicitly experimental space. This book demonstrates the way skill,
tacit knowledge, technology and the rhythm of daily work in the home created the conditions and aptitudes for scientific enquiry. It does so by examining what people were doing at home and discovering the wider significance of these practices for eighteenth-century science.

**Domestic practice as a route to enquiry**

In this book, the discussion of practices takes up a good deal of space. This term is helpful because it captures something of the grey area between the characteristics of an action and the understanding it confers. In Alan Warde’s discussion of philosophical accounts of practice, he distinguishes between ‘praxis’ as the whole of human action and ‘practice’ as routinised behaviours involving combinations of bodily, mental and emotional activity in the context of existing knowledge or know-how. These practices are, by definition, ‘social’. Scholarly understandings of domestic practice have been influenced in particular by the theoretical interventions of Pierre Bourdieu and Michel de Certeau on practice and habitus and everyday practice respectively. However, methodologically, it has been ethnographic approaches that have been most effective in accessing the dynamics of the home. Attending to these questions in a historical context is more challenging given the inability to observe practice in action. Nonetheless, by carefully considering extant material, spatial and textual remnants, it is possible to reconstruct elements of quotidian domestic practice. The approach taken in researching this book represents a resourceful use of a variety of genres of evidence and makes the case for working across these categories to access the everyday activity of the home.

The kinds of knowledge or understanding explored in this volume include self-consciously scholarly activity alongside pursuits that occupy a more marginal space in histories of intellectual life. Prominent are activities that combine accumulated material understanding and refined technique, often described as ‘tacit knowledge’, in contrast to knowledge accrued primarily from text or developed in the Academy. Clearly, there has been a hierarchy of types of knowledge that has not always attributed much value to this kind of ‘know-how’. As Michael Polanyi famously observed, ‘we can know more than we can tell’.
turned philosopher, Polanyi was struck by the fact that humans could recognise a face amongst many thousands of other similar faces, without being able to describe with any degree of specificity its features. In this example, he recognised the importance of tacit knowing and argued that it played a central role in the development of scientific knowledge.

Historians from different fields agree that this was an era in which practical and sensory forms of knowledge assumed a much greater status. Some studies articulate with great precision the central importance of haptic knowing in scientific developments. Knowledge learned by doing was not only important for elite forms of experimental science, but it was also the route to understanding many different things for many different people. Far from being the poor man’s laboratory, the home could afford a versatile space for the curious – whoever they may be. More than that, the home trained its inhabitants in skills and knowledge that they could very well put to the service of science.

Structure of the book

This book contains seven chapters organised into three sections. The chapters in Part I offer contextual information about the domestic environment, its spatial and material affordances and the record-keeping that underpinned home ‘oeconomy’ and enquiry. Part II focuses on a discussion of three household practices that promoted knowledge-making and the chapters in Part III consider the wider ramifications of these findings. The first chapter takes a close look at the materials that circulated through the early modern household and the spaces and equipment that allowed householders to develop material knowledge. It includes an examination of larger-scale shifts in room use in this period, in different regional contexts, alongside a discussion of the material culture of specific working rooms. Chapter 2 considers examples of the specialised skills developed at home by examining the way tacit knowledge, technique and practices of record-keeping operated in domestic environments. Chapter 3 is the first of three chapters that analyse a single domestic practice, in this case collecting. It explores the way that curious individuals used the acquisition of artefacts and specimens as an aid to learning.
and the networks of exchange that fuelled this process. In Chapter 4, the book moves to consider the explicitly exploratory activities of householders. Through a case study of two Dublin apprentices with an interest in astronomy, it focuses on the practice of observation. The following chapter shifts to the subject of experiments, exploring the world of British and Irish women silkworm breeders. Chapter 6 opens up the discussion of practices to consider the way people constructed their own intellectual authority and the relationship between personal activity and identity in eighteenth-century society and culture. The last chapter contemplates the larger questions of influence in eighteenth-century intellectual life, aiming to re-consider the culture of enquiry based on the findings of this study.

Taken together, these chapters argue that the environment, personnel, materials and activities of the home provided the conditions for scientific practice in this period. In doing so, this book uncovers a large population of curious enquirers in eighteenth-century society and acknowledges their role in the discovery of nature’s secrets.

Notes


7 Adriana Craciun and Simon Schaffer, The material cultures of enlightenment arts and sciences (London: Palgrave Macmillan, 2016), p. 3; although it is worth remembering that Linnaeus’s system deliberately overlaid and erased indigenous names.


9 This work takes inspiration from sociology of scientific knowledge and the Strong Programme’s understanding of the importance of social factors in all scientific activity; see, for example, Finn Colin, Science studies as naturalized philosophy (Dordrecht: Springer, 2011), esp. chapter 3 ‘David Bloor and the Strong Programme’, pp. 35–62.

10 Edward P. Thompson, The making of the English working class (London: Victor Gollancz, 1963); in terms of recent historiographical developments, Carolyn Steedman’s defence of both experience and
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13 Steven Shapin, Never pure: Historical studies of science as if it was produced by people with bodies, situated in time, space, culture, and society and struggling for credibility and authority (Baltimore, MD: Johns Hopkins University Press, 2010); see also Bruno Latour’s seminal work, Science in action: How to follow scientists and engineers through society (Cambridge, MA: Harvard University Press, 1987); work by historical geographers such as David Livingstone has also had its impact, ensuring that the study of science attends to location, place and space: Putting science in its place: Geographies of scientific knowledge (Chicago, IL: University of Chicago Press, 2003).

14 Pamela H. Smith and Benjamin Schmidt (eds), Making knowledge in early modern Europe: Practices, objects, and texts, 1400–1800 (Chicago, IL: Chicago University Press, 2007), p. 3; Smith, Body of the artisan.

15 See, for example, Sven Dupré and Christoph Herbert Lüthy (eds), Silent messengers: The circulation of material objects of knowledge in the early modern Low Countries (Berlin: LIT Verlag, 2011); Simon Werrett, Thrifty science: Making the most of materials in the history of experiment (Chicago, IL: Chicago University Press, 2019); Smith, Body of the artisan.

22 Hunter and Hutton, *Women, science and medicine*, p. xii.
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but they are referring to known natural philosophers only, Wonders, pp. 303–28.


28 Ibid.


30 Smith and Schmidt, Making knowledge, pp. 2–3, see also Elizabeth Yale on the importance of seeing print and scribal cultures as working in tandem: ‘Marginalia, commonplaces, and correspondence: Scribal exchange in early modern science’, Studies in History and Philosophy of Biological and Biomedical Sciences, 42 (2011), pp. 193–202.


34 For an example of a mutually supporting intellectual network a long way from cities and institutions, see Leonie Hannan, ‘Collaborative scholarship on the margins: An epistolary network’, Women’s Writing, 21:3 (2014), pp. 290–315.

35 See digitisation and mapping projects such as ‘Cultures of knowledge’: www.culturesofknowledge.org (accessed 26 July 2019). There are a wide range of publications that map intellectual networks through correspondence; examples include Carol Pal, Republic of women: Rethinking the Republic of Letters in the seventeenth century (Cambridge: Cambridge University Press, 2012); and for a more encompassing treatment of networks and collaborative knowledge-making, see Paula Findlen (ed.), Empires of knowledge: Scientific networks in
the early modern world (London: Routledge, 2018); Hanna Hodacs, Kenneth Nyberg and Stéphanie van Damme (eds), Linnaeus, natural history and the circulation of knowledge (Oxford: Voltaire Foundation, 2018).


40 Jennifer Uglow, The lunar men: The friends who made the future (London: Faber, 2002); see also Peter Clark, Sociability and urbanity: Clubs and societies in the eighteenth-century city (Leicester: Victorian Studies Centre, 1986); James Kelly and Martyn J. Powell (eds), Clubs and societies in eighteenth-century Ireland (Dublin: Four Courts Press, 2010); Amy Prendergast, Literary salons across Britain and Ireland in the long eighteenth century (London: Palgrave Macmillan, 2015).


44 For a later period, see Secord, ‘Science in the pub’.


As Jane Whittle highlights, male domestic labour is often described as ‘farming’ or ‘construction’ and thereby acknowledged as part of the
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wider economy, whereas women’s work at home is often categorised amorphously as ‘housework’ or as ‘care’, neither of which are considered worthy of inclusion, see Whittle, ‘Critique’, p. 43.

55 British Library (hereafter BL), Trumbull Papers (hereafter Trumbull), Add MS 72516: Anne Dormer to Elizabeth Trumbull, 10 September c. 1687.

56 BL, Trumbull, Add MS 72516: Anne Dormer to Elizabeth Trumbull, 22 June c. 1687.

57 See, for example, Linda Siedel’s exploration of Jan van Eyck’s fifteenth-century altarpiece, which emphasises that material knowledge learned at home could both connect artists with other forms of expertise and networks and find outlets in artistic practice itself, ‘Visual representation as instructional text: Jan van Eyck and the Ghent altarpiece’ in Smith and Schmidt, Making knowledge, pp. 45–67, one example being ‘Alum’ – a resin commonly used in the domestic treatment of illness, but also a binding agent for paints.


60 Werrett, Thrifty science.

61 Opitz et al., Domesticity; Mary Terrall, ‘Catching nature in the act’: Réaumur and the practice of natural history in the eighteenth century (Chicago, IL: University of Chicago Press, 2014), p. 26, see also pp. 44–78; see also Clare Hickman on gardens as important locations for the medical practice of physicians and spaces that illuminate connections between medicine, chemistry, botany and agriculture, ‘The garden as a laboratory: The role of domestic gardens as places of scientific exploration in the long 18th century’, Post-Medieval Archaeology, 48:1 (2014), pp. 229–47.

62 Leong, Recipes; see also Michelle DiMeo, ‘Lady Ranelagh’s book of kitchen-physick? Reattributing authorship for Wellcome Library MS 1340’, Huntington Library Quarterly, 77:3 (2014), pp. 331–46; Lucy J. Havard, ‘“Preserve or perish”: Food preservation practices in the early modern kitchen’, Notes and Records, 74 (2020), pp. 5–33; see Pennell, English kitchen for the experimental potential of this room and also for
the interconnected nature of production, consumption, knowledge and technology.


64 Warde, ‘Consumption’, p. 135.


