

## CONTENTS

List of Figures and Tables	ix
Acknowledgements	xiii
Abbreviations	xvii
<b>1</b> Introduction	1
<i>Apprenticeship: The Debate</i>	6
<i>Apprenticeship: The Contract</i>	8
<i>The Basis and Structure of the Book</i>	11
<b>PART I. APPRENTICESHIP AND DEVELOPMENT</b>	<b>17</b>
<b>2</b> The Rise and (Partial) Fall of Apprenticeship	19
<i>Rise and Fall?</i>	20
<i>Apprenticeship in London and the Nation, 1500–1800</i>	23
<i>Apprenticeship and Industrialisation in the Eighteenth Century</i>	33
<i>Conclusion</i>	45
<b>3</b> Diffusing Skill and Innovation	49
<i>Success and the Concentration of Training</i>	53
<i>Learning from the Best</i>	57
<i>The Timing of Training</i>	67
<i>Conclusion</i>	73
<b>4</b> Mobilising Labour	75
<i>Apprenticeship as a Response to Crisis</i>	78
<i>Migration</i>	79
<i>Sectoral Mobility</i>	87

vi CONTENTS

*Urban Occupational Mobility* 94  
*Unequal Opportunities: Mobility and Money* 97  
*Conclusion* 107

**PART II. A SYSTEM OF TRAINING** 109

**5** Apprenticeship as Learning 111  
*Learning and Training* 112  
*Learning on the Shop Floor* 114  
*Norms and Culture* 122  
*Specific and General Human Capital* 126  
*Training beyond the Shop Floor: Academies and Technical Education* 129  
*Conclusion* 131

**6** The Flexibility of Apprenticeship 134  
*Absent Apprentices* 136  
*Why Did Apprentices Leave?* 148  
*Conclusion* 152

**7** Enforcing Apprenticeship 155  
*Guilds and Discipline* 158  
*Masterpieces and Examinations* 165  
*The Chamberlain's Justice* 166  
*The Lord Mayor's Court* 169  
*Equity and Recovering Apprenticeship Premiums* 173  
*Apprenticeship Bonds and Central Equity Courts* 178  
*Beyond the Metropolis* 179  
*Conclusion* 184

**8** Outcomes 188  
*Freedom* 191  
*The Determinants of Freedom* 200  
*Returning Home* 209  
*Conclusion* 216

### **PART III. APPRENTICESHIP AND THE ENEMIES**

#### **OF OPPORTUNITY 219**

- 9** Laws, Rules, and Barriers to Skill 221  
*Laws, Rules, and Barriers* 222  
*The State and Laws of Apprenticeship* 224  
*Urban Law and Custom* 231  
*Conclusion* 236
- 10** Exclusion in Practice? The Effects of Rules on Apprenticeship 239  
*Implementation* 241  
*Nationality* 245  
*Fees* 247  
*Age* 250  
*The Seven-Year Term* 253  
*Conclusion* 260
- 11** Cultural Barriers 263  
*Gender* 264  
*Birth Order* 273  
*Conclusion* 276
- 12** Social Networks and the Search for Opportunity 279  
*Measuring Ties between Masters and Apprentices* 282  
*Kinship* 283  
*Occupation and Guild* 288  
*Geography* 290  
*Searching for a Master* 292  
*Conclusion* 295
- 13** Conclusion 298
- Appendix 1: Apprenticeship Registration Records 311  
Appendix 2: Estimating the Number of Apprentices in London's Guilds, 1500–1850 317  
Appendix 3: Estimating the Incidence of Apprenticeship in England 329

viii CONTENTS

Appendix 4: Guild Ordinances	335
Appendix 5: Social Origins of Apprentices in England	339
Appendix 6: Apprentice Migration and Family Background	343
Appendix 7: Reconstructing the Training Careers of Masters	347
Appendix 8: Identifying Apprentices as Freemen	353
Notes	367
References	405
Index	435

# 1

## Introduction

On 1 July 1805, at not quite thirteen years of age, John Carter started his apprenticeship as a tailor. It marked a turning point in his life. He had worried that his parents ‘were too poor to be able to apprentice me to any suitable trade’, while he was ‘too feeble to be put to any very labourious occupation . . . there seemed to be no good prospect in regard to my future’. As he later recalled, after several decades working as a tailor, ‘my going into this situation I regard as having been by far the most important incident of my early years, inasmuch as all my subsequent experiences took its general complexion therefrom’.<sup>1</sup>

Globally, apprenticeship is one of the most durable and widespread economic institutions. Understood broadly as an agreement to exchange labour for training in a trade over a specific period, apprenticeship is almost a human universal, found everywhere from the shop floors of advanced engineering companies to the tracks trod by Kalahari hunters, from classical Rome to modern Japan.<sup>2</sup> Yet, in few periods or places has it equalled the prominence that it possessed in early modern Europe. There, a specific form of apprenticeship defined by a formalised contractual agreement enforceable at law became a near ubiquitous experience for youths with any aspiration beyond a life of farming, service, or unskilled labour. Carter’s view of the transformational impact of apprenticeship was shared by many of his peers in England between the fifteenth and early nineteenth centuries. In England, when the share of youths training through apprenticeship reached its peak, up to one-third of teenage males would be indentured to serve a master and

learn one of a myriad of crafts or trades. Until 1800, the amount of time and money directly invested in human capital formation through apprenticeship outstripped that spent on primary, secondary, or tertiary schooling.

The impression of premodern apprenticeship given by much popular and academic writing is of an archaic, inflexible, overly long period of training rooted in exclusive guilds that monopolised trades. Children had little choice about their futures. Apprenticeship was highly traditional. It had little, if any, connection to innovation. And, in England at least, it had ‘failed’ by the nineteenth century, or ‘declined’ even earlier.<sup>3</sup> In parallel, but now less prominent, is another, more romantic version in which every artisan had an apprentice, and ‘skills were recognised, valued and freed’.<sup>4</sup> Both are misleading.

This book presents a new account of apprenticeship and the market for skill.<sup>5</sup> It examines how apprenticeship operated in England from the early sixteenth to the start of the nineteenth century and the consequences this had for economic and social development in this transformative period. This was the era of the Statute of Artificers (1563), the Elizabethan law that made service as an apprentice a legal requirement for those working in many occupations outside farming. Its abolition in 1814 is the event that provides the endpoint for this study. It was also a time of remarkable urbanisation, structural change, and economic development—changes that flew in the face of the intentions of those who wrote the statute, and that I argue were made possible, in part, by the way apprenticeship mobilised labour and diffused knowledge in the English economy.

Premodern societies are sometimes mischaracterised as possessing little human capital.<sup>6</sup> There is truth in this if we focus on the number of years of education or levels of literacy, both of which are common measures of human capital today.<sup>7</sup> But the problems with this idea are obvious if we think of the amount of physical skill and tacit knowledge and understanding possessed by craftsmen, traders, and farmers as they wrestled with the everyday challenges of economic life, their depth of understanding about the materials and markets they worked within, and the body of slowly acquired techniques and ‘recipes’ they possessed, the prescriptive knowledge that was integral to production and exchange. It is more accurate to see premodern societies as endowed with high levels of tacit and prescriptive knowledge.<sup>8</sup>

One reason for this mistaken assumption about the level of premodern human capital is what came next. Industrialisation and modern economic growth have involved a parallel and mutually supportive expansion in education and technology, even a ‘race’ between them in Goldin and Katz’s powerful interpretation.<sup>9</sup> This has been tied to a general shift in the scale

and contribution of science and research to the economy, which increased the pace with which technology advanced and prosperity grew.

Accompanying this has been an equally important change in the structure of production that has led to greater differentiation in skills between roles and workers. The increasing division of labour, standardisation, and new tools and machines all served to lower the degree of embodied manual skill required of many roles. As the great economist Alfred Marshall noticed in 1890, with industrialisation the ‘kinds of manual work [that] require long-continued practice in one set of operations . . . are becoming rarer: for machinery is constantly taking over work that requires manual skill of this kind’.<sup>10</sup> In this context, general academic skills and knowledge—literacy, numeracy, science—become more important than technique, and their distribution may become more unequal in sectors or occupations where the workforce becomes divided between a small elite of ‘thinkers’ and a larger body of ‘labourers’. As a result, one kind of deskilling, a loss perhaps in the degree of manual dexterity or craft technique that Marshall noted, can coexist with an increase in skill or human capital in another dimension, produced through general and higher education.<sup>11</sup>

Apprenticeship had two critical roles in the premodern economy. Craftsmen and traders’ skills, their techniques and knowledge of how to make and sell, were fundamental to production and commerce. Reproducing these essential skills between generations of workers was a lengthy and challenging process, one that relied on observation and extended practice through immersion in the work itself because much of the knowledge was ‘tacit’ in the sense of being hard, even impossible, to articulate and communicate by description. This continuous replenishment of human capital was largely achieved through apprenticeship.

However, apprenticeship did not just maintain the aggregate stock of economically useful knowledge that skilled workers possessed. It also enabled its expansion and diffusion. The combination of different types of skills, particularly the complementarity between prescriptive and propositional knowledge, made the techniques inculcated through apprenticeship crucial to the realisation of innovations, to turning ideas into machines, materials, and products. Apprenticeship was also a key mechanism for the next step in this process: the spread of new skills, techniques, and technologies. Apprenticeship was one of the factors setting the pace at which innovation occurred and diffused.

To talk about the premodern economy in this way may seem surprising. Was this not a time of Malthusian stagnation? Maybe so—although that

#### 4 CHAPTER 1

debate continues.<sup>12</sup> However, Malthus's insight was that technology would not improve living standards in the longer run if fertility was unrestrained, not that technology and productivity would not change. There is a more valid tension with the characterisation of the premodern economy contained in unified growth theory. In that model, premodern parents invest little in their (many) children's human capital. It is only with the transition to modern growth that parents begin to invest heavily in their children and move from 'quantity to quality', breaking the Malthusian pincer grip on living standards.<sup>13</sup> One implication of the scale of apprenticeship that is described here is that unified growth theory under-estimates the importance of human capital formation in the premodern period by neglecting occupational or vocational skills. Fortunately, this can be reconciled because this investment in human capital was deferred until adolescence and largely paid for by the child's labour, not their parents' (although many parents did pay as well).<sup>14</sup>

*Who* can gain skills matters, too. Indeed, this is critical for social mobility, openness, and equity, as is obvious today from the inclusion of education in indices of human development to the politics of university access. Access to training mattered in premodern societies for much the same reason: human capital lifts human capability and, with that, people's living standards and their aspirations for the future. In anthropological and historical accounts, apprenticeship appears as a vital way to acquire knowledge from individuals outside the family group.<sup>15</sup> Restrictions on who can gain access to apprenticeship are, therefore, a particularly pervasive and consequential form of injustice, limiting the opportunities of those excluded, as well as imposing deadweight costs on society as a whole.<sup>16</sup>

In medieval and early modern Europe, access to apprenticeship was linked to central and local laws and to the decisions of courts and guilds, as well as to cultural and social norms about work, particularly the gendering of occupations. Because apprenticeship often brought with it the right to work in an occupation—privileges akin to occupational licensing as a lawyer or nurse nowadays—or provided a claim to local urban citizenship, the issue of who was able to gain access to apprenticeship, and who completed their training, mattered greatly for cities and guilds. As a result, apprenticeship was integrated tightly into the hierarchies that structured early modern societies.

How these influential bodies shaped apprenticeship, whether they nudged it towards greater inclusivity or exclusivity, was therefore a major determinant of the openness of their societies. That this mattered normatively should be self-evident. That it also mattered economically has been the



thrust of much recent work exploring how institutions and political economy shaped growth. North, Wallis, and Weingast see ‘open access orders’ as the defining feature of modern developed societies, and they list ‘entry into economic, political, religious and educational activities without restraint’ as one of their five features.<sup>17</sup> In a similar vein, Acemoglu and Robinson similarly emphasise that prosperity relies on ‘broad-based economic opportunities’.<sup>18</sup> Early modern England features frequently in these studies. Most of the attention has been given to political and financial markets, however. Here, I show that a large part of the labour market can also be characterised as relatively open—far freer of frictions, barriers, and exclusions than the superstructure of guilds and privilege might seem to imply.

The relationship between the system of apprenticeship and these two themes of economic development and opportunity are the focus of this book. Like any of humanity’s most widespread institutions—marriage, the state, the firm—there is no single type of apprenticeship. Rather, each society has a specific variant that forms part of a wider constellation of institutions. The argument I present in this book is that early modern England’s variant of apprenticeship worked positively to support economic development and helped rather than hindered spatial and occupational mobility.

In terms of development, apprenticeship in England was effective at moving people and ideas. It integrated markets in labour and knowledge. It concentrated training in centres of best practice, allowing skills to diffuse outwards. This occurred through several complementary channels. Apprenticeship enabled individuals to match their aptitudes to a wide range of opportunities found in places and occupations that were distant to their families. It allowed choices to be revised as a youth’s ability was revealed in the workplace. It led to training being focused in the workshops and counting houses of the most able artisans and traders. As a result, each new generation on average acquired better knowledge than the last and took this forward, lifting productivity as ideas and techniques were diffused and adopted.

For opportunity, English apprenticeship was, in practice, largely open, with few meaningful barriers to entry beyond nationality and the powerful force of the patriarchal imagination that constrained young women’s participation—and even that was frayed to some degree. Apprenticeship gave a measure of security that encouraged intergenerational leaps of faith, emboldening youths to cross long distances and wide gaps in experience into occupations where they had no connections. It did not produce a rapid reshuffling between rich and poor, however; the opportunities open to the young reflected the wealth their families possessed.

Underlying this was a specific form of apprenticeship that was rooted in a particular institutional context: a simple contract that lowered transaction costs, and a set of local tribunals that acted to support apprentices' freedom to exit from situations that were serving them poorly. This was a flexible form of apprenticeship, one that could be adjusted or ended early. The effect was to encourage families from the full breadth of society to place their children into apprenticeship in their thousands and to speed urbanisation and structural change.

### **Apprenticeship: The Debate**

The apprenticeship contract was the formalised expression of an intent to exchange training for labour. How that exchange operated in practice and what it meant for the English economy and society has been debated for well over a century. We can set much of the detail aside for the present. However, it is useful to highlight three clusters of ideas that will appear repeatedly.

The first position dates to the earliest writings in political economy and is fully expressed in Adam Smith's view that apprenticeship was primarily designed to 'restrain the competition to a much smaller number than might otherwise be disposed to enter into the trade. The limitation of the number of apprentices restrains it directly. A long term of apprenticeship restrains it more indirectly, but as effectually, by increasing the expense of education'.<sup>19</sup>

The result was higher earnings for masters and journeymen—and higher prices for consumers. Although Smith's analysis might stand on the restrictions set by corporations on the scale, length, and location of apprenticeship, he extends it to challenge the value of apprenticeship as a whole, in a famous passage that argues that 'long apprenticeships are altogether unnecessary'.<sup>20</sup> Smith's concerns share similarities with modern analyses of education that critique it as credentialling or screening.<sup>21</sup> The content of training is not the point, these suggest; the qualification is what matters, and, in many analyses, the system that produces it exists primarily to generate rents for educators (masters) and those who possess the credential.

Smith's argument, and later versions of it, draw our attention to the effect of institutional constraints on the supply and demand for training, the necessity of apprenticeship for learning, and the link between apprenticeship and growth. Was this system driven by the appeal of rents from licensing, and did growth depend on its erosion, for example?

The second position is more recent, rooted in modern economists' work on human capital and incomplete contracts which asks how training could

be supplied despite the potential for opportunism by master and apprentice. The core model of ‘human capital’ used in this approach was set out by the American economists Gary Becker and Jacob Mincer in the 1950s and 1960s, in studies inspired largely by observations of US industry.<sup>22</sup> The value of training was not in doubt here. Instead, the question was, who pays for it? The distinction Becker drew between specific and general human capital, with the former of use solely within a firm and the latter portable to other employers, offered a way to explain when firms do and do not invest in training, when and why workers will accept lower wages while they are training, and a host of related labour market phenomenon; all depended on whether or not workers’ productivity was increased in one firm or many, and so whether they could leave and capture the returns elsewhere. To the extent that apprenticeship provided general skills that could be taken to many other firms, ‘the cost as well as the return from general training would be borne by trainees, not by firms.’<sup>23</sup> Apprentices’ lower wages were the way they repaid their employer’s investment in their training.

Becker’s answer to the question of who would pay for training was conceptually powerful, but it generated a plethora of empirical challenges. If the apprentice captured the returns and paid for their training, why would a firm offer training in the first place? How could a firm be confident that an apprentice would hang around to repay their investment if they could earn more elsewhere? How could an apprentice be sure they were getting the training they were paying for, not being exploited as semiskilled labour, when they were acquiring tacit knowledge?

That apprentices and masters entered a contract with each other to work and teach, respectively, was not in itself a solution. As Joel Mokyr points out, ‘The full details could not be specified *ex ante*, nor could they be observed with much accuracy *ex post*, due to the tacit nature of the service provided.’<sup>24</sup> Apprenticeship contracts are inherently incomplete, beset with the risk of opportunism on both sides, asymmetric information, and agency problems. How could masters and apprentices solve this?

A rich body of theory and analysis exists to answer these questions. Many economic explanations of apprenticeship centre on the link between training and subsequent employment, but the situations they analyse are so different to those present before 1800 as to be misleading.<sup>25</sup> A distinct literature in political science and sociology emphasises the way cooperation between employers, unions, and the state can create a situation in which sustained investment in apprenticeship by firms coexists with highly portable, certified skills that are recognised and rewarded in the labour market. This

generates the abundance of highly skilled workers seen in countries such as Germany and Denmark.<sup>26</sup> However, the answers on how apprenticeship succeeds which are contained in this literature still depend on the incentives faced by modern firms operating in more or less imperfect labour markets.

In part because these explanations do not map well onto earlier periods, economic historians have suggested that the institutions that shaped the early modern economy might explain how apprenticeship contracts could be enforced, or made self-enforcing. Guilds feature prominently in this literature, largely because of S. R. Epstein's hypothesis that they provided the monitoring and enforcement that allowed apprenticeship to work.<sup>27</sup>

Epstein's revisionism inverts Smith's condemnation of the guilds, and it has been challenged in part on that basis.<sup>28</sup> To evaluate it, we need to look at the activities of the guilds and other institutions, as we will do directly. We must also consider whether the problem of enforcement was solved at all, or if apprenticeship operated in another, perhaps less efficient, mode.

Finally, apprenticeship has acquired a new prominence in attempts to explain the sources of modern economic growth in the characteristics of Britain's premodern economy. The older literature generally echoed Adam Smith's views in seeing apprenticeship as part of a heavy blanket of legal and customary regulation that bore down on the economy, stifling the market until the decline of the guilds and the eventual removal of the Statute of Artificers freed the English economy to flourish.

Now, Joel Mokyr and other authors offer a quite different story: they highlight the role of highly skilled artisans in England who provided much of the technical knowledge that was employed by innovators as they advanced the frontier of knowledge.<sup>29</sup> Apprenticeship becomes an ingredient in industrialisation, not a brake on it. The availability of skilled workers and the pace with which skills and techniques spread all depend, in part, on the way apprenticeship operated to reproduce human capital. This novel analysis suggests a quite different trajectory for apprenticeship in the eighteenth century, one that we will consider in some detail.

## **Apprenticeship: The Contract**

Before launching into the book, we need to introduce the document that created every apprenticeship: the indentures. This type of contract was named after the jagged cut that separated and identified the two identical copies held respectively by master and apprentice. What did it say about the relationship between them?

The content of the apprenticeship contract used in London had become fixed for the most part by the fifteenth century and was conventionally used across England in the same format. The contract defined what each party would do. The master promised to instruct his apprentice in his craft or trade and to provide him with subsistence—food, clothing, and housing. The apprentice promised to work under his master’s direction, to keep his secrets, and to accept his orders. The master was entitled to all the benefits of his apprentice’s work, whether in his own workshop or if dispatched to assist another.<sup>30</sup>

This agreement was not reduceable to training and work, however. Like a marriage contract, the apprenticeship contract defined expectations about behaviour. The apprentice was forbidden from marrying, gaming, haunting taverns, and taking wages. He promised good conduct and civility. This was backed up by a public oath taken by apprentices in many cities. Apprentices were, in theory, settled in modest subordination within a well-ordered household. Their master’s role was, as Jeremy Bentham put it, ‘compounded of that of master and that of guardian’; it encompassed a degree of responsibility beyond that of an employer.<sup>31</sup> Like most such relationships in early modern households, the weight of social discipline was asymmetric, and the expectations placed on masters were a less tightly defined, ‘paternalistic’ role.

The very fact that training was agreed through a legal contract is, in itself, one of the most distinctive features of apprenticeship in premodern Europe. Apprenticeship in other regions of the world (including some areas of Europe) was and is often made through an oral or customary agreement. In Europe, indentures formed an identifiable and reasonably coherent genre from the earliest evidence of apprenticeship in the twelfth century until they gradually lost their distinctive form over the nineteenth and twentieth centuries.<sup>32</sup>

Thinking about the form of the indentures helps make clear three important characteristics of premodern apprenticeship. First, indentures are clearly very different to the modern contract of employment that might be entered into by an apprentice today: they agree an exchange of a fee (always the youth’s labour and sometimes a sum of money) for a service (training), not a position in a career trajectory. They were also markedly different to the agreements underpinning most employment in this period: although apprentices were still subordinates, the indentures gave them greater rights than servants or hired workers, both in their right to instruction and subsistence and in their claim to a right to work in their trade, the property in skill they gained on completion.<sup>33</sup>

Second, the standard design of the English contract left only one major aspect of the apprenticeship agreement that could be varied: the price. This balanced the relative costs and benefits of the arrangement, most often by supplementing the value of the apprentices' work. The best-known example of how this was achieved was the 'premium', the fee that families often paid to the master; an alternative was a longer duration for the contract. At other times, when masters struggled to recruit youths, apprentices might be promised a payment or gift, such as tools or clothes, at the end of their term.<sup>34</sup> In addition, apprentices' families sometimes underwrote the honesty of their child, entering a bond for 'truth' that insured the master against embezzlement or loss.<sup>35</sup> These side-contracts were never regulated by guilds or the state, though, and were often not recorded on the main contract.<sup>36</sup> The other core elements of the contract—the minimum seven-year term, the expectation of training, the lack of wages for labour—were all set by statute, custom, or case law.<sup>37</sup> The contract was so standardised that most were printed forms by the middle of the seventeenth century.<sup>38</sup>

Third, and critically, because apprenticeship was organised through a legal contract, contract resolution was a matter for legal recourse. The courts were intimately involved in apprenticeship in early modern England, and this mattered greatly for the way the system functioned. Legal disputes are not a good guide to everyday behaviour, but they are one of the main ways in which the boundaries of behaviour are defined, and behaviour under contract exists in the shadow of the law. Apprenticeship contracts are sufficiently vague that their impact can be transformed by the way they are enforced. The use of 'apprenticeship' in the nineteenth century to control former slaves after abolition is the most egregious example of this, but magistrates' strict readings of youths' obligations—and lenient views of their employers' responsibilities—would limit workers' wages and freedom in nineteenth-century Britain.<sup>39</sup> As we will see, the treatment of apprentices in early modern English tribunals was very different—that is, more equitable and more lenient than these later examples. While the wording of the apprenticeship contract gave no method for early exit, the courts often provided one.

The standardisation of apprenticeship contracts mattered for the scale and openness of training. They were reliable, transparent, and predictable, with questions of law mostly settled and the meaning of terms fixed. This strong standardisation—what Kahan and Klausner describe as 'learning externalities'—removed drafting costs and uncertainty over terms, lowering the transaction costs incurred in accessing training.<sup>40</sup> These gains were

particularly important for people who had no experience of the contract, which was true for many parents in this period. Full standardisation avoided the need to involve expert advice and the danger of agreeing to ill-conceived terms. This was not inevitable: bespoke contracting was the norm in France, where notarial archives reveal a variety of specialised—and so, more costly—contracts that depended on the involvement of legal specialists.<sup>41</sup> It also created its own costs. Term lengths, for example, were carefully adjusted to account for uncertainty and expected productivity in eighteenth-century Montreal, as Hamilton has shown. That the initial terms of English contracts were so constrained helps explain the need for post hoc revision, through the institutional mechanisms I describe in the second part of the book.<sup>42</sup>

### **The Basis and Structure of the Book**

This is not the first book on apprenticeship in premodern England. It is more than a century since Dunlop wrote the foundational study.<sup>43</sup> Others have taken up the topic since then.<sup>44</sup> However, this is a somewhat different type of book, because we now have the opportunity to look at apprenticeship at a higher level of resolution. Where earlier researchers largely relied on traces left in court or guild records and snapshots of apprentice listings, I have been the fortunate beneficiary of a deluge of digital datasets that allow me to examine apprenticeship in many of the guilds of London, the dominant centre of training, and a broad swathe of other centres, including expanding port cities such as Bristol, England's second city, and smaller, less rapidly changing places such as Gloucester, Lincoln, Liverpool, Leicester, Shrewsbury, and Boston. In addition, for the eighteenth century we can now observe apprenticeships for which fees were paid from across the whole of England.<sup>45</sup>

For some decades, we know the names, backgrounds, and masters of one in ten English teenagers as they chose an occupation. Information on this scale—and the combined count of individual English apprentices in this study exceeds 1 million—allows us to think about old questions in new ways and ask new questions that would have been impossible to pose previously, just as similar troves of data are changing research on other parts of Europe.<sup>46</sup> (It is worth mentioning that to make it digestible, some of the technical details have been banished to appendices, to which the enthusiastic reader is directed.) To understand and find meaning in this evidence, we have to marry quantitative analysis with qualitative sources, from the rich trove of city and court records, guild minutes, and memoirs and diaries that survive.

There are some boundaries to the project. I begin with the early sixteenth century, when England was a relatively poor and largely undistinguished agrarian economy whose external trade largely centred on wool and cloth exports to Northern Europe. At this point, the amount of information in surviving civic and guild records begins to increase in scale.<sup>47</sup> This allows us to observe aspects of apprenticeship for several decades before the Statute of Artificers was passed. I end at the start of the nineteenth century, as the statute's limitations are removed, and the main archival sources cease—and as industrialisation is transforming parts of Britain. I have restricted my scope to England, in order to avoid dealing with more than one legal framework, and because similar urban records for Wales are not easily available. And perhaps most importantly, I focus on private apprenticeship, not pauper apprenticeship. The role of parishes in placing poor children into apprenticeships, and compelling households to accept them, was important to human capital and welfare. However, it largely operated under different rules and expectations and sat outside the market for training that is explored here.

The book is divided into three sections. The first section examines the relationship between apprenticeship and economic development in England between 1500 and 1800. I begin in chapter 2 by providing a new accounting of the scale and geography of human capital formation through apprenticeship over this period. The chapter shows the singular importance of apprenticeship to investments in human capital. Apprenticeship was critical to the period of growth and structural change that centred on London's booming economy in the sixteenth and seventeenth centuries. However, the relationship between apprenticeship and growth changed—and weakened—with industrialisation. The accounting also shows how much apprenticeship occurred successfully outside the guilds.

In chapter 3, I focus on how apprenticeship affected the reproduction and pace of diffusion of knowledge. What was the quality of skill that was being shared? The chapter presents evidence that apprentices were concentrated in the hands of the most skillful and successful masters. Reconstructing the 'training careers' of large samples of citizens and freemen from London, Bristol, Gloucester, and Boston, I show that most apprentices were trained by the minority of leading masters who trained multiple youths. The effect was to disseminate new ideas and practices rapidly as parents sought to give their children the best possible start.

Chapter 4 looks at the way apprenticeship integrated the English labour market. It explores the movement of young people from different places and occupational backgrounds into apprenticeships, showing the way that labour



mobility was facilitated by this system of training. The scale and extent of apprenticeship make a strong case for the openness of apprenticeship and its importance in reallocating labour. The chapter also shows the way the market for training set boundaries on the social mobility it permitted, as the price of training meant that aspiration was constrained by affordability.

Part 2 of the book provides a new description of the system of premodern apprenticeship that produced these effects. It begins by considering what training in apprenticeship involved, in chapter 5, contrasting the reliance on learning by immersion and observation evident in premodern apprenticeship with alternative forms of teaching that were important in later systems of apprenticeship and occupational training. This form of training was pedagogically suited to acquiring embodied, tacit skills and knowledge.

It was also well suited to a setting in which employers could not be sure they would recover the value of any investment in training, and chapter 6 shows that premodern English masters faced a high chance that apprentices would not serve their entire term with them. Apprenticeship was in practice flexible: the frequency and timing of apprentices' absences and exits from their masters' workshops show substantial mobility and high rates of early departure. Pedagogically, this may have been virtuous, allowing apprentices to gain experience with several different masters. Economically, low levels of persistence challenge the viability of any model of training that relies on contracts being enforced for their entire duration.

That so many apprentices were absent raises a question about what the institutions that enforced their contracts were doing. In chapter 7 I look directly at the work of the guilds and urban courts in England. I show that guilds did very little to monitor or enforce apprenticeship. Local urban law courts were far more important. Their effect was to legitimise flexibility, by providing apprentices with a way to exit contracts legally and recover part of any premium. This was most developed in London, where a right for the apprentice to exit at will was designed into many contracts, but it was also present elsewhere in England. Avoiding lock-in, I suggest, encouraged families to invest in human capital in an environment with high levels of asymmetric information and uncertainty.

The outcomes of apprenticeship are the subject of chapter 8. Premodern apprentices' employment with their masters almost always ended at the point when they completed their contracted term of service; few would remain as employees with the same master. Having completed their apprenticeships gave them an entitlement to enter guilds, become citizens, and set up independently, if they were in a corporate town. While the barrier to

taking this next step was modest, only a minority would become freemen. ‘Insiders’ were more likely to do so, as were the better off, but they did not make up the majority of new masters. The rest were not necessarily failing; a significant number of migrant apprentices took their skills back home, spreading connections and knowledge.

The third and final section of the book focuses directly on the openness of this system, addressing the impact of three enemies of opportunity that could have limited and biased its effects. Chapters 9 and 10 survey the set of formal rules that were created in England by guilds, cities, and the nation-state and then evaluate their impact. Some rules did matter, particularly the link between a seven-year apprenticeship and the ability to work, set by the Statute of Artificers. This encouraged apprenticeship, as did Poor Law provision, but few of the formal boundaries to accessing training seriously affected recruitment.

Informal cultural barriers to training could potentially be more pernicious than formal rules in limiting opportunity. Chapter 11 examines the impact of social norms in two areas where we might expect recruitment to be limited: the gender and birth order of apprentices. Gender, especially, strongly affected the likelihood a child would be apprenticed. Young women were much less likely to serve apprenticeships than young men. Some did, however, and this included children from well-off families. Birth order, too, mattered, but largely when linked to the probability of inheriting land. Norms were most damaging for women.

A third potential enemy of opportunity is the effect of social networks. Apprenticeships involved matching a master with a child. If matches can only be made between people who already know and trust each other—those they share strong ties with—then young people’s opportunities will be seriously constrained. By looking at the evidence for different types of family, occupational, or geographical connections between apprentices and masters, I show in chapter 12 that these were present for only a minority of apprentices. Most apprenticeships forged new links. Social ties were used to discover opportunities, rather than provide them. This allowed skills to spread and diffuse; it also helps explain the importance of flexibility in the contract.

The aim of the book is to give a balanced account of how apprenticeship worked and what this meant for economic and social life in premodern England. To be clear, I do not claim here that apprenticeship was the magic ingredient in England’s economic success or that this variant was limited to England per se. As an institution, apprenticeship helps explain the path of development in England, but it did not determine it. There is good

reason to believe that many of its features were shared with apprenticeship found elsewhere across Europe. We should also not be blind to the failings and costs involved in apprenticeship. The system was not optimal, in some efficiency-maximising sense, and training could have been faster and better. It created and benefited from economic rents that were born by the population. It did exclude some young people. It may, however, have been better than some of the alternative forms of training that existed in other regions of the premodern world that were less open, less flexible, and less effective at moving labour and knowledge.

That apprenticeship had these impacts also did not mean that it was without problems. Workshops possessed hierarchies that could be brutally enforced. Some youths were beaten and abused, exploited, and neglected; we will meet some later in the book. For that matter, so were some masters, though surely much less often. An excellent body of social history of childhood and work means that there is no need to cover that terrain here in detail.<sup>48</sup> For poor children, this was even more true: apprenticeship under the Poor Law could amount to little more than child slavery, hard labour, hard knocks, and no end in sight for more than a decade, though it is also clear that it need not always have been so.

The effects of English apprenticeship were not the result of farsighted design by progressive actors. Nor were they inevitable. In several areas, rules and practices pull in opposite directions, and the contradictions between regulation and reality have generated much of the debate around apprenticeship. Long terms of service fixed by guilds and later by statute were burdens that had to be quietly evaded with the compliance of masters, guild officials, and civic bodies to reduce the burden they imposed. In short, this is not a hymn to premodern institutional design or English exceptionalism, but an attempt to better understand one of the fundamental institutions of the premodern economy.

## INDEX

Page numbers in italics indicate figures and tables.

- Abbey, Henry, 150  
access, limiting, to apprenticeship, 221–22.  
*See also* rules for apprenticeship; cultural barriers  
Act of Union, James I and, 232  
Addison, William, 71  
Adsworth, Bartholomew, apprenticeship, 293  
agriculture: birth order and apprenticeship, 274; farming families, 87; occupational sector of apprentices' fathers, 87–89, 240; impact on persistence, 202–4; origins of premium apprentices (1712–17), 89; mobility from, 225–26, 237, 243–44; workforce in, 19, 21–22, 93, 107  
Albergo di Virtù, children as apprentices at Turin's, 147  
Albyn, Benjamin, director of East India Company, 61  
Allen, John, father giving bond for, 179  
Allen, Richard, writing master, 126  
Amsterdam, apprenticeship, 46  
Apleford, Lovelace, 176  
apothecaries, 42, 57, 115–116, 142–43, 293;  
London guild, 64, 68, 159, 165–66, 194, 234; apprentices to, 60–63, 68, 69, 70–71, 98–99, 151; apprenticeship disputes per annum, 161; premiums for apprenticeships, 100–101; ratio of new freemen by servitude to new apprentices in, 201; share of new freemen and citizens by apprenticeship, 198  
Appleton, Thomas, training patterns, 70  
apprentice(s): absent, 136–48; charities, 102–6; equity and recovering apprenticeship premiums, 173–78; faults, 175–77, 385n91; learning from masters, 57–67; life expectancy of skilled workers, 397n76; likelihood of becoming a freeman, 356–57, 366; matching to freemen, 353–66; measuring ties between masters and, 282–83; migration, 77, 80, 82–84, 290–92; migration and family background, 343–44, 344, 345; models for finding masters, 280–81; norms and culture in learning, 122–26; pattern of persistence in, 135–47; place of origin, 400n26; premiums and charity funding for, 105; protection of, 229–31; searching for a master, 292–95; sharing surname with master, 400n18; social origins of, in England, 339, 340–41; status or occupational sector of fathers, 88; success and concentration of training, 53–57; timing of training, 67–73. *See also* social networks; training  
apprenticeship(s): access in medieval and modern Europe, 4; charities, 102–6; charitable funding for, 104; debate, 6–8; definition of, 1; distribution in European cities, 46–47; distribution of, in England and Wales, 35, 36; economic explanations of, 7–8; England's nationwide framework, 236–37; estimating incidence in England, 329–33; explaining path of development in England, 14–15; flexibility of, 134–52; impression of premodern, 2; industrialisation and, in eighteenth century, 33–45; labour mobility and, 76–77, 279–91; limiting access to system, 221–36; modern, 301, 303; new incentives to, 237–38; nuclear family (fathers and sons), 90; openness of societies, 4–5; orphans and, 78–79; popularity of, 302–3; premodern, 301–2; price for, 31, 32, 33, 99–102, 108; roles in premodern economy, 3; supply and demand for, 45–46; themes of

- apprenticeship(s) (*continued*)  
economic development and opportunity, 5; transformational impact of, 1–2; trends in large cities (Britain), 38, 39, 40. *See also* apprenticeship contract(s); enforcement of apprenticeship; flexibility of apprenticeship; outcomes of apprenticeships; rules for apprenticeship; social mobility; laws apprenticeship contract(s), 6, 8–11, 137, 304; arrival of apprentices for training, 139–40; as indentures, 8, 9–10, 96, 302–3; failing to register, 54; form of, 9; legal dispute resolution, 10; parallel covenants, 10, 368n38; persistence of apprentices within, 136; premium apprenticeships in England (1711–1804), 34, 34; price in, 10; rights of apprentices, 9; rules of, 135; standardisation of, 10–11, 224, 231; terms of apprentices', 149; understanding the stability of, 136–37
- aristocracy, commissioning artisans, 58
- Art Academy, 130
- artisans: access to work as, 224–26, 240–41, 298–99; apprenticeships, 2, 5, 8, 47–48, 51–52, 67–68; industrialization and, 8, 47–8, 308–9; journeymen, 122, 215; skill transmission, 121–29, 258–59; sons of, 96–97
- Aske, Henry, master, 121
- Aston, George, journeyman pewterer, 115
- Attery, William, Satia as Black apprentice to, 233
- Austria, 246
- Babington, Humphrey, Hanbury and, 174
- Badminton House, 59
- Bagnall, Roger, dispute with Harris, 149–50
- Baker, Graves, 293
- bakers, 71, 101, 159, 242, 244, 249; London guild of, 54, 160, 163, 164, 166, 228; apprenticeship disputes per annum, 161
- Bangs, Benjamin: learning from masters, 122; leaving after three years, 150; warning from mother, 107; Wheatcroft and, 256
- Bank of England, 60
- barber surgeons, 99, 101, 171; Bristol guild of, 54, 249; Hull, guild of, 249; London guild of, 54, 155, 157–8, 234; Newcastle guild of, 180, 195; Salisbury, guild of, 249; Shrewsbury, guild of, 249
- Barlow, Jill, Gloucester apprentices, 351
- Barnard, Isaac, literacy and numeracy, 126
- Barnardiston, Sir Samuel, 179; Langham, John and, 179
- Baron, Richard, death of master Poole, 143
- Barrett, Anthony, gentry pinmakers, 98, 99
- Barron, Caroline, London's system of citizenship, 197
- Barron, William, training of apprentice, 117
- Barton, Elizabeth, apprentice, 266
- Barton, William, 266
- Barwell, John, placement of son Thomas, 275
- Bath, apprenticeship, 39
- Bathurst, Charles, 174
- Baugh, Francis, 286
- Baugh, Mary, 286
- Baxter, Richard, training patterns, 72
- Becker, Gary, core model of human capital, 7
- Bell, Rowland, master Laxton, 142
- Bellamy, William, Kinge and, 243
- Ben-Amos, Ilana Krausman: on failure to become freemen, 200; female apprentices, 272; youths' voice in choosing careers, 275
- Benson, George, apprentice surgeon, 119
- Bentham, Jeremy, on master's role in apprenticeships, 9
- Benwell, James, case of, 168
- Bessey, Richard, Bludworth and, 163
- Beverley, ordinances of guilds in analysis, 336
- Bewick, Thomas: engraver apprentice, 121; migration for success, 79
- Bewley, George, 294
- Bird, John, 399n4
- Birmingham, apprenticeship, 39, 40
- Blackburn, apprenticeship, 39, 40
- Blacket, Joseph, apprenticeship options, 102
- blacksmiths, 40, 99, 101, 126, 148, 244; female, 265; London guild of, premiums and charity funding for apprentices, 105
- Blee, Thomas, accusation at Lord Mayor's Court, 149
- Bludworth, Edward, Bessey and, 163
- Blunt, George, St Clement Danes and, 243
- Boat, Gershon, 294
- Bodye, Edward, apprentices of, 161–62
- Bogan, Mr., 106
- Bolton, apprenticeship, 39, 40
- Boston: apprentice migration (1525–1800), 80; apprenticeships, 26, 27, 314; apprenticeship within extended families, 285; apprenticeship within nuclear family, 90; apprentices with information on entry to freedom/citizenship, 356; city fees for entry to freedom/citizenship, 195; former London apprentices who later become citizens in, 213; masters taking apprentices, 68; origins of apprentices in, 81, 340–41; premium apprenticeships,

- 32; record sources, 314; share of freeman taking apprentices, 55, 55; share of new freemen by apprenticeship, 199; training careers of masters, 53, 55–56, 56, 69, 72, 350–51
- Bownas, Samuel, norms and values, 123
- Bowyers, London guild of, ratio of new freemen by servitude to new apprentices in, 201; share of new freemen and citizens by apprenticeship in, 198
- Bracebridge, Edward, Woolnoth Smith and, 244
- Bragg, Martha, Walmesley's suit and, 176
- Bramwell, Richard, 288, 400n21
- Brasbridge, Joseph: apprenticeship troubles, 155–57, 166–67; on completing term, 142; Farebrother as apprentice, 382n4
- Bream, Jasper, cabinetmaker, 58
- Brenner, Robert, on Craddock, 61
- Brent, Daniel, 286
- Brent, George, 286
- Brent, Joane, St Paul's Covent Garden, 286
- Brewers, London guild of, 64, 159, 162, 193; apprenticeship disputes per annum, 161
- bricklayer, 225. *See* Tylers and Bricklayers
- brick-maker, 225
- Bridewell Hospital, 244, 383n45; court records for, 383n52; General Prison Committee, 383n49
- Bright, Susan, Butler widow, 276
- Bristol, 11, 39; apprenticeships, 25–27, 26, 39, 314; apprenticeship within extended families, 285; apprenticeship within nuclear family, 90; apprentices' persistence by occupation, 140, 141; apprentices' persistence in, 137–38, 138; apprentices' presence with masters around time of binding, 139, 139; apprentices with information on entry to freedom/citizenship, 356; bakers, 141; building crafts, 141; coopers, 141; distribution of training between masters, 53–56, 56; female apprentices, 266, 272; former London apprentices who later become citizens in, 213; freedom rates, 152; gentry sons in, 91; Glovers' guild, 54; guilds, 54, 235; Hoopers' guild, 235; merchants, 141; migration fields, 80, 81, 82; migration from, 85; occupational persistence for training outside family, 95; ordinances of guilds in analysis, 336; origins of apprentices in, 81, 85, 340–41; orphans as apprentices, 78; premium apprenticeships, 32; apprenticeship registration fees, 249; rates of departure from apprenticeship, 147; record sources, 314; share of freeman taking apprentices, 55, 55; share of freemen's sons as apprentices, 97; share of masters' sons apprenticed to own father, 94, 95; share of new freemen by apprenticeship, 199; Soapmakers' guild, 180; Tolzey Court, 71, 180, 181; training careers of masters, 53, 67–71, 70, 350; Weavers' guild, 235
- British and Irish Furniture Makers Online dataset, 372n25
- Broderers, London guild of, 233
- Bromley by Bow, 151
- Brooks, Christopher, on apprentice indoctrination, 123
- Brown, John, Description and Use of the Carpenter's Rule, 121
- Browne, John, *Marchants Avizo*, 120
- Brownrigg, John, apprentice of, 117–18
- Buckinghamshire, apprentices' persistence in, 144–45, 146
- building crafts, apprentices' persistence in  
Bristol, 141; technical education in, 131
- Burford, Joel, dispute with master, 172
- burner of ore and wood-ashes, 225
- Bury, Jeremiah, apprentices in factory, 57
- butchers, 71, 75–6, 100, 149, 176; apprentices' persistence in Bristol, 141; Carlisle, guild of, 248, 249; female, 265; London guild of, 194, 229; premiums for, 101; Salisbury, guild of, 235, 248, 249
- Butler, Henry, Bright and, 276
- Cambridge, apprenticeship, 39, 40
- Cambridge Group for Population and Social Structure and the People in Place project, 209
- Cambridge University, 92, 276
- Campbell, Robert, guide for parents, 52, 127, 275
- Cantaillon, Richard, on occupation of apprentices from city, 94
- Canterbury: city fees for entry to freedom/citizenship, 195; former London apprentices who later become citizens in, 213; share of new freemen by apprenticeship, 199
- Carew, Oliver, apprentice to Lawley, 276
- Carlisle: apprenticeship, 39; guilds, 235, 236; Butchers' guild, 248, 249; Glovers' guild, 235; ordinances of guilds in analysis, 336; guild apprenticeship registration fees, 248, 249; Shoemakers' guild, 165, 235

438 INDEX

- carpenters, 37–8, 99, 121, 128–29, 225; London guild of, 54, 144, 159, 163–64, 193, 250, 388n17; apprenticeship disputes per annum, 161; contracted terms (1800–1804), 256, 257; Hammond and apprentice Saunders, 160–61; premiums, 101
- Carter, John: apprentice to tailor, 118–20; impact of apprenticeship as a tailor, 1, 309
- caste systems: India, 76; jobs as equivalent to, 75
- Chamberlain's Court, London, 167
- chamberlain's justice, 166–68
- charity, apprenticeships for poor children, 102–6, 108, 147, 371n52
- Charles II, coronation, 59
- Chatham, apprenticeship, 39, 40
- Cheshire, apprentices, 37
- Chester: apprenticeship, 39, 40; former London apprentices who later become citizens in, 213
- Child, John, 280, 399n4
- children: birth order and treatment, 273–76; Mill's vision on sons following fathers, 75–76
- Chipping Norton, 243
- Christ's Hospital, 106
- citizenship: apprenticeship and, 13, 20, 136–37, 152, 170, 189–93, 197–209, 231–36; limits on female, 265–68; circular migrants entering, 212–15; fees for entry to, 194–97, 195, 247–50; guild apprenticeships and, 26–30, 163; as incentive, 224, 302; masters' sons claiming, 97; term lengths and, 256–60; value of, in London, 135, 192. *See also* rules for apprenticeship
- City and Guilds Institute, 130
- Clark, Thomas, master Poulney, 181
- Clarke, Daniel, 293, 294
- Claxton, Timothy, 297; juvenilising of training, 125; self-instruction, 128–29
- Claypon, Bartholomew, training patterns, 72, 73
- Cleare, William, carvings, 59
- Clegg, James: diary of surgeon, 182; on moral guidance, 123–24
- Clement, William, 49
- clockmakers, 47–49, 57–58, 62, 122, 129, 294; London guild of, 165; Thomas Tompion, 49–50, 50, 308
- clothier, 225, 242
- clothing, sector: premium apprenticeships in, 41, 41–42; workers serving premium apprenticeships (1710 and 1800), 42–43, 43
- Clothworkers, London guild of, 69, 125, 159, 160, 162–64, 166, 172, 194, 247; apprenticeship disputes per annum, 161; ordinances, 388n17; premiums and charity funding for apprentices in, 105; ratio of new freemen by servitude to new apprentices in, 201; share of new freemen and citizens by apprenticeship in, 198; Wells and Este, 160
- Coachmakers, female, 270; London guild of, 209; William Watson in, 401n31
- Cogg, John, cost of shoes, 99–100
- Colchester, apprenticeship, 39, 40
- College of Physicians, London, 165, 166
- Consolato, Turin, 184
- construction: premium apprenticeships in, 41, 41–42; workers serving premium apprenticeships (1710 and 1800), 43, 43
- contract, apprenticeship. *See* apprenticeship contract(s)
- Cooke, James, apothecary, 115, 116–17
- cooper(s), 37, 106, 124, 205, 225, 242, 293; apprentices' persistence in Bristol, 141; Lever's son to Mr. Ludlow, 150; London guild of, 64, 178, 247, 388n17; premiums for, 101. *See also* Hoopers
- Cordwainers, London, guild of, 31, 166; Durham, guild of, 147; Hull's, 235
- Corporation of London Record Office, 376n9
- court and nobility, medical care, 60–612; furniture makers and upholsterers, 58–59
- Courtauld, Augustine, Pantin and, 246
- Court of Aldermen, London, 30, 166, 195, 231, 234, 387n7
- Court of Assistants, guild, 54, 63, 159–60
- Court of Common Council, 231, 387n7
- Court of King's Bench, 233
- Coventry, apprenticeship, 39, 40
- Craddock, Matthew, 61–62; governor of Massachusetts Bay Company, 61
- Cranfield, Lionel, marrying into masters' families, 207
- crisis, apprenticeship as response to, 78–79
- cultural barriers: birth order, 264, 273–76; gender, 264–73; social norms, 263–64; training, 14, 263, 276–78
- culture, apprentices acquiring urban, 122–26
- Curtis, James, 287
- Devenport, William, master influencing, 124
- Davies, Margaret, seven-year rule, 240
- Davy, Jane, female apprentices, 272
- Days, Mathew, Goldsmiths, 162

- dealing and retailing sector, workers serving premium apprenticeships (1710 and 1800), 43, 43
- De Laune, Gideon: apothecary to James I, 60; portrait of, 61
- De Munck, Bert: on apprentice contracts, 124–25; Art Academy and the Medical College, 130; guilds using masterpiece tests, 165
- Derby, Edward, master dismissing, 148
- Derbyshire, premium apprentices, 40
- Derry, T. K., seven-year rule, 240
- Description and Use of the Carpenter's Rule (Brown), 121
- Devizes: ordinances of guilds in analysis, 336; provincial guild apprenticeship registration fees, 249
- Disney, Gervase, recall by gentleman father, 148
- Disney, John, recalling son from apprenticeship, 148
- Divinity School, Oxford University, 59
- Dixon, Henry, charity, 106
- Dobbins, Thomas, 71
- Dobson, Isaac, ejecting apprentice Forrest, 148
- Double Metaphone algorithm, 347, 350, 389n52, 390n58
- draper(s), 37, 94, 99, 179, 225, 294; female, 271–72; Gateshead guild of, 195; London guild of, 64, 106, 165, 195, 276, 388n27; premiums and charity funding for apprentices, 105; ratio of new freemen by servitude to new apprentices in London guild, 201; share of new freemen and citizens by apprenticeship in London guild, 198
- Drury, Martha, in defense of son Walter, 115–16
- Ducy, Elizabeth, Grooby and, 271
- Dunton, John, 279–80, 297; father advising, 121–22; on learning as apprentice, 119; Parkhurst and, 399n2
- Dunton, Rev. Daniel, son John and, 279–80
- Durham: apprenticeship within extended families, 285; Barbers' guild, 147; Cordwainers' guild, 147; record sources, 314; urban and guild apprentices, 314
- Earle, Peter, on best route to success, 77–78
- earthen potters, 225
- East India Company, 19, 60, 179; Albyn as director, 61; Craddock as director, 61
- economic development, apprenticeship in England and, 5, 308
- economic growth, industrialisation and, 2–3
- education: expansion in, 2; spending on primary, 45
- Edward VI (King), 226
- eighteenth century, apprenticeship and industrialisation in, 33–45; legal changes in, 227–29; apprentice terms in, 255–59
- Ellis, James, Trenchfield and, 175
- Ellis, John, training patterns, 70, 71
- Ellis, Walter, 286
- embroiderer ['imbroiderer'], 225
- Emery, Richard, giving up apprentice, 151
- Emmett, William: sculptor, 59; Temple Church reredos by, 59
- enforcement of apprenticeship, 13, 155–58, 184–87; actions by apprentices in Lord Mayor's Court, 170; apprenticeship and justices of the peace, 181–83; apprenticeship bonds and central equity courts, 178–79; apprenticeship disputes per annum, 161; apprenticeship tribunals in incorporated towns and cities, 180–81; beyond the metropolis, 179–84; Chamberlain's justice, 166–68, 168; equity and recovering apprenticeship premiums, 173–78; guilds and discipline, 158–64; guild supervision of apprenticeship outside London, 179–80; impact of fault on share of apprenticeship premium returned, 177; interpretation of, 304–5; Lord Mayor's Court, 169–73; masterpieces and examinations, 165–66; share of premium returned by Mayor's Court by term served, 175; urban courts outside England, 183–84. *See* apprenticeship
- England: annual entries to guild/urban apprenticeship in (1500–1800), 330; apprenticeship as central thread of migration, 86; apprenticeship in, 1–2; apprenticeship in nation (1500–1800), 23–33; apprenticeship tribunals in incorporated towns and cities, 180–81; beyond London's system, 179–84; distribution of apprenticeships in, 35, 36; economic development, 19; estimating incidence of apprenticeship, 329–33; guild apprenticeship (1500–1800), 24; guild supervision of apprenticeship outside London, 179–80; literacy rates, 45, 370n51; nationwide legal framework for apprenticeships, 236–37; premium apprenticeships in (1711–1804), 34; premiums for apprenticeships by occupation in eighteenth century, 101; private



- England (*continued*)  
apprenticeships involving premiums, 333; rise and partial fall of apprenticeship in early modern, 20–23; role of guilds in apprenticeship in, 22–23; social origins of apprentices in, 339, 340–41; urban courts outside, 183–84; urban migration fields, 85
- English Civil War, 137
- English Stock, Stationers Company, 66
- Epstein, S. R.: on guilds in monitoring and enforcing apprenticeships, 8; primary function of guilds, 157; skills and knowledge transmission, 50
- Erickson, Amy: on families apprenticing daughters, 270; on female apprentices, 267; Gowing and, 265, 270–71
- Este, William, Clothworkers' Company, 160
- Europe, guild oversight, 180; urban courts in, 183–84
- European marriage pattern (EMP), 367n14
- Europe's economy, England's development in, 19
- Evans, Arise, apprenticeship ended by master, 149
- Evans, Hugh, master satisfaction, 149
- Exeter: apprenticeship, 39, 40; former London apprentices who later become citizens in their place of origin, 213; ordinances of guilds in analysis, 336
- family: apprenticeship, inheritance and, 273–5; background, apprentice migration and, 343–44, 344, 345; ties to master, 283–7, 292–4; resources, chances of becoming freeman, 203; training within, 94, 96–97; training outside, 94–96
- Farebrother, Charles, Brasbridge and, 382n4
- Farriers, London guild of, 54
- fees: apprenticeships, 247–48, 250; citizenship, 192–97, 195, 215–16, 261; enrolment, 171–72; London guild membership, 142–43, 185, 247–48; provincial guild apprenticeship registration, 249–50, 249. *See also* premiums
- financial investment, human capital, 45
- flexibility of apprenticeship, 134–36, 152–54; absent apprentices, 136–48; apprentices bettering themselves, 143–44; apprentices' persistence in Buckinghamshire, 144–45, 146; apprentices' persistence in London (1641), 144, 145; arrival of apprentices for training, 139–40; end of term rules, 142; experience varying between cities and trades, 143; reasons for leaving, 148–52; rural and urban apprenticeship comparison, 144–46; variation by occupation and guilds, 140, 141. *See* apprenticeship
- Foot, Edward, training patterns, 70, 71
- Footwear sector: premium apprenticeships by, 41, 41–42; workers serving premium apprenticeships (1710 and 1800), 42–43, 43
- Forman, Simon, 149, 381n53; on right to fair treatment, 149; service in Sarum, 120; ten-year contract including school, 126
- Forman, William, training patterns, 72
- Forrest, Frank: ejection by shoemaker master Dobson, 148; juvenilising of training, 125
- Forster, John, London Coachmakers' guild, 209
- founders, 71; London guild of, 54; premiums and charity funding for apprentices, 105
- Fox, Ebenezer, 297
- Fox, George, 293
- Framework Knitters, London guild of, 165
- France, 153, 184, 246; apprentices age in, 253; apprentices from, 245; contracts in, 11, 307; female apprentices, 265, 277; persistence in, 147
- freedom, 216–17; apprentices' origins and chances of becoming freemen in London, 202; apprentices' origins and chances of becoming freemen in towns/cities, 204; choice of master, 203, 206; fees for entry to, 195, 247–50; determinants of, 200–9; family resources, 203; outcome of apprenticeships, 191–200; ratio of new freemen by servitude to new apprentices in London guilds, 201; share of new freemen and citizens by apprenticeship, 198; share of new freemen by apprenticeship in towns/cities, 199. *See also* citizenship
- freemen, 66; guilds settling disputes, 163–64. *See also* freedom
- Fretwell, James: brother bound for seven years, 150; education of, 127
- fullers, 225
- Gale, Mary, apprentices, 272
- Garrard, Thomas, indenture of seafarer apprentice, 140
- Gateshead, Drapers' guild, 195
- Gay, Penelope, female apprentices, 272
- Gelderblom, Oscar, 307
- Gell, John, binding for son William, 178–79

- gender: access to apprenticeship, 272–73; rules excluding women, 233, cultural barrier, 264–73; female apprentices with premiums, 267; occupations, 273; trades of female apprentices, 269
- Gent, John: being discharged as a foreigner, 193; *Life*, 134; Midwinter as master, 134–35; permission from master Midwinter, 150–51
- gentlemen: bias in occupational entry by background, 99; birth order and apprenticeship, 274, 276; claims of, 92; father's identity as, 87; origins of premium apprentices (1712–17), 89; social mobility, 98–99; sons of, 89, 91–92; status of apprentice's fathers, 88, 340
- geography, social networks, 290–92; apprenticeship recruitment, 35–41, 79–87
- George, Bridget, female apprentices, 271
- Germany, 153, 246
- Gibbs, Thomas, serving a different master, 151
- Giggs, Samuel, apprentice to King, 180–81
- Gines, Richard, 285, 286; contract with uncle, 287; Munday and, 283
- Gines, Thomas, 287–88
- Girdlers, London guild of: ratio of new freemen by servitude to new apprentices in, 201; share of new freemen and citizens by apprenticeship in, 198
- Giustizia Vecchia, Venice, 183
- Gladwin, Edward, indentured apprentices, 60
- Glorious Revolution (1688), 137
- Gloucester: age of apprentices, 252; apprentice migration, 79, 80; apprenticeships, 25–27, 26, 32, 314; apprenticeship within extended families, 285; apprenticeship within nuclear family, 90; apprentices with information on entry to freedom/citizenship, 356; city fees for entry to freedom/citizenship, 195; distribution of training between masters, 55–56, 56; former London apprentices who later become citizens in, 213; occupational persistence for training outside family, 95; origins of apprentices in, 81, 85, 340–41; premiums and charity funding for apprentices, 105; record sources, 315; seven-year term, 254, 255; share of freeman taking apprentices, 55, 55; share of masters' sons apprenticed to own father, 94, 95; share of new freemen by apprenticeship, 199; training careers of masters, 53, 68, 69, 351
- Gloucestershire, charitable funding, 106
- Gloucester Society, 104
- glovers, 242–43; Bristol guild of, 54; Carlisle guild of, 235; female apprentices, 265, 270; guild fees of, 282; London guild of, 265; Shrewsbury guild of, 180
- Golding, Joseph, finding different master, 151
- goldsmiths, 225; apprenticeship disputes per annum, 161; London guild of, 159–60, 162, 193, 225, 234, 246, 388n17; ratio of new freemen by servitude to new apprentices in London guild, 201; share of new freemen and citizens by apprenticeship in London guild, 198
- Goodchild, Tom, Hogarth's *Industry and Idleness*, 118
- Goody, Esther, on monitored participation, 132
- Gowing, Laura: Erickson and, 265, 270–71; female apprentices, 272, 273
- Graham, George, 49, 52; apprentices of, 58; clock and instrument maker, 121
- Grainger, Richard, case of, 168
- Great Fire of 1666, 30, 247
- Great Plague, 148
- Great Twelve guilds of London, 64, 231; apprentices' persistence in, 141, 142
- Great Yarmouth: apprenticeship, 39; city fees for entry to freedom/citizenship, 195
- Greenwich, apprenticeship, 39
- Griffiths, Paul, on master's influence, 124
- Grimes, John, 163, 382–83n26
- grocer(s), 43, 71, 99, 117, 150, 280; London guild of, 92, 159, 179; apprenticeship disputes per annum, 161; terms of service (1800–1804), 257; premiums and charity funding for apprentices, 105; premiums for apprenticeships, 100
- Grooby, Anne, Ducey and, 271
- Guardians of the Poor, 391–92n23
- guild(s), 11, 13; discipline and, 158–64; distribution of training, 54; freemen, 372–73n39; frequency of sons staying in fathers', 288, 289; masterpieces and examinations, 165–66; masters' sons joining, 97; membership in, 189; ordinances, 335; ordinances in London, used in analysis, 338; ordinances in provincial, used in analysis, 336–37; social networks, 288–90; terms of service, 15; types of registered apprentices, 369n2; work of, 13. *See also* Bristol, London's guilds, Newcastle upon Tyne, Salisbury, Shrewsbury

442 INDEX

- guild apprenticeship: annual entries to, 26, 26–27; completion and survivorship, 27, 369n17; importance to London's workforce, 27, 28, 29; London, 20, 21; premiums for, 31; records of London, 311, 312–13; records of provincial, 314, 314; role of, in England, 21, 22–23; supervision outside London, 179–80; towns, 20, 21. *See also* London's guilds
- haberdasher(s), 126, 243; female apprentices, 268–71; London guild of, 25, 288
- Haggart, David, service ending with bankruptcy, 149
- Halley, Edmund, Greenwich Observatory, 58
- Hammond, John, Saunders and, 160–61
- Hanbury, Nicholas, equity case, 174
- Harding, Vanessa, People in Place project, 389n58
- Hardshaw, apprentices, 37
- Harris, Peter, dispute with Bagnall, 149–50
- Harryson, Joseph, Pynkenam and, 160
- Hart, William, 294; master's conduct, 124
- Headington, John, training patterns, 70, 71
- Health and Morals of Apprentices Act (1802), 230
- helier, 225
- Henderson, Robert, 294
- Henley, William, 71
- Henry VIII (King), 226
- Hiat, Thomas, on intensity of instruction, 116
- Hick, Samuel, dismissing Derby, 148
- Hilhouse, James Martin, apprentices of, 357
- Hindle, Steve, placements for pauper children, 244
- History of British Birds (Bewick), 79
- History of Quadrupeds (Bewick), 79
- Hoddy, Mrs., 106
- Hogarth, William, *Industry and Idleness*, 118, 118
- Holywell Parish, 106
- Hooke, Robert, 49
- Hoopers, Bristol guild of, 235. *See also* cooper(s)
- Horn, John, 71
- Horseley, Richard, training patterns, 70
- Houghton, John, 293
- House of Correction, 181
- Huddersfield, apprenticeship, 39, 40
- Hull: apprenticeship, 39; Cordwainers' guild, 235; Joiners' guild, 235; ordinances of guilds in analysis, 336–37; guild fees, 196, 249; Shipwrights' guild, 165
- Hulls, John, master pewterer, 115
- human capital: apprenticeship as focus of investment in, 45; apprenticeship gains in, 190; common measures of, 2; core model of, 7; differential changes in, 3, 367n11; England in early Industrial Revolution, 260, 308–9; formation through apprenticeship, 2, 4, 13, 49–53; gender and, 265–66, 273, 303; guilds and, 135–26, 189–90; importance of apprenticeship as investment in, 12; London's contribution to formation, 23–24; specific and general, in learning, 126–29; stock of, 21–22
- Humphries, Jane, on transaction costs for apprenticeship, 107
- Hutton, Samuel, leaving apprenticeship, 148
- Hutton, Thomas, juvenilising of training, 125
- Hutton, William: on learning as apprentice, 119; leaving apprenticeship, 148; rejected by masters as 'runaway prentice', 150
- indentures, *see* apprenticeship contract(s)
- industrialised economy, apprenticeship in modern, 111
- Industrial Revolution, 45, 300, 308; apprenticeship and, in eighteenth century, 33–45; apprentice migration and, 87; clock-making as rare craft, 49; economic growth and, 2–3; human capital and, 260; impact on apprenticeship, 48; production, 19–20; Second, 42; steam engine, 37, 38
- Industry, sector: apprentices following fathers, 93; origins of apprentices, 87, 88, 89, 340
- Industry and Idleness (Hogarth), 118, 118
- inheritance, guild membership and, 96
- innovation: apprenticeships, 303; technological change, 50. *See* technological change, innovations
- instruction: training vocabulary, 115. *See also* learning; training
- Ipswich: apprenticeship, 39, 40; former London apprentices who later become citizens in, 213; share of new freemen by apprenticeship, 199
- iron and steel manufacturing, 42–44, 47; workers serving premium apprenticeships (1710 and 1800), 43, 44
- ironmongers, 225; London guild of, 234
- James I (King), 232
- James II (King), 58
- Jews, bans on apprenticeship, 233, 306, 393n66
- joiner(s), 37, 42, 101, 233, 243; London guild of, 58, 372n25; Hull guild of, 235–36
- Jolliffe, John, director of Levant Company, 61
- Jones, Owen, 287

- Jones, Thomas, Phillips and, 171  
Joyce, Francis, finding different master, 151  
Joyce, Jane, Pluckrose and, 265  
justices of the peace: apprenticeship and, 181–83; powers and duties of, 181–82
- Kannigator, Emma, 286  
Kaplan, Steven; success in apprenticeship, 135  
Kerchever, Samuel, training patterns, 72  
King, Gregory, on gentry in population, 92  
King, William, apprentice Giggs, 180–81  
Kinge, William, Bellamy and, 243  
King's Lynn: apprenticeship, 39, 40; city fees for entry to freedom/citizenship, 195; former London apprentices who later become citizens in, 213  
Kingston upon Thames: apprenticeships, 26, 26–27; premium apprenticeships, 32  
kinship: apprenticeship within extended families, 284, 285; social networks, 283–88. *See also* family  
Kitchen, Seth, Barton and, 266
- labourer(s), 102; barriers to apprenticing, 225–6, 239, 242–43; bias in occupational entry by background, 87, 99; birth order and, 275; father's identity as, 87; origins of premium apprentices (1712–17), 89; social mobility, 98–99, 203–6, 343–45; status of apprentice's fathers, 84, 88, 89, 91, 341; under-used label for occupations of fathers, 91  
labour market, apprenticeship in English, 12–13  
labour mobility: apprenticeships as mechanism for, 76–77; migration and, 79–87; sectoral mobility, 87–94; urban occupational mobility, 94–97  
Lackington, James, 188; apprentice learning to read, 126; conversion to Methodism, 124; pursuit of opportunities, 217; shoemaker's apprentice, 375n48; travels after service as shoemaker, 215  
Lancashire: apprentices, 37; charitable funding, 106; premium apprentices, 40  
Lancaster, city fees for entry to freedom/citizenship, 195  
Langham, John, Barnardiston and, 179  
Laurence, John, 280  
Lawley, Thomas, Carew bound to, 276  
laws, 14, 222–31; adjustments of, 227–29; Health and Morals of Apprentices Act (1802), 230; Maintenance of the Navy Act (1562), 230; Poor Law, 222–23, 226–27, 230; protection of apprentices, 229–31; Thames Watermen Act (1603), 232; urban law and custom, 231–36; Vagabonds Act (1609), 386n119. *See also* rules for apprenticeship, Statute of Artificers  
Laxton, Thomas, Bell and, 142  
learning: academies, 129–31; acquiring skills, 131–33; apprentices, 131–33; externalities of apprenticeship contracts, 10–11; norms and culture in, 122–26; on shop floor, 114–22; specific and general human capital, 126–29; teaching and, 131–33; technical education, 129–31; training and, 112–14; training beyond the shop floor, 129–31. *See also* training  
Leeds, apprenticeship, 39  
Lee family of Godalming, butchers, 75  
legal disputes, contract resolution, 10  
Leicester, 11; apprenticeships, 26, 27, 39, 314 ; apprenticeship within extended families, 285; apprenticeship within nuclear family, 90; city fees for entry to freedom/citizenship, 195; female apprentices, 266; former London apprentices who later become citizens in, 213; migration to, 79–82; occupational persistence for training outside family, 95; origins of apprentices in, 81–2, 340–41; pauper apprentices, 244; premium apprenticeships, 32; premiums and charity funding for apprentices, 105; record sources, 315; share of new freemen by apprenticeship, 199  
Leicestershire, apprentices, 37  
Levant Company, 60; Craddock in, 61; Jolliffe as director, 61; Nicholets as director, 61  
Levellers, 155  
Lever, James, son James to Ludlow, 150  
life expectancy, skilled workers, 397n76  
lime-burner, 225  
Lincoln, 11; apprentice migration (1525–1800), 80, 81, 85; apprenticeships, 25, 26, 27, 33, 314; apprenticeship within extended families, 285; apprenticeship within nuclear family, 90; apprentices with information on entry to freedom/citizenship, 204, 356; city fees for entry to freedom/citizenship, 195; female apprentices, 266; former London apprentices who later become citizens in, 213; occupational persistence for training outside family, 95; origins of apprentices in, 81, 85, 87–88, 340–41; pauper apprentices, 244; premium apprenticeships, 32; record sources, 315; seven-year term, 254, 255; share of masters' sons apprenticed to own father, 94, 95, 96; share of new freemen by apprenticeship, 199

- Lincolnshire, duration of apprenticeship contracts, 256
- Lincolnshire Family History Society, 350
- linen-weaver, 225
- literacy: apprentices learning, 126–27, 234; basic, in England, 44–45, 370n51
- Liverpool, 11, 134; apprenticeship, 39, 40, 314; apprentice migration, 80, 85; apprenticeship within extended families, 285; apprenticeship within nuclear family, 90; city fees for entry to freedom/citizenship, 195; female apprentices, 266; occupational persistence for training outside family, 95; ordinances of guilds in analysis, 337; origins of apprentices in, 81, 85, 88, 340–41; pauper apprentices, 244; record sources, 315; seven-year term, 254
- London, 39, 40; age of apprentices, 250–53, 251; apprentice migration, 79, 80, 81, 82–84, 86–87; apprentices and freemen in, 349; apprenticeship in (1500–1800), 23–33; apprenticeship within extended families, 285; apprenticeship within nuclear family, 90; apprentices' persistence by guild, 141, 142; apprentices' persistence in, 137–38, 138; apprentices' presence with masters around time of binding, 139, 139; birth order and apprenticeship, 274; Chamberlain's Court of, 168; chamberlain's justice, 166–68; citizenship and guild apprentices, 29–30; city fees for entry to freedom/citizenship, 195; decline of guild apprenticeships, 31; entry to the freedom, 152, 202, 360–61; estimating number of apprentices in guilds (1500–1850), 317–27; apprenticeship system, 185–86; fees for apprenticeships, 247–48, 250; female apprentices, 267, 269; former apprentices active in their places of origin, 211; freemen masters in, 349; masters taking apprentices, 53, 55–56, 55, 56, 67, 69; occupational persistence for training outside family, 95; origins of apprentices, 89, 88, 89, 91, 340–41; orphans as apprentices, 78; premium apprenticeships, 31, 32, 33, 34, 35; rates of departure from apprenticeship, 147; records of guild apprenticeships, 311, 312–13; seven-year term in, 255; share of freemen's sons as apprentices, 97; share of masters' sons apprenticed to own father, 94, 95; share of new freemen and citizens by apprenticeship, 198; summary statistics, 358; training and wealth in, 65, 66. *See also* London's guilds; Lord Mayor's Court
- London's guilds: apprentices, 20–22, 21, 24, 323; counts for, outside the main dataset, 326–27; Court of Assistants, 54, 63, 159–60; credibility of estimates, 325–26; estimating number of apprentices in, (1500–1850), 317–27; freedom samples, 318–20, 320; importance of guild apprentices to work-force (1500–1820), 27, 28; liverymen, 64; members, 23; number of apprentices enrolled by, per decade, 324; ordinances of, in analysis, 338; orphan's duty, 320–21, 321; premiums and charity funding for apprentices, 105; records, 317–18, 374n35; sample coverage and apprentice totals, 319; share of apprentices becoming freemen, 326; supervision of apprenticeship outside of, 179–80; yeomanry, 62–63; yeomanry organisations within, 164
- Apothecaries, *see* apothecaries
- Bakers, 54, 159, 160, 163, 164, 166; apprenticeship disputes per annum, 161
- Barber Surgeons, 54, 155, 157–8, 234
- Blacksmiths, 105, 244
- Bowyers: ratio of new freemen by servitude to new apprentices in, 201; share of new freemen and citizens by apprenticeship in, 198
- Brewers, 64, 159, 193; apprenticeship disputes per annum, 161
- Broderers, 233
- Butchers, 194, 229
- Carpenters, 54, 144, 159, 163–64, 193, 250, 388n17
- Clockmakers, 165
- Clothworkers, *see* Clothworkers
- Coachmakers, 209; William Watson in, 40In31
- Coopers, 178, 247, 388n17; Lever's son to Mr. Ludlow of, 150
- Drapers, *see* drapers
- Farriers, 54
- Founders, 54; premiums and charity funding for apprentices, 105
- Framework Knitters, 165
- Girdlers: ratio of new freemen by servitude to new apprentices in, 201; share of new freemen and citizens by apprenticeship in, 198
- Goldsmiths, *see* goldsmiths
- Grocers, 92, 159, 179; apprenticeship disputes per annum, 161; premiums and charity funding for apprentices, 105
- Haberdashers, 25, 288
- Ironmongers, 234

- Mercers: ratio of new freemen by servitude to new apprentices in, 201; share of new freemen and citizens by apprenticeship in, 198
- Merchant Taylors, *see* Merchant Taylors
- Musicians: ratio of new freemen by servitude to new apprentices in, 201; share of new freemen and citizens by apprenticeship in, 198
- Pewterers, 54, 64, 159, 165, 166, 234; apprentices, 63, 68; apprenticeship disputes per annum, 161; ordinances, 373nn48–49, 388n17; training in, 115
- Pinmakers: gender of apprentices, 265
- Poulterers, 194
- Salters: ratio of new freemen by servitude to new apprentices in, 201; share of new freemen and citizens by apprenticeship in, 198
- Stationers, 62–63, 63, 64; marriages of apprentices, 208; premiums and charity funding for apprentices, 105; records, 66
- Tallow Chandlers, 54, 63–64; ratio of new freemen by servitude to new apprentices in, 201
- Tanners, 403n3
- Tapissers, 403n3
- Turners: premiums and charity funding for apprentices, 105; premiums for guild apprenticeships, 100
- Tylers and Bricklayers, 54, 194, 247, 388n17
- Weavers, 25, 166, 233, 244, 246
- Wheelwrights, 194
- London's Orphans' Court, 101
- Long, George, 294
- Longden, Henry, on moral guidance, 123
- Lord Keeper Bacon, 243
- Lord Mayor's Court, London, 156, 158, 164, 167, 169–78; 304; actions by apprentices in, 170, 170–73; apprenticeship bonds, 178–79; Blee accusation, 149; disputes between apprentices and masters, 114–15; Harris and Bagnall dispute, 149–50; indenture challenges, 397n65; recovering apprenticeship premiums, 173–78; share of premium returned by term served, 175
- Lowe, Roger, training as grocer, 117
- Lunsford, Thomas, 179
- Lyon, 147
- machinery and tool-making: premium apprenticeships in, 41, 42, 43, 44
- Madrid: apprenticeships, 46, 246, 253, 375n41; examinations, 383n34; training institutions, 130; urban courts, 183
- Maintenance of the Navy Act (1562), 230
- Mainz, apprenticeships, 46
- Malibar, Richard, Barwell placing sons, 275
- Malthus's insight, technology, 3–4
- Manby Smith, Charles, self-instruction, 128, 129
- Manchester, 124; apprenticeship, 38, 39, 329, 332
- Manufacturing sector, 20–22, 42–48, 88, 93, 300–303; workers serving premium apprenticeships (1710 and 1800), 43, 43–44
- Marchants Avizo (Browne), 120
- mariners, apprentices, 42, 73, 99, 130, 205, 230, 254
- marriage, European marriage pattern (EMP), 284, 367n14; and freedom, 190, 192, 207–12, 216; and citizenship, 232, 264–65
- Marshall, Alfred, 207; on apprenticeship and learning on the job, 117; influence of fairy tales, 207; on technical education, 131; on workforce of thinkers and labourers, 3
- Martindale, Adam, returning to school, 275
- masons, 42, 148, 225; contracted terms (1800–1804), 257, 258; pauper apprentices, 244; fees, 194
- Massachusetts Bay Company, Craddock as governor, 61
- masterpieces, 165–66, 180, 184
- masters: apprentices and freemen in London, 349; apprentices marrying into families of, 207–8; apprentices searching for, 292–95; children of, 94, 95, 96; choice influencing becoming freemen, 203; father and, 374n27; faults, 170, 175–77, 385n92; freemen masters in London, 349; geography, 290–92; learning from the best, 57–67; measuring times between, and apprentices, 282–83; models for apprentices finding, 280–81; reconstructing the training careers of, 53–57, 347–48, 350–51; role of, 206; sons joining guilds and claiming citizenship, 97; training of apprentices, 73–74. *See also* social networks
- Mayes, John, leaving after three years, 150
- Mechanical Institution, 128
- Mechanick Exercises (Moxon), 121
- Mechanics' Institutes, 130
- Medical College, 130
- mercers, 68, 98, 99, 101, 179, 198, 225; ratio of new freemen by servitude to new apprentices in London guild, 201; share of new freemen and citizens by apprenticeship in London guild, 198

446 INDEX

- merchants: 225; apprentices, 60–62, 92, 99, 105, 106, 117, 148–50, 174, 249, 271; apprentices' persistence in Bristol, 140, 141; Carlisle, 235, 236; bonds, 178–79; contracted terms (1800–1804), 257; freedom, 192; manuals, 120–21
- Merchant Taylors, London guild of, 159, 160, 163, 164, 179, 194, 235, 243, 288–89; apprentices, 25, 63; apprenticeship disputes per annum, 161; gender of apprentices, 265; Grimes as apprentice, 163, 382–83n26; guild, 64; Neale and Pavitt, 162; premiums and charity funding for apprentices, 105; York, guild of, 264
- Micheletto, Zucca, 296
- Midwinter, Edward, 134–35; permission to apprentice Gent, 150–51
- migration: apprentice (1525–1800), 80; apprentices, 343–44, 344, 345; betterment, 85; eighteenth century, 81, 84; circular, 209–16; English urban migration fields (1725–49), 85; London's apprentice migration field (1600–1800), 82–84; mobilising labour, 79–87; seventeenth century, 81–84, 86; sixteenth century, 83, 86. *See also* labour mobility
- Mill, Adiel, 286
- Mill, John Stuart, vision of sons following in trades of fathers, 75–76, 108
- millers, 225
- mill-wright, 225
- Mincer, Jacob, core model of human capital, 7
- Mitchell, David, silversmithing, 59
- Mitchell, Frobisham, 258
- Mokyr, Joel: on apprenticeship contracts, 7–8, 76, 157, 280; on importance of apprenticeship, 47; role of highly skilled artisans in England, 8, 308
- Montreal, apprenticeships, 11, 46, 372n12, 378n80, 385n99
- Morgan, John, Watt seeking instruction from, 121
- Morris, Richard, Merchant Taylors' Hall, 163
- Moss, Richard, endowments for apprenticeships, 103
- Mudge, Thomas, invention of lever escapement, 58
- Munday, Margaret, 283
- Munday, Robert, Gines and, 283
- Muscovy Company, Spurstowe as director, 61
- Musicians, London guild of: ratio of new freemen by servitude to new apprentices in, 201; share of new freemen and citizens by apprenticeship in, 198
- Napoleonic Wars, impact of, 35
- nationality: barrier in London, 232, 234; rules for apprenticeship, 245–47
- Neale, Charles, Pavitt and, 162
- Nest, Richard, dispute with master, 172
- Netherlands, 19, 147, 153, 184; apprentices from, 245; apprenticeships, 46; entry fees, 196; migrants into, 245, 246
- Newcastle upon Tyne: apprenticeship (1710 and 1795), 39; Barber Surgeons and Chandlers' guild, 180, 195; former London apprentices who later become citizens in their place of origin, 213; ordinances of guilds in analysis, 337
- Newman, John, apprentice Robinson and, 182
- Newton, Gill, Double Metaphone algorithm, 347, 350
- Nicholets, Anthony, director of Levant Company, 61
- Nine Years' War (1688–97), 137
- Nixon, Alderman, 106
- Norfolk, apprentices, 37
- norms, apprentices acquiring urban, 122–26; apprenticeship, 224, 237, 258; limits to apprenticeship, 263–78
- Norwich: apprenticeships, 26, 39, 40, 314; apprenticeship within extended families, 285; apprenticeship within nuclear family, 90; former London apprentices who later become citizens in, 213; guild rules in, 235–36, 242; migration field, 80, 81, 82; migration from, 85; occupational persistence for training outside family, 95; ordinances of guilds in analysis, 337; origins of apprentices, 88, 340–41; orphans as apprentices, 78; premium apprenticeships, 32; record sources, 315; seven-year term, 254, 255; share of masters' sons apprenticed to own father, 94, 95, 96
- Nottingham, 148, 150; apprenticeship, 39
- numeracy, apprentices learning, 126–27
- occupation(s): bias in entry by background, 99; premium apprenticeships by, 41, 41–42; premiums for apprenticeships by, 101; trades of female apprentices, 269
- occupational mobility, urban, 94–97
- Ogilvie, Sheilagh, on guilds as rent-seeking institutions, 136, 221; on gender barriers, 277
- Oglethorp, Martin, recall of apprentice, 148–49
- Onslow, Arthur, sons of, 92
- open access order, feature of modern developed societies, 5, 216, 221, 238, 260

- orphans, apprenticeship for, 78–79, 147–48, 212
- outcomes of apprenticeships, 13–14, 190–91, 216–17; city fees for entry to freedom or citizenship, 194–97, 195; determinants of freedom, 200–209; former apprentices active in places of origins, 210–11, 211; former London apprentices who later became citizens in place of origin, 212, 213; freedom, 191–200; gaining human capital, 190; origins of apprentices and chances of becoming freemen in London, 202, 203; origins of apprentices and chances of becoming freemen in provincial towns/cities, 204, 204–5; probability of apprentices becoming freemen, 205–7; ratio of new freemen by servitude to new apprentices in London guilds, 200, 201; returning home, 209–16; share of new freemen and citizens by apprenticeship in London, 197, 198; share of new freemen by apprenticeship in provincial towns/cities, 197–98, 199; time from apprenticeship to citizenship in hometown, 213–14, 214
- Oxford, 209, 276; age of apprentices, 252; apprenticeships, 25–27, 26, 39, 314; apprenticeship within extended families, 285; apprenticeship within nuclear family, 90; female apprentices, 266; migration fields, 25, 80, 81; occupational persistence for training outside family, 95; origins of apprentices in, 81, 87–88, 91, 340–41, 242–4; orphans as apprentices, 78; premium apprenticeships, 32, 100; premiums and charity funding for apprentices, 104, 105; record sources, 315; seven-year term, 254; share of freemen's sons as apprentices, 97
- Oxford Journal* (journal), 209
- Oxford University, 59, 92, 276; charity gifts, 104, 106
- Oxley, Joseph, 294; as journeyman clock-maker, 122
- Pallet, Richard, age of apprentices, 250
- Pantin, Samuel, Courtauld and, 246
- Paradise, John Glass, 258
- parents, searching for quality apprenticeships, 52–53. *See also* family
- Paris: apprenticeships, 46, 282; entry fees, 196; quotas, 205
- parishes: authority for placing paupers, 391–92n23; parish gentry, 92; role of, 12. *See also* Poor Law
- Parnell, Elizabeth, on son Edward's master, 182
- Parrot, Samuel, norms and values, 123
- patriarchy, apprenticeship and, 124–25
- patrimony, 96–97; term, 192; freedom via, 204, 325–26
- Paudevin, Jean, upholsterer, 58
- Pavitt, John, Neale and, 162
- Pearce, Anthony, apprentice of, 172
- Pelling, Margaret, on apprentices' and masters' stories, 175
- People in Place project, 389–90n58
- Pepys, Samuel, on manual for learning, 121
- Pett, Phineas, assistance to shipwrights, 119
- Petty, William, on teaching youths, 120
- Pewterers, London guild of, 54, 64, 159, 165, 166, 234; apprentices, 63, 68; apprenticeship disputes per annum, 161; ordinances, 373nn48–49, 388n17; training in, 115
- Peyton, Mainard, gentry pinmakers, 98, 99
- Pharmacopoeia, 60
- Phillips, Peter, Jones and, 171
- pinmakers, 98–99; London guild of, gender of apprentices, 265
- plasterer [plaisterer], 225; London guild of, 31; premiums and charity funding for apprentices, 105
- plough-wright, 225
- Pluckrose, Sarah, Joyce and, 265
- Plymouth, apprenticeship, 39
- poll tax record, 65
- Poole, William, Baron after death of, 143
- Poor Law, 12, 14, 15, 222–23, 226–27, 391–92n23; apprenticeships, 20, 57, 102–6, 145, 230–31, 250; female apprentices, 265, 272; implementation, 243–44; written contract, 392n41
- Portsmouth, apprenticeship, 39
- Poulney, Christopher, apprentice Clark, 181
- Poulterers, London guild of, 194
- Powel, Charles, 71
- premium apprenticeship(s): clusters of occupations, 41–42; England (1711–1804), 34, 35; estimates of workers serving, 42–44, 43; female apprentices and, 267–72; London's, 35; provincial towns and cities, 32; by sector, 41, 41; recovery of, 154–157, 172–183; sums paid for, 101–106, 150, 230, 258–60; use of, 10, 13, 31–34, 45, 57, 77, 91, 203, 244
- premodern apprenticeship, impression of, 2
- premodern economy, roles of apprenticeship in, 3–4, 302–9
- Preston, Thomas, apprentice for, 38
- provincial sample, summary statistics, 359
- Pynkenam, John, Harryson and, 160



- Quare, Daniel, apprentices of, 58
- Quakers, 123, 124, 295; bans on apprenticing, 236
- race, barriers to apprenticeship, 233–4, 238
- Rainhill, apprentices, 37
- Rappaport, Steve, placement of apprentices, 282
- religion, barriers to apprenticeship, 233, 236, 238. *See also* Jews, Quakers
- Revolutionary France, threat of, 144
- Rice, Roger, training patterns, 70, 71
- Rich, Sir Peter, on merchant's apprentices, 117
- Richardson, William, Trinity House School, 130
- right to work, occupation, 4, 25, 189–93, 216–17, 229, 236–37
- Robinson, Henry, Newman and, 182
- rough mason, 225
- Rowswell, William, apprentices, 60
- Royal Academy of San Fernando, Madrid, 130
- rules for apprenticeship: as barrier to access, 14–15, 102; age, 227, 230, 232–33, 250–53; England, 239–41, 260–62; fees, 247–48, 250; female apprentices, 265, 267–68; implementation, 142–3, 149, 241–47; London, 163, 165–66; 191–95, 231–35; nationality, 232, 234–35, 245–47; Poor Law, 243–44; provincial town, 235–36; 248, 249; race, 233–4, 238; religion, 233, 236, 238, 260; seven-year term, 253–60, 257, 299. *See also* laws, Statute of Artificers
- Rye, orphans as apprentices, 78
- Sala de Alcaldes de Casa y Corte (Hall of Mayors of House and Court), 184
- Salford, apprenticeship, 39, 40
- Salisbury: Butchers' guild, 235, 248, 249; guilds, 235; ordinances of guilds in analysis, 337; provincial guild apprenticeship registration fees, 248, 249; Shoemaker's guild, 165, 235
- Salter, George, 399n4
- Salters, London guild of: ratio of new freemen by servitude to new apprentices in, 201; share of new freemen and citizens by apprenticeship in, 198
- Sapwill, John, 294
- Sarah [dowager-duchess of Somerset], endowments for apprenticeships, 103
- Satia, John, Black apprentice to Attery, 233
- Saunders, John, Hammond and, 160–61
- sawyer, 225
- Scott, Benjamin, city chamberlain, 168
- Scott, Michael, on missing petitions, 169
- seafarers, apprentices' persistence in Bristol, 141. *See also* mariners
- Second Industrial Revolution, 42
- Selbie, William, Goldsmiths, 162
- service(s), sector: occupational sector of apprentices' fathers, 87, 88, 88; origins of premium apprentices (1712–17), 89; premium apprenticeships in, 41, 42; status or occupational sector of apprentices' fathers, 341
- seven-year term: English apprenticeships, 10, 14, 223–24, 227–29, 237, 253–61, 298–99, 307; growth of opposition to, 299; implementation of, 240–41
- Sheffield, apprenticeship, 39; Cutlers' guild, 235; fees, 196
- Sheldonian Theater, 59
- shingler, 225
- shoemakers, 41–42, 100, 215, 225, 235, 244, 256, 265; Carlisle guild, 165, 235; contracted terms (1800–1804), 257; Salisbury guild, 165, 235. *See also* Cordwainers
- Shrewsbury, 11, 192; apprenticeship, 25, 26, 39; apprenticeship within extended families, 285; apprenticeship within nuclear family, 90; apprentices' persistence in, 137–38, 138; apprentices' presence with masters around time of binding, 139, 139; freedom rates, 152; migration field, 80, 82; Glovers' guild, 180; occupational persistence for training outside family, 95; ordinances of guilds in analysis, 337; origins of apprentices in, 88, 89, 340–41; provincial guild apprenticeship registration fees, 249; rates of departure from apprenticeship, 147; record sources, 315; seven-year term, 254; urban and guild apprentices, 314; Weavers' guild, 180
- silversmithing, craft, 59–60, 155, 283
- slater, 225
- smith, 100, 225
- Smith, Adam: critique of guilds, 157; economic policies, 228; on skill acquisition, 113; on skill for apprentices, 120; view on apprenticeship, 6
- Smith, Alice, 106
- Smith, Evan, endowments for apprenticeships, 103
- Smith, Woolnoth, Bracebridge and, 244
- Snappe, Thomas, Goldsmiths, 162
- Snell, Keith: completed apprentices, 146, 380n33; new found flexibility in system, 146; on quality of apprenticeship, 145–46

- soapmakers, 99; apprentices' persistence in Bristol, 141; Bristol, 180, 249
- social mobility, 4, 13, 98–102, 108, 343–35; premodern societies, 77–78, 273, 282–83; rules opposing, 225–226
- social networks, 14, 279–95; apprenticeship within extended families, 284, 285; case of Reverend Dunton and son John, 279–80; geography, 290–92; kinship, 283–88; ties between masters and apprentices, 282–83, 295–96; models of apprentices finding masters, 280–81; occupation and guild, 288–90; searching for a master, 292–95
- Society of Genealogists, 315
- South, Dr., 106
- Southampton: apprenticeships, 26, 26, 126; premium apprenticeships, 32
- Spain, 117, 246, 371n12
- Spurstowe, Henry, director of Muscovy Company, 61
- Stamp Office, 315
- stamp tax, 35, 40; dataset, 398n15; premium on indenture, 100, 375n41; records, 93, 268, 315–16, 316, 369n3, 398n21; samples, 398n22
- Stationers, 286; apprentices, 63; London guild of, 62–63, 63, 64; marriages of apprentices, 208; premiums and charity funding for apprentices, 105; records, 66
- Statute of Artificers, 2, 8, 302, 260, 298, 309; abolition of, 147, 191; apprenticeship clauses, 191, 223–226, 298; case law challenging, 228–29; custom of London, 231; female apprentices, 267; force of, 96–97, 309; implementation, 97, 223, 241–42, 244; institutional structure of, 191, 217; legal framework, 2, 181–82, 227–29; passage of, 12, 29, 92, 224; Poor Law, 226–27; right to work, 14, 135, 189, 200, 217, 237; term requirements, 96, 143, 200, 254–56, 258; urban norms, 237. *See also* laws
- steam engines, apprenticeship by county and, 37, 38
- Steer, Bartholomew, on apprentices and master, 125
- Stennett, Thomas, training patterns, 72, 73
- St Mary Woolnoth, 244
- Stout, William, training as grocer, 117
- Sunderland, apprenticeship, 39
- surgeons, 37, 42, 101, 116, 119, 128, 182, contracted terms (1800–1804), 257, 258. *See also* Barber Surgeons
- Swansea, city fees for entry to freedom/citizenship, 195
- tailors, 1, 42–43, 68, 84–85, 101, 118–20, 149, 169, 225, 244, 249, 309; contracted terms (1800–1804), 256, 257; female, 265, 268–71
- tallow chandlers, 43, 68; London guild of, 54, 63–64; ratio of new freemen by servitude to new apprentices in London guild, 201
- Tanners, London guild of, 403n3
- Tapissers, London guild of, 403n3
- taxation, 131; tax records, 65; wartime, 137. *See also* stamp tax
- Taylor, John, Lackington as assistant, 215
- Technical Instruction Act, 130
- technological change, innovations, 2–3, 49–53, 57–58, 74, 305–8
- Temple Church reredos, Emmett, 59
- Tewkesbury, 243
- textiles, 246, 272; premium apprenticeships by, 41, 42; workers serving premium apprenticeships (1710 and 1800), 43, 44
- Thaker, Peter, Wenman as apprentice, 214
- Thames Watermen Act (1603), 232
- thatcher, 225
- Thomas, Arthur, 163
- Thompson, George, 71
- tilers, 98, 99, 225
- Tolzey Court, Bristol, 71, 180, 181
- Tompion, Thomas, 51, 52, 66; apprentices of, 57–58; clock case by van Meeckeren, 58; clock-making, 49–50; leading innovator, 121; portrait, 50
- Toplis, William, apprentices in factory, 57
- Towneley, Richard, escapement for clocks, 49
- trades, Mill's vision on sons following fathers, 75–76; provincial, birth order and apprenticeship, 274
- training, 53, 111–33; beyond the shop floor, 129–31; careers, 12; character of, 69, 71; diffusion of, 37; distribution of, 35, 36, 51–52; distribution of, between masters, 56, 63; formal technical education, 111; guilds and apprenticeship in, 22–23, 155–66; interpretation of, 304–5; learning and, 112–14, 131–33; listening to master, 132–33; occupational persistence for, outside family, 95; patterns in Boston, 71, 72, 73; patterns in Bristol, 69, 70, 71; price of apprentice, 99–102; self-instruction, 127–29; set-up costs, 106–7, 108; skill and industry, 46; specialisation and segregation by gender, 268, 270; success and concentration of, 53–57; timing of, 67–73, 74; value of investment in, 13; vocabulary of, 115. *See also* learning

450 INDEX

- transport, premium apprenticeships by, 41, 42
- Trenchfield, Caleb, Ellis and, 175
- Trinity College, Cambridge, 279
- Trinity House School, 130
- tucker, 225
- Turin's Consolato, 185
- turners, 180, 225; premiums and charity funding for apprentices, 105; premiums for guild apprenticeships, 100; turner of ore, 225
- tyle-maker, 225
- Tylers and Bricklayers, London guild of: 54, 194, 247, 388n17; ordinances, 388n17; Bristol guild, 54
- Unwin, George, on early decline of the guilds, 30
- urban courts: enforcing contracts, 306–7; outside England, 183–84; work of, 13
- urban law and custom, apprentices, 231–36
- urban occupational mobility, 94–97
- Vagabonds Act (1609), 386n119
- van der Beek, Karine, 44, 46, 332
- van Huisen, Francis, cabinetmaker, 58
- van Lottum, Jelle, on migrants into Netherlands, 245
- van Meeckeren, Jan, workshop by, 58
- Venice, apprenticeships, 46, 183, 246, 253, 375n41
- Vienna, 147; apprenticeships, 46, 246, 380n26
- vintners, 242, 293; London guild of, 156; premiums and charity funding for apprentices, 105
- vocational training, apprenticeships, 4, 45, 111, 130–133, 299–300, 402n12
- wages, apprenticeships, 7, 9–10, 100, 119, 261, 303–4, 368n37
- Wales, 12; distribution of apprenticeships in, 35, 36; migration from, 245
- walker, 225
- Walker, Humfrey, 164
- Wall, Dr., 106
- Wallingford parish, 106
- Wallon, Thomas, on technical training, 116
- Walmesley, John: apprentice of Hulls, 115; Bragg and, 176
- Warrington, apprenticeship, 39
- Watson, William, Coachmakers' guild apprentices to, 40In31
- Watt, James: advancing himself, 121; advice to youths seeking career as civil engineer, 119
- wealth, 31, 57, 77, 276–77; barriers based on, 223–226, 237–39, 241–45, 252, 260–61; migration fields, 84, 88; and training, London, 65, 66, 73–74, 205–6. *See also* social mobility
- weavers, 42, 101, 150, 169, 225, 228, 242: London guild of, 25, 166, 233, 244, 246; Bristol guild of, 235; contracted terms (1800–1804), 257, 258; female, 265, 269, 270–71; Shrewsbury guild of, 180
- Webb, Edward, 71, 294
- Weber, Max, on oath-bound community of city, 192
- Wells, John, Clothworkers' Company, 160
- Wenman, Thomas, freedom in Drapers guild, 214
- Wharfe, Edward, training patterns, 72, 73
- Wheatcroft, Leonard, 293; Bangs and, 256
- wheelwrights, 225; London guild of, 194
- Whetstone, Charles, self-instruction, 128
- Whittington, Dick, ascension to fortune and success, 188
- Wilkenson, Thomas, Clothworkers, 162
- William III, 58
- Wiltshire, duration of apprenticeship contracts, 256
- Windsor Castle, Dutchess of York, 58
- Withington, Phil, apprenticeship as institution, 191
- Wolverhampton, apprenticeship, 39
- woollen weaver, 225
- Worcester: apprenticeship, 39; ordinances of guilds in analysis, 337
- workforce, 93, 203; apprenticeship share of, 19, 21, 28, 29–30, 45, 51; barriers to entry to, 221–38; 253, 261; spread of knowledge, skills and technique, 51–56, 131, 217
- Workshop, apprentices in, 57
- Wright, Thomas: release from his master, 182; self-instruction, 129
- Yarmouth, apprenticeship, 39, 40
- yeomen, 66, 84, 88, 275, 344, 356
- York: apprenticeship, 39; female apprentices, 265; former London apprentices who later become citizens in their place of origin, 213; share of new freemen by apprenticeship, 198, 199