Printing and the Universities

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In 1691, an Oxford printer completed an edition of a medieval Greek chronicle, covering the history of the world from Adam until 1000 CE, based upon an imperfect Bodleian manuscript. The venture was supported by the 'delegates', a committee of university scholars who oversaw local printing, and it signalled the existence of something resembling a 'university press', an operation maintained by an academic institution for the production and sale of books to advance knowledge and serve educational needs, above the fray of polemic and 'cheap print'. What makes it interesting is the saga surrounding the completion of such a challenging task. It had been chosen for printing in 1633, following the acquisition of Greek type, only for the printer to renege upon his side of an agreement, despite being authorised to print more profitable books in order to generate the necessary funds. In 1660, the university pursued a different strategy, providing £40 as well as supplies of paper, only to encounter difficulties in finding someone to complete the editing, thereby ensuring that the project was delayed for a further three decades.[1] The story of the Malalas chronicle highlights the ambitions and challenges with which this chapter is concerned, in terms of the development of 'learned' printing at the universities of Oxford and Cambridge. This is crucial to any meaningful history of the book, because these were the only towns outside London where publishing was permitted and practiced consistently before the early eighteenth century (although printing certainly took place in York, Newcastle and St Albans, as Rachel Stenner's chapter in the present volume explores), and because such printing was crucial to

[1] Harry Carter, *A History of the Oxford University Press* (Oxford: Oxford University Press, 1975), 30, 32, 43, 51, 85, 226-7.

the transformation of the English book trade from a European backwater into a centre of scholarly excellence.

This chapter narrates the story of printing in Oxford and Cambridge, as revealed by published works and archival evidence. This manifestly involved towering achievements, from the Cambridge folio Bible of 1629 to editions of Bede, Euripides, and St Cyprian, as well as the massive *Synodikon* (1672). By 1700 it was possible to print in Greek, Latin, Hebrew, and Arabic, as well as Anglo-Saxon, Runic, Welsh, and Coptic, on the finest paper and with exquisite engravings, like those produced for Robert Morison's *Plantarum* (1672). Titles ranged across the disciplines, including divinity, history, and law, as well as classics, music, natural history, and medicine, including editions of priceless manuscripts, and their production illuminates financial, logistical, and administrative dimensions of early modern printing. Wills and inventories permit glimpses inside print shops, in terms of equipment and stock. In 1588, Thomas Thomas's Cambridge premises contained 'letters' alongside cases, chases, and stools, as well as a press and a washing trough, gallies, frames, and factotums, or 'blank' printers' ornament, into which letters could be inserted. In 1668, John Field's Cambridge 'printing house' contained 'letters… of all sorts', weighing 14,236lb and valued at 5*d*. per pound, as well as 324 reams of the Bible in quarto (£291 12*s*.), and 132 reams of Lily's grammar (10*s*. per ream). His 'warehouse' contained dictionaries, Bibles, psalms, liturgies, and Aesop's fables, alongside supplies of 'crown paper', both 'fine' and 'coarse'.[2] University archives document the patents granted to specific printers, as well as business

[2] George J. Gray and William Mortlock Palmer, *Abstracts from the Wills and Testamentary Documents of Printers* (London: Bibliographical Society, 1915), 64-71; David McKitterick, 'John Field in 1668: the affairs of a university printer', *Transactions of the Cambridge Bibliographical Society* 9, no. 5 (1990), 497-516, at pp. 509-11.

correspondence, legal wranglings, and disputes over prices and trading practices. They reveal dealings with suppliers, distributors, and booksellers, as well as the costs involved in producing specific books, the prices at which they were marketed, and the levels of stock that went unsold.

Such evidence indicates that the early modern period witnessed novel ideas about how to foster learned printing, and decisive steps towards realising such goals, but also experimentation and slow progress, as scholars and printers confronted the financial, logistical, and political constraints under which their universities operated. Indeed, since university printing can only be understood within the wider political and economic context, this chapter suggests that its history is integral -- rather than peripheral -- to the history of the book in early modern England. It demonstrates how different branches of the book trade interacted, and how circumstances sometimes incentivised the allocation of resources to topical, polemical, and marketable material, at the expense of scholarly endeavours. Finally, in a context where many aspects of the print trade remain shrouded in mystery, the extraordinary archives of Oxford and Cambridge repeatedly shed vital light upon the mechanics of printing and publishing, bringing the operational dimensions of print shops sharply into focus.

I

For much of the early modern period scholars had only a limited role in managing the work of printers who were attached to their institutions. These men and women were privileged tradesmen rather than employees; their presses were private businesses, in which the universities had no financial stake, and contemporaries made only gradual steps towards conceptualising a ‘learned press’, with meaningful oversight and printers who were

incentivised to venture beyond marketable texts, produced by negotiation with individual authors. In Oxford, where printing first began in the late 1470s, the idea of privileged printing emerged in the 1510s, although publishing only began in earnest when Joseph Barnes became printer to the university in the 1580s. In Cambridge, loans were made to John Siberch in the 1520s, and by 1534 the university possessed a charter sanctioning the production of 'omnimodos libros'. However, while Remigius Guidon arrived from Strasbourg to establish a press in the 1550s, there too printing only became established in the 1580s.[3] Indeed, even when the 1586 Star Chamber decree entitled each university to operate a single press, doubts remained about the legality of scholarly involvement. Working through these issues, and developing more meaningful visions of what a 'learned press' might look like, took the next fifty years.

In Cambridge, the slow pace of change highlighted the risk of privileged printers clashing with both the government and the Stationers' Company, the privileges of which made scholars wary. Thomas Thomas (*d.*1588) was left to pursue his own publishing instincts, as well as profit, but his business model -- printing in English for non-scholarly audiences -- provoked the Stationers to seize his equipment in 1583, while Bishop Aylmer grumbled about him being 'ignorant', about 'the excessive number of printing presses', and about the risk that operators in 'secret corners' would produce 'things forbidden'. The university, which considered him to be 'godly' and 'honest', complained about his treatment, worried about the 'utter overthrow' of printing in Cambridge, and insisted that he would not be allowed to print 'things prohibited'. However, while invoking its institutional privileges

[3] Benjamin Pohl and Leah Tether, 'Remigius Guidon, Cambridge's old paper mill and the beginnings of the Cambridge University Press, c.1550-1559', *Transactions of the Cambridge Bibliographical Society* 15, no. 2 (2013), 177-217.

for ‘the setting forth of many good and profitable books’, it ducked the issue of how these related to the Stationers’ privileges. Meanwhile, Thomas’s inclination towards puritanism provoked Archbishop Whitgift to complain about ‘factious’ books, and here too there was a lack of clarity over whether authority to supervise his work lay with the episcopal or university authorities.[4] An agreement was struck with Thomas in 1586, to prevent seditious printing and control prices, but while the university recognised the need for oversight, it took no financial responsibility.

This lack of legal and regulatory clarity was addressed only gradually. Thomas’s successors continued to focus upon marketable -- and controversial -- texts, and agreements with the Stationers’ Company were imperilled by John Legate, who challenged their monopolies regarding Bibles, psalters and school grammars. However, the fact that Legate was backed by the vice chancellor indicates developing support for university printing. Cambridge breached regulations by appointing a second printer (1606); Legate was given first refusal on books by local authors (1622); and copyright was decreed to reside with his office rather than his private business. Moreover, Legate’s successor, Thomas Buck, was a scholar, who became a university official, and this institutionalisation of printing was probably crucial as matters came to a head politically. Legal wrangling over the printing of schoolbooks ended in defeat, and in 1623 a Privy Council ruling produced an uneasy compromise -- involving the ‘comprinting’ of privileged books -- that was honoured in the breach. However, this dispute was bankrolled by the university, with backing from the chancellor, the duke of Buckingham, whose support signalled official recognition. In 1625,

[4] John Morris, ‘Restrictive practices in the Elizabethan book trade’, *Transactions of the Cambridge Bibliographical Society* 4, no. 4 (1967), 276-90, at pp. 278, 281-2, 284, 288.

royal protection was offered against the sale of pirated editions from the Continent, and in 1629 Cambridge was granted qualified permission to print certain privileged texts.[5]

Nevertheless, progress remained slow. Subsequent years witnessed greater coordination between the university's two main printers, Thomas Buck and Roger Daniel, the latter of whom was convinced that scholarly printing would bring honour to the university. Building upon notable successes -- like Bishop Davenant's commentary on Colossians (1627) -- efforts were made to print in Hebrew and Greek, to obtain printable manuscripts, and to acquire Oriental type. By the 1630s the university printers had no fewer than six presses, which were capable of producing books like Thomas Fuller's *Historie of the Holy Warre* (1639), and the New Testament in Greek and Latin (1642). Nevertheless, it is hard to discern a meaningful 'vision' regarding learned printing. The lack of type stymied plans for an Anglo-Saxon edition of the psalms, and some scholarly printing -- like Nathaniel Carpenter's *Geography Delineated* (1625) -- was organised privately. Printers also remained preoccupied by popular (and privileged) works, and during the 1630s Buck effectively became a trade printer for a London bookseller, Edmund Weaver, and while this involved Ovid, Virgil, and Cicero, it more obviously meant thousands of almanacs.

By comparison, Oxford demonstrated clearer ambitions regarding learned printing, which eventually crystallised into the Laudian project. Lacking a formal charter, a request -- the 'supplicatio' -- was made to establish 'a printing office' (1584), citing the existence of continental university presses, the presence of men skilled in 'languages and liberal arts', and manuscripts 'hidden away', 'foully beset by dust and rubbish'. The aim was for Joseph Barnes to print texts 'not now covered by privileges', as recommended by 'men of learning',

[5] William M. Baillie, 'The printing of privileged books at Cambridge, 1631-1634', *Transactions of the Cambridge Bibliographical Society* 5, no. 3 (1971), 155-66.

and to ensure that even remote corners of Britain were 'watered' with 'pure streams of improved literature', rather than with 'frivolous trifles written in English'.[6] At this stage, however, the reality was more prosaic. The university envisaged getting privileges for specific books, rather than a more general patent, and restricted its financial commitment to a loan of £100. Barnes and his successors certainly printed scholarly works, from editions in Greek and Latin to Burton's *Anatomy of Melancholy* and Heylyn's *Microcosmus* (both 1621). John Lichfield became a university official. Nevertheless, such men remained private traders, 'printers to the famous university', and as Barnes struggled to make a profit it was recognised that he would need to publish 'saleable' books if he was to 'enterprise' scholarly printing. Inauspiciously, the relationship between two of his successors – Lichfield and William Turner – broke down irrevocably in the 1620s.[7]

Progress became more rapid following the appointment of William Laud as chancellor (1630). A general patent -- for three printers, each with two presses -- was awarded in 1632, protecting Oxford editions for up to twenty-one years, and the new university charter envisaged printers having access to the market for privileged books. Laud hoped that one of these men would be competent in Greek, that 'excellent manuscripts' might be published 'in time', and that steps would to be taken against 'grasping' and 'mechanical artificers', who were 'concerned… with their own profit to the detriment of quality in their work'. He appointed 'delegates' to oversee the press, and envisaged creating a university post of 'architypographus' – a scholar-cum-press manager – who would be 'well-instructed in Greek and Latin literature and expert in matters philological', and who would 'supervise

[6] Carter, *History*, 19-20.

[7] John Johnson and Strickland Gibson, *Print and Privilege at Oxford to the year 1700* (Oxford: Clarendon Press, 1946), 8.

printing operations' and ensure that printing equipment was 'most choice'.[8] Laud also recognised that a learned press would need money, and hypothecated surplus funds from the building of the 'schools' quadrangle, while also nurturing plans to utilise Greek type that had been donated by Sir Henry Savile in 1619, and which lay idle until being loaned to Cambridge in 1629. He also acquired Hebrew and Arabic type from Leiden (1637). Thus, while Laud remained cautious -- advising the university to let its privileges 'gather strength quietly', and to avoid antagonising the Stationers' Company -- his plans were far-sighted.[9]

Unfortunately, Laud's project could not feasibly come to fruition before the civil wars. The delegates were inactive, funds failed to materialise, and the opportunity did not arose to appoint an architypographus, even if someone could have been found with the requisite learning and technical prowess. The Laudian era certainly witnessed notable triumphs, such as the epistles of Clement I in Greek and Latin (1633), but it proved hard to break away from controversial literature. Laud reacted badly to the idea of reprinting works by Calvinist theologians like William Ames and Festus Hommius, but effected the publication of William Page's *Treatise or Justification of Bowing* (1631), against the wishes of Archbishop Abbot. Moreover, William Turner's failure to produce his folio edition of Malalas -- using 'good sufficient paper' and 'the great primer Greek letter', to be sold at prices set by the university -- exposed the weakness of the business model. Turner was incentivized by being allowed to print three almanacs per year for seven years, but was also

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[8] Johnson and Gibson, *Print and Privilege*, 10-11; Andrew Hegarty, 'The university and the press, 1584-1780', in Ian Gadd, ed., *The History of Oxford University Press: Volume I: Beginnings to 1780* (Oxford: Oxford University Press, 2013), 158-90, at pp. 167-8; Carter, *History*, 31.

[9] Johnson and Gibson, *Print and Privilege*, 12.

expected to provide any ‘new letter to supply that which is worn deficient’, and to supply Arabic type. Turner’s non-performance provoked accusations of ‘peevishness’ and ‘sottishness’, but it probably involved a hard-headed calculation about the economic risk and the danger of enraging the Stationers’ Company.[10]

II

Historians continue to debate whether Laud, in claiming that Oxford was ‘upon a very good way towards the setting up of a learned press’, exaggerated his achievements, but the arrested development of university printing can by demonstrated by examining the limited ways in which meaningful influence was exerted over privileged printers. Here, of course, it is impossible to ignore the disruptive effect of the civil wars and revolution, although paradoxically it might also be true that the mid-seventeenth century was a period of progress, rather than of stagnation.[11]

First, university engagement with printers tended to be restricted to non-scholarly activities, albeit in ways that shed valuable light upon the wider history of print culture, not least in terms of bread and butter business that kept presses going. Considerable evidence survives regarding job printing, and the everyday business of producing administrative texts, from library labels and bookplates to ‘quaestiones’ for scholarly disputations, as well as alehouse licenses and vagrancy orders, and notices that were ‘stuck up in all refectories’ and

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[10] Johnson and Gibson, *Print and Privilege*, 13-14.

[11] Falconer Madan, *Oxford Books* (3 vols, Oxford: Clarendon Press, 1895-1931), iii. 456.

‘on every corner and every inn door’.[12] Here, university accounts reveal the economics of ephemera, as well as of the petitioning and lobbying undertaken by Oxford in the late 1640s. In 1647, Leonard Lichfield received £14 14*s*. for producing 1,000 copies of the *Reasons* issued by the university (rejecting demands that scholars should accept recent church reform), and in 1649 Henry Hall was paid £3 12*s*. 6*d*. for 250 copies of the *Answer of the Chancellor* to a petition by Oxford’s civic authorities, for distribution amongst MPs.[13]

Equally instructive are the collections of verses with which scholars marked notable royal occasions, where evidence abounds about printing costs and publication processes. With *Horti Carolini* -- Oxford’s effort to mark the birth of Prince Henry in 1640 -- Leonard Lichfield received £5 10*s*. to print fifty copies on large Dutch paper and 128 ‘ordinary’ copies. Particularly intriguing, however, is evidence about the mechanics and costs of presentation copies, since university verses were invariably ‘delivered at court’. With *Horti Carolini*, thirty-eight copies were bound -- thirty in vellum, six in satin and two in velvet -- at a cost of £4 6*s*., not including the cost of ribbon and satin (£2 16*s*.), and when 176 copies were sent to Lambeth the man who carried them incurred expenses of £4 18*s*. Elsewhere, payments were recorded to printers, binders, and correctors, to Mrs More of Cambridge ‘for working the strings for the book which was given to the king’ (6*s*. 8*d*.), and to ‘two maids

[12] Martyn Ould, ‘Ephemera and frequently reprinted works’, in Gadd, ed., *History*, 293-307, at p. 295.

[13] Madan, *Oxford Books*, ii. 481-2, iii. 463.

that sat up one night to help her to work' (2*s*.). Occasionally, expenses were recorded for 'pins to pin up the verses', and even for 'perfuming' certain copies.[14]

Such activities reflected awareness that, rather than merely promoting scholarship, universities needed to engage with political elites and local communities, and to deal with extraordinary as well as everyday affairs. The danger, of course, was that learned printing was eclipsed, most obviously during the civil wars. In Cambridge, Roger Daniel began printing royalist texts 'by His Majesties special command', not least Henry Ferne's *Resolving of Conscience*, despite pressure -- and occasional imprisonment -- by Parliament, which suspected the complicity of the vice chancellor, Richard Holdsworth. On one occasion, Oliver Cromwell seized copies of a tract by Lionel Gatford as they were being printed. Subsequently, Daniel's presses were co-opted by parliamentarian commanders like the earl of Manchester and Sir Thomas Fairfax, and it is noteworthy that in the 1650s the university appointed a printer -- John Field -- closely associated with parliamentarian and Interregnum regimes, and with propaganda. To the extent that Field printed other material -- notably Bibles -- he followed commercial imperatives, and courted controversy with inferior quality workmanship. Political pressures were even more acute in Oxford, and the university received repeated commands to 'publish' and 'disperse' proclamations and declarations from the king's 'paper war' with Parliament, even before the town became the king's headquarters. However, while royalists bankrolled vast quantities of polemic, popular verse, and political news, issued orders regarding specific tracts, and nominated a new printer (Henry Hall), some propaganda was also funded by the university. Leonard Lichfield sometimes styled himself

[14] Madan, *Oxford Books*, ii. 144, iii. 457; J. C. T. Oates, 'Cambridge books of congratulatory verses 1603-1640 and their binders', *Transactions of the Cambridge Bibliographical Society* 1, no. 5 (1953), 395-421.

‘printer to the university’ on royalist texts, and during the period when Hall was paid £28 for ‘printing books for the university’ (1642-3) he worked exclusively on propaganda, including *Mercurius Aulicus* and tracts by the ‘water poet’, John Taylor.[15]

However, tempting as it might be to conclude that learned printing was abandoned during the revolutionary decades, other evidence points towards greater scholarly activity. In part, this involved attempts to ensure effective licensing, an area where oversight may have been patchy in earlier years. In Cambridge, the authorities searched for particularly offensive texts, like a quasi-republican tract by David Paraeus, and then licensed David Owen’s *Anti-Paraeus* (1622). In Oxford, authors occasionally sought an *imprimatur* from the vice chancellor, who probably relied upon advice from other scholars, although both the university and national officials worried that printers like Turner were producing unauthorized puritan pamphlets. However, while Laudian injunctions -- as well as the 1637 Star Chamber decree -- strove to impose order, licensing in Oxford may only have been tightened after 1644, when the professors of divinity, medicine, and civil law were ordered to join the vice chancellor in scrutinising new books, and after printers were subjected to the authority of the parliamentarian visitation of the university (October 1646). Licensing then became more regular -- or more visible -- following the appointment of a new delegacy (1653), and although at least some decisions were taken by Oliver Cromwell and the Council of State, the university certainly suppressed atheistical books like Francis Osborne’s *Advice to a Son* (1656). This trend was also evident in Cambridge, where the later 1650s witnessed an attempt to create a register of approved works.

Enhanced regulation, combined with official pressure to move away from polemic, helped to ensure the publication of more learned works, and while some of this was organized

[15] Madan, *Oxford Books*, ii. 293, 362, 371.

privately -- William Somner's Anglo-Saxon *Dictionarum* was printed for the author by subscription (1659) -- both universities became more active in supporting scholarship. Cambridge printers produced works like Arthur Jackson's three-volume biblical commentary, and a folio Bible authorized by the vice chancellor, John Worthington (1658). In Oxford, the fire of October 1644 meant that some projects -- like Archbishop Ussher's *Epistles* -- needed to be re-done, but it did little to prevent the appearance of works in Greek and Latin (including Longinus in 1644), technically demanding mathematical works by John Wallis, and Edward Pococke's Hebrew and Arabic editions, including *Porta Mosis* by Maimonides (1655). Some such projects -- the annals of Eutychius, and an Arabic edition of Grotius's *De Veritate Religionis* -- were financed by benefactors, like John Selden and Robert Boyle, but also reflected the zeal of Gerard Langbaine, keeper of the university archives, who oversaw the acquisition of Hebrew, Arabic, and Anglo-Saxon type, liaised with donors, and monitored formal agreements with scholars and printers.

III

If Langbaine demonstrates how learned printing moved from being a 'project' to a reality, then the second half of the seventeenth century indicates that this process involved considerable experimentation, as officials grappled with challenges regarding facilities, processes, and finances, the latter of which proved to be particularly intractable.

The most visible but least significant sign of change involved the development of centralized facilities, where both universities appeared to make considerable progress. Cambridge developed a new printing house near St Catherine's College, with six presses, while in Oxford the old congregation house became the 'domus typographica' -- a store for university-owned type (1652). Eventually, the university built the Sheldonian Theatre, the

basement of which was used for printing from 1669 onwards, after £600 was spent on new facilities. The theatre came to symbolize Oxford printing, its image appearing prominently on numerous title pages, although in truth the premises were not fit for purpose. Such facilities, moreover, were only as impressive as the uses to which they were put.

Key here was a financial conundrum: scholarly printing was expensive, and learned works had a limited audience, and yet they were difficult to subsidize with the proceeds from more profitable texts, because the Stationers' Company (and its 'English Stock' company) held cherished privileges. Thus, in the absence of university funds the solution that emerged in the 1630s -- as university privileges became established -- involved 'covenants of forbearance', whereby university printers refrained from printing privileged texts (Bibles, prayer books, psalters, grammars and schoolbooks, as well as almanacs) in return for £200 *per annum*. Such agreements, negotiated individually by both universities, represented a pragmatic solution, to avoid expensive litigation, the seizure of books and equipment, and piracy, and they generated revenue with which to fund learned printing. As Laud noted, 'it will be more beneficial to the university for the advance of a learned press to receive £200 a year, than to print grammars and almanacs'.[16]

Like any pragmatic solution, covenants were sub-optimal. As independent traders, printers in Oxford and Cambridge did not welcome restrictions upon their activities, and in the late 1650s Leonard Lichfield junior argued that such deals hampered printing that might bring 'honour and credit' to his university.[17] More troubling was the fact that payments dried up in the 1640s; Samuel Fell (dean of Christ Church) recognized that 'the Stationers will evade, if possibly they can', and by the early 1650s Oxford claimed to be owed £1,600. Legal

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[16] Ian Gadd, 'The press and the London book trade', in Gadd, ed., *History*, 569-99, at p. 582.

[17] Jason Peacey, 'Printers to the university, 1584-1658', in Gadd, ed., *History*, 51-77, at p. 76.

action was considered, and Langbaine worked hard to secure the arrears, which could ‘bear the charges of publishing very many ancient classical authors in most of the learned tongues’. Ultimately, Oxford retaliated by permitting its printers to produce Bibles, grammars and almanacs -- ‘at their own cost and… for their own profit’ -- until matters were resolved.[18] Eventually, new agreements were struck by both universities in the late 1650s, and fairly traditional covenants were reintroduced in the early 1660s.

That said, the incompatibility between the privileges of the universities and the Stationers, not to mention the king’s printer’s, generated different strategies in Oxford and Cambridge. In Cambridge, John Field and his most prominent successor, John Hayes, were tied to the London book trade, and focused upon non-scholarly printing; both became well-known for Bibles, schoolbooks and -- more obviously -- almanacs, where production increased from 15,000 to 100,000 copies a year by the late 1680s. This generated revenue, but at the expense of scholarly printing, and their under-utilized presses effectively became owned and controlled by the Stationers’ Company. This suggests that the development of learned printing was dependent upon local circumstances and practices as much as upon formal and institutional arrangements.

As such, a more useful way of comparing developments in the two universities -- and of demonstrating that learned printing became more sophisticated in Oxford -- involves evidence about organisation, decision-making and procedures. In Oxford, processual arrangements involved the delegates appointed in 1662, and the architypographus, finally appointed in 1658. Samuel Clarke proved to be learned -- a scholar of Arabic and Hebrew -- and energetic, and he ensured that the ‘schools surplus’ began to be spent on works like Edward Pococke’s Latin and Arabic edition of the *Historia Compendiosa* by Gregorius

[18] Johnson and Gibson, *Print and Privilege*, 25, 30; Peacey, ‘Printers’, 73.

(1663), as evident from his correspondence and invaluable accounts (1658-69). Clarke purchased new equipment, provided financial and logistical support, and dealt with complaints about poor type and sloppy printing, but he also identified worthy projects. From the late 1660s the delegates also commissioned new type, and provided funds to support scholarly activity. This was partly a matter of Bodleian catalogues. In 1620 the university had paid £112 to print a new edition, hoping to recoup its outlay by making all library users purchase a copy (2s.), and in 1672 the librarian Thomas Hyde was paid £160 for editing a third version, 1,000 copies of which were printed at the university's expense (£725). Beyond this, the delegates assisted scholars who were transcribing manuscripts for publication, and paid to acquire the 'copy' of works like Anthony Wood's history of the university. More generally, however, financial assistance was restricted to loans, which somehow needed to be repaid. This was the model used to publish Charles Estienne's *Dictionarium Historicum* (1670), and later Robert Morison's *Plantarum*, where £200 was advanced to buy paper.[19]

This clearly represented progress, along lines envisaged by Laud, although the number of publications remained small and the system fragile. This is clear from William Beveridge's *Synodikon*, the canons of the Eastern church in Greek and Latin, the first project recorded by the delegates in the minute book they instigated in 1668. Notable here is that the task needed to be given to a London printer, Robert Scott (the university's agent in London), and that the process was fraught. The job was admittedly massive -- two folio volumes, 1,588 pages -- and complex, with each sheet costing £1 18*s*. to prepare. However, while some type was loaned, Scott bore 'all other charges about the impression… in such manner as shall be

[19] Strickland Gibson and John Johnson, eds, *The First Minute Book of the Delegates of Oxford University Press, 1668-1756* (Oxford: Clarendon Press, 1943), 6-12; Madan, *Oxford Books*, ii. 482, iii. 247.

for the honour of the university', for additional type (400lb of Greek letters and 500lb of Roman and Italic, as well as Syriac letters), for paper, and for a compositor recruited from France. It proved to be a 'tedious business', which Scott could not complete; the edition finally appeared in 1672, but Scott was still struggling to repay his £200 loan in 1675.[20]

Clarke's appointment was important but not transformational, and the final decades of the seventeenth century witnessed further experimentation. This partly reflected his unusual skill-set; it proved difficult to find an adequate replacement, and his successor, Christopher Wase, was said to be 'crazed in the head' and 'void' of all skill.[21] However, it also reflected the importance of John Fell, a dominant and single-minded delegate, who was impatient to develop learning printing, and who recognized that this could only be sustained with a different business model. Abandoning the idea of an architypographus -- the post became a sinecure -- Fell opted for a press guided by scholars like himself, assisted by a warehouse keeper, William Hall. Tellingly, Fell referred in 1669 to 'our *new trade* of printing', which would 'prove useful to us poor scholars' and provide 'advantage to the public'.[22]

Fell's ambitions are evident from successive prospectuses for the 'advancement of learning', which referred to planned editions of 'the Greek and Latin fathers, and other classical books, in history, philology, mathematics etc… to serve the public', and to the need for 'a very considerable sum of money… to set us on working'.[23] Fell understood that a scholarly press was impossible 'without a public assistance', and that 'useful and necessary books' were 'lost to the world' because 'men of trade, only intent upon their gain, will not be

[20] Gibson and Johnson, eds, *Minute Book*, 3-5, 7; Madan, *Oxford Books*, iii. 262.

[21] Johnson and Gibson, *Print and Privilege*, 49-50.

[22] Vivienne Larminie, 'The Fell era, 1658-1686', in Gadd, ed., *History*, 79-105, 86.

[23] Johnson and Gibson, *Print and Privilege*, 53, 85.

at the expense and hazard of such impressions'. Recognising that a lack of capital had been the 'fatal mishap' hitherto, he encouraged 'voluntary benefactions' and loans (both 'gratis' and 'upon interest'), while also promoting subscription publication, not least for pet projects like the annotated Bible, with promises that subscribers could determine paper type, format, and price.[24] He also made a concerted push to improve stores of type, by donation (Anglo-Saxon, Gothic, and Runic) as well as purchase, from the United Provinces and foundries in London, where Joseph Leigh and Nicholas Nicholls made Greek, Latin, Arabic, and Hebrew letters, at a cost of £365. Fell also hired a corrector of the press, spent £104 on 'the new print house under the east wall of the theatre', and acquired a new press (£28), as well as a rolling press for engravings (£5). Ultimately, Fell sought to make the press independent of such supply chains, which were badly disrupted by the third Anglo-Dutch War; he established a foundry in Oxford, and began acquiring paper from the nearby Wolvercote mill.[25]

Key to Fell's ambitions, however, were a new management structure and a novel attitude towards the Stationers' Company. In 1671, Fell and his partners -- Leoline Jenkins, Thomas Yate, and Joseph Williamson -- took control of operations, as lessees who were answerable to, but effectively independent from, the university, in return for £200 *per annum*. As Fell explained, 'while the charge of the press lies… in the hands of the university, it can never be… managed to advantage'; as such, these 'undertakers for the press' would 'undergo a hazard and expense in the management thereof', 'freed from mercenary artificers', and able to 'further the interests and convenience of scholars' rather than 'make profits for the booksellers'. Crucially, this 'private company' envisaged 'exploiting the privilege granted by

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[24] *An Advertisement* (Oxford, 1680); Johnson and Gibson, *Print and Privilege*, 53, 61-2; Madan, *Oxford Books*, iii. 411-14.

[25] Johnson and Gibson, *Print and Privilege*, 41; Carter, *History*, 66, 122-6.

its charters instead of forbearing to do so in return for a rent'. Fell thus rejected the pragmatism of previous decades, explaining that by printing 'gainful privileged books' -- at lower prices, and as 'benefactors to the nation' – he could subsidize 'the edition of those other authors which afford no pecuniary advantage'.[26]

This was a bold move, which provoked 'howling and desponding' amongst London stationers, and the way forward was far from smooth. Hoping to 'push forward… as fast as we can', Fell grumbled of his workmen that 'to make them always attend their work is… beyond any skills, having a peculiar obligation to be idle'. He clearly disapproved of printers having paid holidays, but also encountered poor workmanship on the quarto edition of the Bible, where William Foster submitted a bill for correcting misprints in 4,500 copies by hand (£2 9*s*.).[27] Fell was also forced to revise upwards -- from 300 to 500 -- the number of subscribers necessary to make projects viable, and although he remained confident that these could be found amongst 'the nobility, gentry, lawyers, physicians, and clergy', considerable sums clearly came from the partners' own pockets.[28]

More importantly, taking on the Stationers proved to be unrealistic. Massive editions of the Oxford almanac -- 20,000 books and 15,000 sheets, costing £32 and £17 respectively -- were bought up by the Stationers, presumably to be pulped, and although Fell remained hopeful that 'we may *in time*… do something considerable', fears were expressed that the Stationers would 'break us'.[29] In 1675 the partners were forced to accept a new covenant of forbearance, which limited the press to low-circulation almanacs and prevented it from

[26] Carter, *History*, 51, 61; Johnson and Gibson, *Print and Privilege*, 46-7, 54, 162-4.

[27] Madan, *Oxford Books*, iii. xxxix, 325.

[28] Johnson and Gibson, *Print and Privilege*, 85.

[29] Madan, *Oxford Books*, iii. xliii, 275-6.

producing schoolbooks and psalters, while permitting the publication of Bibles. Fell thus reverted to a pragmatic approach, accepting that 'avoiding trouble' was 'a valuable consideration'.[30] The difference on this occasion was that he 'sub-let' the profitable parts of the business -- what became known as the 'Bible press', based in the Sheldonian -- to a group of 'interlopers' (Moses Pitt, Peter Parker, Thomas Guy, and William Leake), in return for £200 *per annum* (1678).[31]

IV

Fell's 'learned press' was a considerable achievement, the rich archive of which is immensely valuable for book historians, although in the end the complex relationship between it, the 'Bible press', and the Stationers' Company was probably unsustainable.

Undeniable is that the 'undertakers' oversaw publishing triumphs. These included Fell's Greek testament (1675), Humphrey Prideaux's edition of the Arundel Marbles (1676), and Obadiah Walker's *Paraphrase* of St Paul's epistles (1675-8). Not every project was easy or successful, and while the delegates purchased the 'copy' for Edward Bernard's edition of Josephus, which was 'begun to be printed' in 1672, completion proved difficult. A truncated edition appeared in 1687, the university having contributed £244 as well as £189 for paper, although this was certainly not the end of the story.[32] Nevertheless, Fell could certainly claim to have fulfilled promises made in his first prospectus, and even the Malalas chronicle finally appeared in print.

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[30] Carter, *History*, 68.

[31] Madan, *Oxford Books*, iii. 418-21.

[32] Carter, *History*, 76-8, 81-9; Gibson and Johnson, *Minute Book*, 5, 7.

For historians, moreover, the learned press -- with its correspondence, bills, and receipts, as well as its accounts -- sheds remarkable light upon the mechanics of the book trade. Such evidence reveals Fell's interventionist editorial style (as suffered by Anthony Wood), Yate's business trips to London, and the process of getting books advertized in the *Gazette*, as well as the cost of certain engravings. It also illuminates the process of acquiring and transporting paper and other necessaries, from suppliers like William Carbonnel, Thomas Papillon, and Alexander Merreall. One inventory itemized myriad kinds of paper, by size, quality, and price, which ranged from 2*s*. 8*d*. (Morlaix paper) to £2 16*s*. (Merreall Super Royal) *per* ream.[33] Most enlightening of all are the itemized accounts, which describe dealings with booksellers in Oxford, London, and the provinces, as well as on the Continent, and provide evidence about the distribution of subscribers' books and presentation copies, and also break down the cost of composing, printing, and binding specific books. For example, the press produced 1,000 copies of Obadiah Walker's *Of Education* (1673), using Great Pica and Lumbard paper, the twenty-six reams of which cost £10. For each sheet, composition cost 9*s*., presswork 4*s*. 10*d*., and correction 2*s*., giving a total cost -- for paper and work 'at case' and 'at press' -- of £21 11*s*. 3*d*. The books sold at 16*d*. each (unbound). In 1680, it was estimated that pressmen would be paid 2*s*. 8*d*. to print 1,000 sheets on both sides, while compositors were paid 2*s*. 6*d*. per day. The cost of printing 3,000 copies of a single sheet was £1 5*s*., including 2*s*. to the corrector and 10*s*. for ink, and for using the university's type.[34]

[33] R. W. Chapman, 'An inventory of paper, 1674', *The Library* 7, no. 4 (1927), 402-7.

[34] F. Madan, 'Oxford oddments', *The Library* 9, no. 4 (1928), 341-56; Madan, *Oxford Books*, iii. 287, 365-6.

What also emerges, however, is that scholarly progress risked being undermined by conflict between the 'Bible press' and the Stationers' Company. Although the Privy Council defended the interlopers, a fierce price war threatened to drive them out of business, provoking them to enter the more lucrative sections of the Bible market, with massive print runs of smaller-format editions. As tensions worsened, suits were brought against the Oxford printers in Chancery and King's Bench, resulting in an unsatisfactory and unstable compromise (1685), and eventually *Quo Warranto* proceedings. This was a highly politicized affair, driven by James II's government and a powerful but controversial Catholic printer, Henry Hills, and it involved suggestions that Oxford's Anglican press was sponsoring 'scandalous and seditious books' (1688). Moreover, while this challenge was halted by the Glorious Revolution, underlying problems remained. In 1691, the vice chancellor accused the remaining interlopers of printing 'on paper worse than ever, and on letters so far worn out', and of breeding up 'mercenary' tradesmen of 'the basest and meanest condition'. Their profit brought 'disgrace' to the university, and they were forcibly removed.[35] This presaged a new agreement with the Stationers, which brought the university £200 *per annum* for assigning away its rights to specific titles, while allowing its new partners to produce Bibles as 'university printers', whose activities were closely monitored.

V

Such developments indicate that even in Oxford operations remained uncertain and experimental, and yet what is striking is how quickly both universities made the final steps

[35] Johnson and Gibson, *Print and Privilege*, 126. See also the forthcoming book on Henry Hills by Michael Durrant.

towards establishing meaningful university presses. Outlining such changes permits a final assessment about how much had changed in little over century, as well as about the stage that had been reached by 1700.

In Oxford, the crucial decision was made in 1690 by Fell's executors, who surrendered operations to the university, thereby instigating direct institutional responsibility for the finances and fortunes of the learned press. This then inspired Cambridge to follow suit, and in 1696 Oxford watched warily as reports emerged about a new scholarly press, managed by delegates and backed by the vice chancellor and Archbishop Tenison, to the tune of £300. Although some onlookers were sceptical -- suggesting that Cambridge scholars were 'afraid the dust of their manuscripts should spoil their gowns' -- others feared that they would 'break their sister if they can'. Such plans originated with Richard Bentley, scholar, librarian and royal chaplain, whose 'short and imperfect scheme' was backed by the chancellor, the duke of Somerset, with a telling observation about the opportunity to 'have a press *once more erected* at Cambridge'. Although Bentley envisaged that an architypographus would have 'constant inspection of the press', real power was to lie with a small group of 'curators', who would 'govern the press' by choosing and licensing texts, setting prices, and providing 'such sums as they shall judge necessary'. Bentley was quickly authorized to purchase type, and by 1698 the university had appointed curators, an architypographus (John Laughton, librarian of Trinity College), and a printer, Cornelius Crownfield.[36]

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[36] D. F. McKenzie, 'The genesis of the Cambridge University Press, 1695-6', *Transactions of the Cambridge Bibliographical Society* 5, no. 1 (1969), 79-80; D. F. McKenzie, 'Richard Bentley's design for the Cambridge University Press, c.1696', *Transactions of the Cambridge Bibliographical Society* 6, no. 5 (1976), 322-7.

Assessing the significance of such developments -- involving institutional control of learned printing -- involves recognising that, even at this point in the story, continuity is as evident as change. Serious challenges remained, in terms of ensuring that printed books were not left languishing in warehouses; that 'mechanic' booksellers would 'live in dependence upon scholars, by whose labour and industry they gain their wealth'; and that a balance was struck between 'vendible' and 'useful' books.[37] In Oxford, 'Delegates' books', overseen by the university, remained rare, perhaps one or two per year, and challenges remained in terms of exerting control over 'authors' books', although licensing was retained even after the lapse of censorship legislation in 1695, not least to prevent embarrassing episodes like the printing of Arthur Bury's heretical *Naked Gospel* (1690). Tensions also persisted with the Stationers' Company, which was 'mortified' by recent developments, and which was thought likely to respond 'fiercely', causing concerns that university presses would be 'overcome'.[38]

As such, it would be easy to monitor the highs and lows of university printing -- including the 'lazy obscurity' into which Oxford's press apparently sank -- into the eighteenth century.[39] However, enough has hopefully been done to explain the faltering development of learning printing in England, at both a theoretical and a practical level. With scholarly books unlikely to be profitable, and with financial resources scarce, difficult decisions arose about whether and how far to move away from a business model in which printers operated as privileged traders rather than university employees. Decision-making was also constrained by wider economic and political structures, which made it necessary to navigate carefully around government policies and the privileges of the Stationers' Company

[37] McKenzie, 'Genesis', 79; Carter, *History*, 162.

[38] McKenzie, 'Genesis', 79; Johnson and Gibson, *Print and Privilege*, 55.

[39] Madan, *Oxford Books*, iii. xxiii.

and the royal printers. In this conjuncture, change came about as a result of pragmatic experimentation rather than just visionary thinking, and as tension between the universities and the Stationers incentivized new approaches, and eventually the institutionalisation of scholarly printing. This process was certainly incomplete by 1700, and challenges remained in terms of how best to subsidize and support scholarly activities. Nevertheless, it is hard to deny the significance of the changes that had occurred. They highlight the possibilities that emerged for high quality learned printing with meaningful institutional support; provide new perspectives regarding government policies and the London book trade; and reveal the broader value of surviving archival evidence, bringing into focus an otherwise hazy picture of the mechanics of early modern book production and distribution.