

**CHAPTER 5**  
**DATING LUTE MANUSCRIPTS I:**  
**Material evidence**

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RECORDED DATES, DATEABLE MARGINALIA

BINDING, FORMAT

WATERMARKS

MUSIC PAPER, RULING

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THE EXAMINATION OF THE PHYSICAL and bibliographical features of a manuscript is essentially directed towards discovering a single piece of information, its date, either actual or approximate. From this basis grow most of the assumptions and conclusions about the manuscript and its music, but without it, even speculation on some facts is pointless. Hardly surprisingly, this can be the most controversial element in any discussion of a source, since the original compiler or owner could not foresee the need for recording this information. The contents of music manuscripts from this period, in common with some literary sources, are never representative of a single period of musical activity, and the lute sources particularly are frequently also not reliably representative of any single short period of copying or composition. Thus there is sometimes an extreme discrepancy between the overall date of the repertory that a source contains and the date when it was copied. Some features will be more readily dateable in some sources than in others, but in order to examine any repertory as a whole, the same dating criteria must be applied to all sources. In examining the sources, therefore, only one date is likely to be both obtainable and of any interest as regards the source itself, and this is the date of copying. John Ward tends to date sources by the repertory they preserve, even when that leads to a date spanning (for instance) 30 years, and even when the scribe has indicated the date of copying (e.g. *Dallis*); while Spencer takes the repertory into account in dating, but also examines every other feature of the book and assigns a date that represents the period of activity of the scribe(s) and thus the compilation of the book, giving each book a context as a historical entity and allowing an assessment of the relative popularity of certain types of music throughout the history of music written for the instrument.<sup>1</sup>

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<sup>1</sup> Many of the more significant sources have a number of dates assigned to them, depending on the author of the various studies in which the book is mentioned. *Marsh* was dated c1580 by Lumsden, c1585-95 by Diana Poulton, 1570-1610 by John Ward and c1595 by Robert Spencer. Only the last of these is likely to be truly representative of the actual date of the source: Lumsden worked to some extent from guesswork backed up with less information than is available now, Poulton dated by specific pieces and Ward by repertory and handwriting. *Dallis* has had a similarly confusing array of dates assigned to it: Ward's date of 1565-1580 seems to be at odds with the scribe's own statement that the book was begun in 1583, but Lumsden uses the scribe's date only. In addition to the scribe's statement of the start of his copying period, the fact that some music was clearly copied from a 1584 continental print suggests that a date of 1583-5 would be far more representative as an indication of the period of the book's compilation.

The discussion below deals with some elements of dating manuscripts that are specific to the lute repertory (though their relevance may be wider) and their application to, and effect on, the dating of particular lute sources. The emphasis is on the date of the copying activity, not such single elements as the date of the paper, of the binding or the date of specific parts of the repertory it contains. As will be seen, the date of the composition of the music itself is often irrelevant to the activity of the scribe.

When deducing an overall eventual date for any manuscript it is usually possible to get within about 5 years, so a manuscript can be c1595 because it is clearly later than 1590 and earlier than 1600. Other manuscripts that have been dated over a less specific period such as c1590-1605 generally span a long period because their contents were added over some time, and not because their compilation is so nebulous that it cannot be dated with any degree of accuracy. Lumsden found the problems of accurate and defensible dating of his sources almost insurmountable, and often discarded vital evidence when it did not correlate with other apparent indications. He comments that,

Many problems confuse and confound every attempt to place the sources ... in any exact order of compilation. In most cases direct information of a sort calculated to show provenance or date is entirely lacking. Even those sources about which some fact of this kind is known resist attempts to place them precisely.<sup>2</sup>

Although the problems can be as intractable as Lumsden found, they are frequently not nearly as insurmountable as they appeared to him at that time, and even the evidence he discusses indicates that he made heavy weather of dating some sources that were not so problematic. Scientifically there have been considerable advances both in the methodologies employed to examine sources, and in the tools available as aids. Research in the intervening years has also changed quite radically our knowledge of sources that Lumsden did not believe could be explored any further:

... the four main Cambridge manuscripts are known to have been part of Archbishop Moore's collection and deposited in the University Library in 1714, but there can be little hope of discovering at this late date their whereabouts over a century earlier ...<sup>3</sup>

Research from the 1960s and 70s has, however, uncovered a wealth of information about the copyist and these manuscripts, and has facilitated a very accurate chronology for most of them. Lumsden undoubtedly underestimated the effect his own work would have on future scholarship, and the response by scholars to the groundwork that he provided in first attempting to examine all the sources as a whole as well as individually.

The scientist, when attempting to validate a theory, will first establish a hypothesis and then attempt to prove or disprove it. This system does not work when dating lute manuscripts. Too many sources of information can be ambiguous to the extent that the evidence can be manipulated to suit a preconceived idea; in this case, the date. Preconceptions, on the whole, are not inclined to alter when faced with facts. Those familiar with the sources and with Lumsden's approach (to establish an approximate date by 'feel' and then look for the evidence to support it) can unwittingly follow Lumsden's method. In some cases, this has led to a certain manipulation of evidence to support the

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<sup>2</sup> Lumsden 1957A, 30.

<sup>3</sup> Lumsden 1957A, 30.

date that seems most likely and the resulting repudiation of any inconsistencies that arise. It would be incorrect to state that no manuscripts are free from atypical factors, but it is all too easy to discard them when they do not support the evidence that points to the preconceived date, and even indicate that it is wrong. There is usually a path, and thus a date, that reconciles all the disparate factors, eliminating or embracing anomalies, and it is this path which has to be approached by degrees in which the date of the source is absolutely the last factor to be proposed.

Though it is useful and in some cases desirable to categorize the methods of dating and deal with each separately, the area of each category inevitably involves a certain amount of overlap with others. The most significant overlap, however, is to be found between the original purpose of the manuscript (discussed in detail in Chapter 3) and every other area of review. This is particularly true when attempting to date a source by the repertory it contains, but frequently also qualifies any other evidence.

The methods of dating explored below can be divided into two categories, material and implied. Material evidence includes anything that can be discovered through the immediate physical examination of the source: watermarks; binding (though both of these can turn out to be disappointingly vague); identity of the scribe; the owner or the composers represented, dateable information given in ascriptions<sup>4</sup> or marginalia; the identification of one scribe in an undated source with another in a manuscript that can be dated. Implied evidence includes the repertory in the book—both the composers and the genres; the provenance of the manuscript; the style of the handwriting, layout, organization and notation; the numbers and types of graces in use; and the size of lute and tunings employed. Though implied evidence can be the most controversial—and is sometimes dismissed when it does not seem to meet expectations—material evidence can be equally inconclusive. Factors such as those mentioned above, when applied to sources c1700, can allow the paleographer to reach an unequivocal date. When those same methods are applied to books dating from before 1630, the results are often considerably more ambiguous.

This chapter is supplemented by Appendix 1 'Indexes of sources of English solo lute music' and Appendix 5—'Dateable Elements in Titles of Lute Music'.

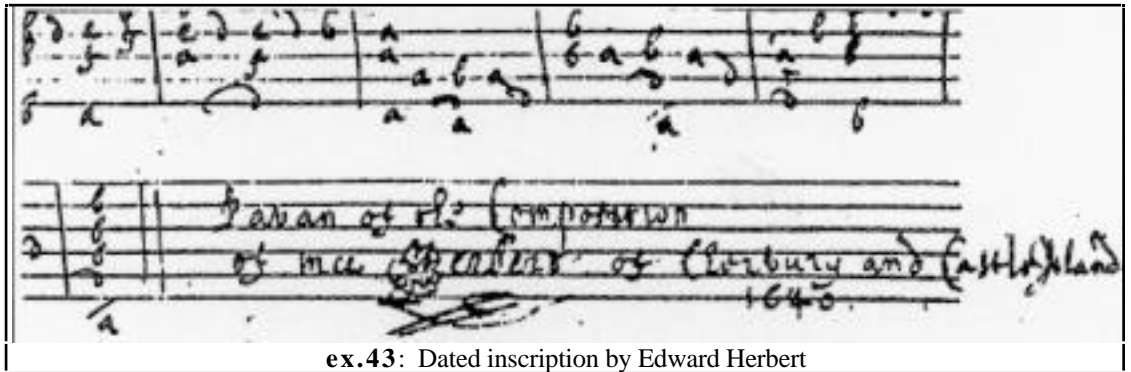
### §RECORDED DATES, DATEABLE MARGINALIA

Even though the ground here seems less treacherous than is the case with other aspects of dating, recorded dates are not always as useful as they first appear. On the whole, the date was not considered an important piece of information for the renaissance lutenist or scribe to record, but there are a number that survive, the most significant in *Herbert, Mynshall, Richard* and *Pickeringe*. *Richard*, copied probably in the Low Countries or Germany by an English scribe, is well supplied with dates, virtually all written by a single hand that is apparently unrelated to the music, unlike the inscriptions in *Herbert*. Edward Herbert tried his hand at composing a number of times during his years as a lutenist, though the results are not always as polished as we have come to expect from the English lutenist-composer.

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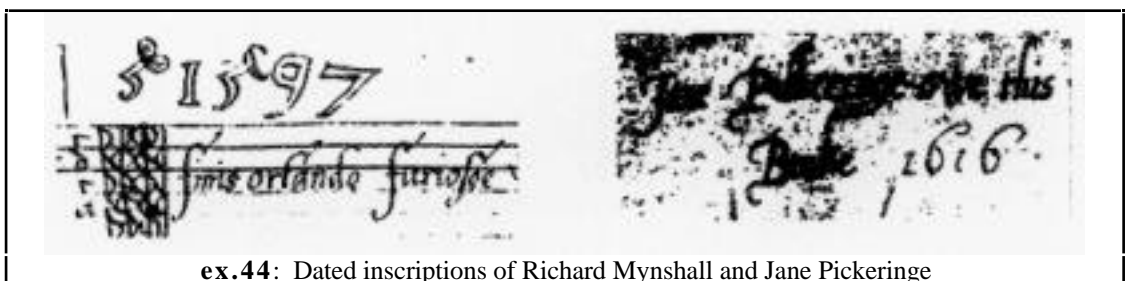
<sup>4</sup> See Appendix 3.

He was sufficiently proud of his achievements, though, that each of his compositions is elaborately supplied with his name, titles and the exact date of their composition. The dates range from 1628 to 1640. However, whether they actually represent the time of copying is highly debatable, since all the pieces could have been copied in at any time after composition. Fortunately we have the exact date of Edward Herbert's death—1648—so a *terminus ad quem* is known.



ex.43: Dated inscription by Edward Herbert

A particular problem with dates written in by one scribe is that a subsequent scribe often seems to obliterate traces of prior ownership, and will go to great lengths to remove both names and dates. Since very few of the extant manuscripts show activity limited to a single scribe, very few of them as a result show the elusive date of writing. Both *Mynshall* and *Pickeringe*, however, contain dates written by their principal scribes, and not subsequently suppressed:

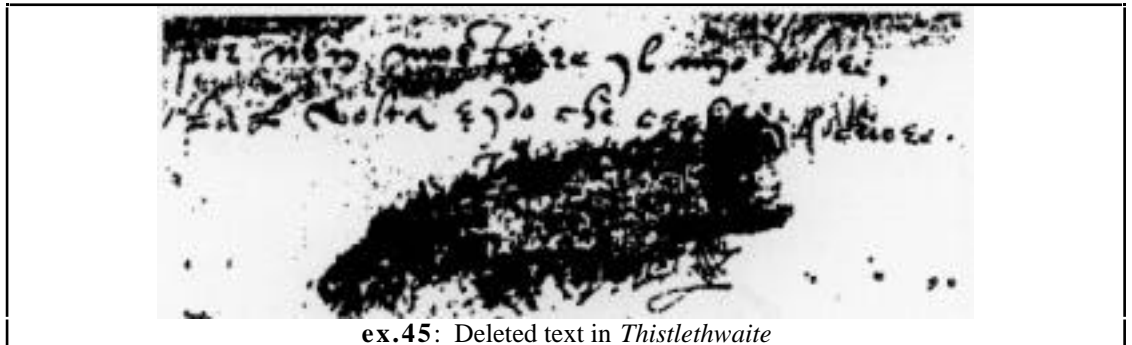


ex.44: Dated inscriptions of Richard Mynshall and Jane Pickeringe

*Thistlethwaite* was the work of 11 scribes, only the last of whom left his name for posterity. On one of the front flyleaves, however, there is an inscription in Italian that has been almost completely scratched off the paper. It almost certainly originally included a date, and probably a name too. At least one scribe or user was called John Bam...<sup>5</sup> He was probably the original owner of the book, since the initials I.B. are embossed on the cover, but whoever scratched out the original owner's name did not replace it with his—or her—own. A similar situation pertains in *Sampson*, where the first scribe in the book entitles one piece: 'Mrs Whites choyce per Henricum Sampson scriptorem libri'<sup>6</sup> only to have all but the name of the piece assiduously deleted by a later scribe. In this case, since the paper is not damaged, examination under ultraviolet light has revealed the deleted matter.

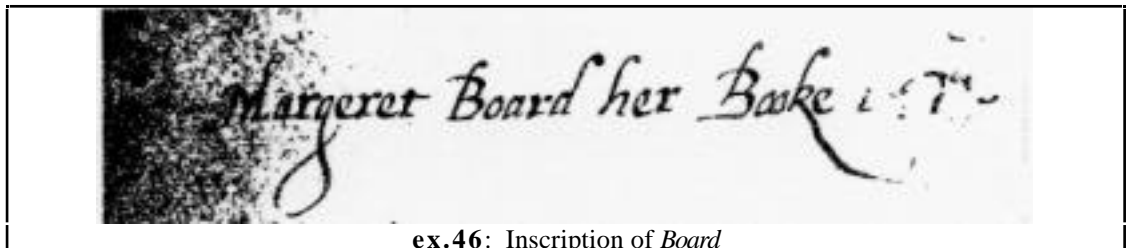
<sup>5</sup> The name appears on f.93r, inverted, with no other writing, and faded to illegibility for the last few letters of the name. John Ward (in Ward 1992) fails to notice the correlation between this name and the initials 'I.B.' on the cover, leading him to suggest a member of the Bassano family as owner of the book.

<sup>6</sup> The second piece on f.7r.



ex.45: Deleted text in *Thistlethwaite*

Ultraviolet light proved insufficient to reveal the date on the flyleaf of *Board* as too much of the paper is missing.<sup>7</sup> Although Margaret Board's name survives, the date following it is tantalizingly obscured by damage to the paper that does not seem to have been as deliberate as that found in *Sampson*, since it would seem odd to remove a date but not the name of the original owner. The edges of the letters that remain show that the missing matter originally gave a date that could have been 1615 or 1616, but may even have been 1625. Fortunately, Margaret's date of baptism (1600) and approximate date of her marriage (after 1623 and before 1631) are known, allowing the extrapolation of a probable date for her copying of c1620, confirmed by other factors in the book's contents.<sup>8</sup>



ex.46: Inscription of *Board*

Other marginalia may be less useful and even misleading, particularly where it seems that it has been written by a scribe other than the lute scribe(s). A book of paper of any description could become whatever was required at the time: thus a lutebook could become a household account book, or a book of recipes could become a repository for lute music.<sup>9</sup> Old paper or parchment was often used for end-papers or guards, and where it shows a date, can indicate the earliest possible time at which a book could have been bound up. Wills and other out-of-date legal documents such as indentures find their way into bindings surprisingly often, but since the scrap paper may easily have been very old before it was re-used, this only provides a very general idea of dating. It can on the other hand be helpful in providing a provenance for a source, though this result can be even more elusive than dating.

*Dallis* is also inscribed with a date, and one that contradicts the repertory quite substantially.<sup>10</sup> On page 12 the scribe has written *Incepi Nonis Augusti praeceptore Mro Thoma Dallis. Cantabrigiae Anno 1583*. The repertory clearly dates from the early 1500s to the mid 1580s, but the scribal

<sup>7</sup> The present owner, Robert Spencer, has gone to considerable lengths to try and read this date, without success.

<sup>8</sup> John Dowland's hand obviously pre-dates his death in 1626.

<sup>9</sup> See *Stowe* 389.

<sup>10</sup> See Chapter 6 §Repertory, dateable elements in ascriptions.

inscription and the exceptional consistency of the hand throughout the book clearly indicates a very short compilation span—perhaps of only a couple of years, and the book is therefore dated 1583-5.<sup>11</sup>

*Dd.9.33* has two highly significant non-musical inscriptions on the back end-paper requesting prayers for the sick in Matthew Holmes's secretary hand. Ian Harwood<sup>12</sup> in an exceptional and highly comprehensive piece of research on the Holmes books located the addresses and the men named and placed them in London at the date mentioned in the first notation; 28 February 1600 (i.e. 1601 in modern dating). In addition he was able to supply the dates of burial of both the men in the parish of Westminster on 18 March and 15 April 1601.<sup>13</sup> This places the manuscript unmistakably in London in 1601, but since Holmes had begun copying his collection of lute manuscripts some years before in Oxford, it is quite possible that he had brought the completed ones with him to London, and *Dd.9.33* may have been completed long before this date. However, the Holmes books by virtue of their being the work of a professional musician living in the two cities that were probably most in touch with newly composed music, are uniquely representative of contemporary music as it was composed, and other factors in both the repertory and the script enable Harwood to say that *Dd.9.33*, although it may possibly have been begun in Oxford before he left in 1597, was certainly still being completed in London in 1601. *Nn.6.36* also bears evidence of its origins and date on its parchment wrapper. An unsigned indenture dated 4 April 1597 is written on it, concerning the lease of a tenement in Oxford to Mathew Holmes, and describing him as a singingman at Christ Church. However, *Nn.6.36* is dated c1610-15, so by the time Holmes came to compile this last of his volumes he probably looked around for something to protect the loose gatherings as he added to them, and the indenture being long out of date by then, came into the category of re-usable scrap. Harwood's work is a model of manuscript investigation, and the fruits of his research have supplied a remarkably detailed picture of the work of the most important copyist of the English lute school.

### §BINDING, FORMAT

English lute books do not seem to have merited any coverings that qualify as fine bindings. Since most of the illustrated works of binding scholarship concentrate on bindings and tooling as a work of art, and therefore on the fine binding market and the work and workshops of the known binders in England and abroad, the often simple and basic trade bindings of lute manuscripts are difficult to categorise. Many of the important binding collections came from private libraries who employed a binder to make matching covers for all their books. Lute books, however, tended to belong to people who would not have owned a substantial library, and who therefore bought their books ready bound with basic trade decoration on the cover and, in several cases, had the book personalized by having their initials stamped on either side of the centre-block by the bookseller at the time of purchase. Lute

<sup>11</sup> Prior studies (Poulton 1982, Ward 1967B) have used the date c1565-80, despite evidence to the contrary, though this is a reasonably accurate assessment of the date of the major part of the repertory.

<sup>12</sup> In Harwood 1963.

<sup>13</sup> The Parish Register gives 1600 for the first date, and Harwood states that 'The two inscriptions, then, were written more than a year apart' but had not taken into account that the new year would have begun on 24 March, and therefore the inscriptions are only a month apart in 1601 by new style reckoning.

books that were bound after copying seem also to have utilised only the simplest and cheapest of bindings, presenting a finished appearance very similar to the ready-bought variety. The most interesting bindings among the lute books almost invariably belong to books that were either not originally intended exclusively for music—those that may have started life as commonplace books of another description—or those that were taken or gifted from a library that was rich enough to have put relatively fine bindings even on blank music books.

*Pickeringe* and *Mynshall* both have royal arms centre-stamps, though neither copyist had any observable connection with the court, and these are probably the most impressive bindings among the sources. *Pickeringe*, adorned with ties and gilt edging is frustratingly impossible to link with the court. The presence of the arms of James I on the covers indicate that the book was bound up between 1603 and 1616 when Jane wrote the date on the front end-paper. Various theories have suggested that Jane may have been a descendant of Sir John Puckering, Lord Keeper during Elizabeth's reign—but he had no daughter by the name of Jane—or that she was the daughter of Sir Thomas Puckering, in spite of the fact that this daughter cannot have been born before 1616/7. Pickeringes seem to have been quite numerous, and the Yorkshire Protestant family of Sir William Pickeringe (1516-75), a gentleman and diplomat, may also be candidates for Jane's ancestors. However, Sir William fell out of favour during the reign of Mary and his family may not have re-established their original ties to the monarchy. Apart from the arms on the covers these bindings are not decorative, and would not generally be described as fine. Though the centre stamp is necessarily ornate, it is simply a single stamp, and would have been used on all books bound for the use of royal musicians—essentially servants—or for a royal library. Royal arms were also used by trade binders on many books that were not destined for royal libraries, as there was no control on its use, and it may have been a selling-point.<sup>14</sup> Households of nobility or minor nobility such as those of Lord Willoughby or Lord Herbert of Cherbury might be expected to have used fine bindings, and the reality is not wholly disappointing, although *Herbert* exhibits unmistakably French influence in the use of coloured morocco leather with ties. The binding of *Mynshall* is stamped with the arms of Elizabeth I, and the watermark of the end-papers appears to have been made by the Queen's jeweller, John Spilman, who set up a paper mill in 1588 at Dartford, Kent. Another mark incorporating the initials ER appears on the endpaper of *Marsh*. This mark is more rudimentary, and may be a countermark. The bindings are completely different, as are the sizes of the book, and there is nothing to suggest a connection between them. Spilman's paper was probably readily available in London, where most lute books are likely to have originated, and since the watermarks of neither of the end-papers nor the main body papers in the two books are related, these books probably originated with different stationers. Richard Mynshall, the son of a Cheshire merchant, as well as providing further interesting evidence of the book's connection with royalty in the form of a copy of a letter from the Earl of Essex to Queen Elizabeth dated 1599, brings most speculation to a halt by writing or doodling the date 1597 on f.5v. His connection to royalty is tenuous, and hinges mostly on a 'Captain Mynshall' who may have been connected with Essex in Ireland. Mynshall's

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<sup>14</sup> Shackleton 1968, 79.

identity is far better documented than that of Jane Pickeringe though, and the evidence in the book makes much speculation redundant.

The commonest type of binding decoration found on lute books right through the period is of a straight pallet or fillet border on the outer edge, a second similar border about one inch in with corner fleurons, and an oval or decorative centre-stamp, copied on back and front. *Folger* is an excellent example of a book in a simple trade binding. More often than not, particularly with pedagogical books, the initials of the owner,<sup>15</sup> or more rarely his name,<sup>16</sup> are stamped on either side of the centre-stamp or within it<sup>17</sup> if the stamp would accommodate them. Initials are usually found only on gilt tooled bindings, but *Mynshall* has the original tooling in gold and the initials 'R M' blind-stamped on later.

Until the nineteenth century, when publishers' bindings became common, binding was not a part of the original book. The binding therefore communicates little or nothing about the origins of the paper, its printing or publishing, though it may be revealing in terms of its subsequent history. Likewise, the paper tells us nothing about the subsequent sale of the book. This is particularly true for music, where printed anthologies were often bound up after they were bought in the form of individual pieces.

Most books that were issued blank, or blank with rulings, were bound in leather with gold tooling of a style depending on the quality and cost of the book. Gold tooling began to be used about 1530, but did not become common before c1550. Many specimens from the Royal Tudor libraries show examples of a style which reflected European traditions. During the reign of Queen Elizabeth, gold tooling became more common, though the workmanship, when compared to continental work, appears coarse. Centre- and corner-piece designs became prominent, and it also became more common for owners to have their arms stamped on the covers in the central panel. It was fairly common for some binders when selling a book to have stamped the initials of the owner on either side of a standard central decorative stamp.

Even with printed books it would have been impractical for whole sets of copies to be bound without the previous assurance that they could be sold, particularly as reasonably large purchasers of books would have used their own local binder, possibly making use of specific tools for the owner concerned. The trade in ruled but otherwise blank books was probably considerably more precarious than that in printed books, and the size and content of a music book is unlikely to have been determined before a buyer was found. This is attested by the variations in size and format of the lute sources, and the fact that many of them clearly lacked binding until after they were written, implying the purchase of a ream of unbound paper that may have been already ruled by the bookseller, or may subsequently have been ruled for his requirements by the buyer. Spencer does make the useful observation, however, that the format of lute manuscripts may be significant, since all lute books

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<sup>15</sup> *Pickering, Board, Willoughby, Mynshall*

<sup>16</sup> *Welde*.

<sup>17</sup> *ML*.



before 1590-95 are in oblong quarto format.<sup>18</sup> It may be that the larger upright format came into use to accommodate the increasing length of pieces, most of which after 1585, and even earlier, also included written-out divisions. *Dallis*, in oblong quarto, has numerous page-turns that would have made playing from the book extremely difficult. Bound books tended to tie up capital until they were sold, and in a trade where the average turnover would not have been at all sizeable binding would almost certainly have waited until a buyer was found. The general book trade in England is summarized by Gaskell:

In the sixteenth century the English book trade was centred in London, and consisted chiefly of publishers (usually operating in small syndicates) who wholesaled their own books, but who were also retail booksellers handling a general stock, not all of their own publishing; printers, who were frequently members of publishing syndicates, and who generally had a retail shop as well; and retail stationers who would be likely to purvey both new and second-hand books and a variety of other goods. There were also binders, with or without a retail shop; wholesale stationers specializing in paper; and publisher-retailers specializing in the foreign trade. Apart from the university presses, there were no printers and scarcely any publishers in the provinces after the 1550s, only retailers (again trading in other goods as well as books and stationery) and retailer-binders. (It is confusing that both publishers and retailers were known indifferently as booksellers, and that any book trader might be referred to as a stationer.)<sup>19</sup>

Trade bindings utilised either blind-stamping—the impress of patterns on a binding without gold leaf—or gold stamped impressions. Ordinary trade bindings would usually have been blind-stamped, so the frequency of gilt to be found on the covers of lute books also suggests that lute bindings would have been executed for particular buyers. The shapes were made by simple tools moulded or carved from brass that were heated and then pressed into the leather. Apart from ornate figures, floral shapes and armorial bearings, the tools also included single-letter stamps and instruments for making the simple border patterns: pallets (lines set on curved rockers); fillets (wheels with lines around the edge); and rolls (wheels with elaborate designs around the edge).<sup>20</sup> Since the instruments were most often made in brass, they would take several decades to wear down to the point where they were unusable, and many were passed on through several generations of tradesmen, so some bindings may appear anachronistic, particularly with binders who were working for a lifetime of possibly as much as 50 years.

English binding styles changed little from the Elizabethan period to the time of the civil war, apart from the greater proliferation of armorial bearings and a tendency for the blocks to employ more delicate patterning. Binders slowly ceased to follow European and particularly French fashions so closely, and by the middle of the century the practice of making up centre- and corner-patterns with combinations of smaller tools had become very widespread, and characteristic of an English style. This was the type of binding favoured by Lord Herbert of Cherbury. Since binding tools were not mass-produced, identical ornate tools might suggest some connection between books, and the distinctive tools used by some well-known binders make it possible to identify their books. However, various

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<sup>18</sup> Spencer 1982, xiii.

<sup>19</sup> Gaskell 1985, 180.

<sup>20</sup> Gaskell 1985, 149.

considerations must qualify this statement: first, there were a number of standard simple tools in use in trade bindings that would have been intentionally similar to others, and would be very difficult to tell apart. Second, no lute books show sufficiently distinctive binding decoration that they might be traced to any specific binders, and the use of particular standard types of corner-fleurons and other very basic decoration suggests that a lute book was not treated as an item worth the application of special work. Finally, bound lute books such as those purchased by many of the amateur players would have been available only from a very few sellers,<sup>21</sup> almost all in London. Furthermore, if it was the teacher who purchased the book for the pupil, as he certainly seems to have done for other 'consumables' such as strings,<sup>22</sup> then it may be that teachers favoured a single bookseller. This may seem an arbitrary assessment, but the activity of the secondary scribe (perhaps Richard Allison) of *Sampson*, *Dd.4.22*, *Swarland* and one of the Holmes books (*Dd.9.33*) implies that lutenists who may have acted as peripatetic teachers seem to have had significant contact with numbers of otherwise quite diverse sources—both in style of contents, purpose and provenance—to the extent that a single copyist appears in an exceptionally high proportion of the sources.<sup>23</sup>

The use of ties on books is usually considered a European feature,<sup>24</sup> the fact that English binders were heavily influenced by continental fashions during the reigns of Elizabeth and James I gives little weight to the association of ties before 1640 with non-English binders. Many lute books, and particularly those from the sixteenth century, show evidence that they originally had ties or clasps, though these have usually rotted away or broken off.

The type of leathers used changed gradually from the predominance of vellum, calf or pigskin (cowhide for large books) in trade bindings in the sixteenth century, to sheepskin, Morocco or 'Turkey leather' by the middle of the seventeenth century. According to Shackleton, limp vellum became more popular in the first half of the seventeenth century, particularly for smaller books,<sup>25</sup> but does not seem to be common on lute manuscripts. Hollow-back binding was not used until about 1770 in France and 1800 in England. The first example of an English binder tooling the title of a book on the spine occurs c1610, and is the work of Williamson, a binder employed by Eton College.

Because of the undistinguished style of trade bindings, they are rarely helpful in establishing a date for a book. Occasionally, though, the evidence that the binding adds to an already dubious situation may serve to clarify it. Lumsden dated *Cosens* c1595, but Danyel's 'Mrs Anne Greene her leaves be green' (1606) and music by Thomas Vautor make it likely that the manuscript was finished in the first decade of the seventeenth century, and the handwriting and compilation suggest a short time-span for the copying. According to Fenlon and Milsom, who examined the book because it contains

<sup>21</sup> See Thompson 1988A and 1988B, Fenlon/Milsom 1984 and the section below on watermarks for a discussion of the distribution and purchase of music paper.

<sup>22</sup> Accounts for expenses paid to household and court musicians include allowances for strings for their pupil's instruments, and in some cases also for music books.

<sup>23</sup> This particular copyist is discussed in detail in Chapter 7 §Richard Allison.

<sup>24</sup> Shackleton 1968, 45-69.

<sup>25</sup> Shackleton 1968, 77.

printed music paper, 'the "heads in medallions" roll on the covers of the binding is very similar to a type that is found as late as 1617'<sup>26</sup> confirming the growing suspicion that Lumsden's dating is probably about 15 years too early. The binding, format and paper of *Brogynryn*, on the other hand, point to a date considerably earlier than the repertory it contains, and though it would have been unusual to buy a ruled music book and then not use it, all the evidence points to this having been the case in this instance.

### §WATERMARKS

The use of watermarks for dating music sources can be both influential and inconclusive. Watermark studies have concentrated on watermarks from the mid-seventeenth century on for two reasons. The contemporary recording of marks after c1650 becomes accurate and comprehensive enough to facilitate dating of specific marks, and the production of paper grows to the extent that watermark designs have a short enough life to be dateable within a short span. Before 1650, poor documentation of paper marks, low quantities of production that meant that some moulds lasted for some time, and patterns of design that would be repeated almost exactly from mould to mould make specific watermark studies impossible. Thus even with accurate examination, description and comparison of the marks in the lute sources, only a very few papers can be identified accurately, and of these the dating is still almost uselessly vague unless it actually incorporates a date—a factor unusual enough before 1650 to make it likely to be reliable. Not all papers before 1650 had watermarks at all, but virtually all fine papers, the type required for music, were marked, and watermarks can be found in all the lute sources, even the very early ones.

When dealing with a group of sources at this early stage in the use of watermarks, even when the mark can be traced to a certain mill, its use is either completely undocumented, or else all we can tell is that it may have been used for a period as long as 20 to 30 years. Fenlon and Milsom refer to this use of dating evidence as 'the notoriously vague datings produced by identifying watermark types',<sup>27</sup> and it may be as well to bear this comment in mind when considering any discussion of watermarks in a group of sources. Further complications ensue when the fact is taken into account that all watermark studies to date have excluded musical sources from their investigations. Thompson's work on the mid and later seventeenth-century music papers has revealed a certain amount of information that suggests that music papers were bought in small batches and quickly used, and it can only be assumed that a similar situation prevailed in the latter years of the sixteenth and the first quarter of the seventeenth centuries.

The value of watermarks for the study of sources falls into two general areas: dating the source, and examining its consistency and structure. Both depend on precise description of the individual marks. Their use as a tool for dating MSS and printed volumes is fraught with problems. It requires exact dating of the individual mark and reliable knowledge as to how long a batch of paper might take to be completely used, neither of which are currently available. With the exception of the very few marks

<sup>26</sup> Fenlon/Milsom 1984, 158. They refer the reader to James Basil Oldham, *English Blind-Stamped Bindings* (Cambridge, 1952), pp.53-54, type HM(h).

<sup>27</sup> Fenlon/Milsom 1984, 156.

(made principally in France from 1742 and in England between 1794 and 1811) that carry a date, we normally have no indication of when a specific sheet of paper was made; we only have information as to when it was used.<sup>28</sup>

As a device for examining the collation of books, the watermarks are of significantly more use in the study of manuscripts than of printed books. In the latter case, the sheets of paper in a single printed source that has come from a large print-run may be virtually unrelated to each other, due to the large quantities of paper required for the process, and the fact that multiple copies of each forme were printed consecutively before moving on to the next one. In a manuscript, it is highly likely that two adjacent sheets will have come from the same batch of paper, particularly if it was bound before copying.

Many of the dates given in the collections of marks by Briquet *et al.*<sup>29</sup> come from dates on letters or other ephemera, and do not take into account the possibility, if not probability, of the writer having bought a batch of paper (rather than a few single sheets) and stored it for some time before use, giving each batch a considerable life. The dates given in printed books are probably far more reliable, given the much faster turnover a printer would show. Although the dates provided by the watermark studies can give an approximate period of circulation for a particular mark, the deliberate repetition of some marks by makers makes even this date indeterminate. As Krummel and Sadie comment, 'There has been considerable controversy over how long one batch of paper might last in a scriptorium or printing house'<sup>30</sup> to say nothing of stationers storing paper, particularly music paper that would not have been sold in such large quantities as plain writing sheets. When expressing their reservations about watermark dating, Fenlon and Milsom state that

Watermarks can be useful for dating the period of manufacture of a batch of printed paper, but in general they can only be used to confirm a date arrived at through other evidence... In at least one case watermarks vary during the course of a [print] run of a single design, while in another the watermark remains constant while the design changes.<sup>31</sup>

Up to about 1630 the inclusion of watermarks in fine papers was not widespread, and was by no means controlled or standardized in any way. For this reason watermark studies have concentrated on papers produced from the second half of the seventeenth century on, when a large number of devices came into use, and their inclusion is documented in an increasingly reliable form. Despite their irregularity, virtually all lute papers show marks, possibly because they were of a particularly high quality. Although dates incorporated in watermarks can generally be assumed to be reliable, some papermakers seem to have used old moulds for some time after they were actually 'out-of-date'. Paper moulds were first legally required to incorporate dates in France in 1741, with the result that many papermakers—following only the letter of the law—used the date 1741 in their moulds right up until c1775, when the discrepancy was eliminated. In England the regular use of dates in watermarks did not

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<sup>28</sup> Krummel/Sadie 1990, 548.

<sup>29</sup> Le Clerc 1926, Churchill 1935, Briquet 1968, Labarre 1967, Heawood 1969.

<sup>30</sup> Krummel/Sadie 1990, 548.

<sup>31</sup> Fenlon/Milsom 1984, 143.

start until 1794, and then the incentive was a tax one rather than a legal expedient.<sup>32</sup> Fortunately this chaotic state of affairs does not affect the repertory under consideration, and since it was not compulsory for papermakers to include dates in their moulds at this time, it is reasonable to use a mark that incorporates a date as a reliable indication of the date of manufacture of the paper.

Until fairly recently, it was not easy to examine watermarks accurately, particularly of papers that were bound up into books. One of the spinoffs of the fibre-optic revolution though, has been the availability of 'light sheets' and 'light pens' which, when used in conjunction with beta-radiography (very expensive, but with no adequate substitute yet) enable the papers and their marks to be examined very thoroughly. General paper studies have been used where possible to establish a contextual dating for a mark. Most marks in music papers are not to be found in these extensive collections of drawings though, and to date, the only extended study of watermarks in music papers has been made by Robert Thompson,<sup>33</sup> who again concentrated on the sources from 1625 on, for which the activity of paper mills is more reliably documented than in the preceding years.

Virtually all paper in use for music copying in England until 1670 was imported, mostly from France, particularly Normandy, but some also from the Low Countries. Perhaps because high quality continental paper was easy to come by, and because the paper-making tradition was so much better established abroad, English mills seem to have been unable to produce paper of a sufficient quality for music copying. Though English papers are found in lute manuscripts, these are almost always confined to the end-papers, with continental papers used for the body of the book. This indicates that stationers bought reams of paper from abroad, and had it made up into books in England, and continental end-papers would rationally suggest that the book may also have been either bought abroad, or imported made up. It seems unlikely, though, that books were imported made up for sale as blank books, as their weight and subsequent cost would not justify this practice, particularly as English binders had no lack of skill such as that exhibited by the paper-makers. *Sampson* uses English paper, which is of a predictably low quality, though it has maintained its integrity surprisingly well. *ML* on the other hand is made up from three papers, the two earlier of which may have originated in England, although they use marks similar to ones in use abroad. Most of the well-known marks were widely copied in Europe, and some English paper-makers also clearly copied foreign marks, perhaps in an attempt to break through the barrier caused by the reputation of English papers by attempting to convince a stationer that he was buying imported goods. Reasonably high quality English papers in lute books are more likely to date from after 1610-20 than before.

Thompson has also discussed the possibility that paper may have been stored for some time prior to its sale or use, and his arguments against this proposition are compelling, even without documentary evidence, for their common-sense aspect. His work on watermarks found in music manuscripts of the mid-seventeenth century is crucial to any discussion of music papers. He asserts convincingly that papers with precisely the same mark were manufactured in only small quantities,

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<sup>32</sup> See Churchill 1935.

<sup>33</sup> Thompson 1988A, and Thompson 1988B.

since the amount of paper which could be made from a single mould was extremely limited—contemporary documentary evidence gives a single mould a life of about 8 months, and in addition to this, high quality papers such as those ideal for music paper would have taken considerably longer in preparation than low quality, so that the probable production rate of 8 reams a day for medium quality paper should consequently be limited when considering the production of high quality music paper.<sup>34</sup>

Although makers did deliberately copy their marks between moulds, particularly between the pairs of moulds used at one time, the possibility of a mouldmaker producing absolutely identical moulds is extremely small, since the complexity of the patterns and laid- and chain-lines would make this virtually impossible, even if the mould-maker wished to do so, and the pattern of knots used to attach the design to the chain and laid wires, visible as small dots in the final mark, seems to have been as unrepeatable as a fingerprint.

Although many designs were in use for some years, individual devices probably did not last long as they were quite fragile, and could easily become distorted. Gaskell reckons on a life of about six months for a watermark before it dropped off the mould,<sup>35</sup> and a month or so of disintegration before that. His estimate suggests that each mould in a pair could produce 2000 or more sheets of paper a day which, over the five months during which the watermark should survive recognisably, is a massive quantity of paper. Once a mark disintegrated, the maker would simply use a new copy, as there was no intention of providing a chronological sequence of marks.

There is no reliable way of estimating how long a specific mark may stay in use ... However, there is evidence that many makers replaced devices with close copies in order to retain the same basic design. ... The early designs of an oxhide, a cardinal's hat or an anchor within a circle all lasted for over a century, and were used by many makers, although often within a small geographical area. Later designs such as the 'Strasbourg bend' were also long-lived and widespread. Many of these designs were intended to be statements, not about their manufacturer, but about the quality and size of the paper ... Together with a countermark bearing the manufacturers name or device, they ensured that both quality and source of paper were apparent to the stationer.<sup>36</sup>

Thompson believes that music papers were usually prepared by a stationer because of the careful ruling. This means that measurements of staff-liners (or *rastra*) could potentially be useful in determining the origins of some paper<sup>37</sup> though the problems of paper shrinkage seriously limit the effectiveness of this type of study as only approximate measurements can be used. The quality of metals and the nature of manufacture of precision instruments at that time would also suggest that a stationer would have kept a number of *rastra* in use at one time, and the possibility of their having the same dimensions would be extremely small.

How close a potential connection does the identification of identical watermarks in two different sources suggest? Such evidence as there is<sup>38</sup> suggests that the writing paper trade was

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<sup>34</sup> Thompson 1988B, 2-3.

<sup>35</sup> Gaskell 1985, 62-3.

<sup>36</sup> Krummel/Sadie 1990, 547.

<sup>37</sup> See also Fenlon/Milsom 1984 for a discussion of printed papers.

<sup>38</sup> Particularly documentary evidence from the record of the Lord Chancellor's office, cited in Thompson 1988B, 4.

characterized by a fairly rapid turnover of small quantities, an understandable feature when one considers the vulnerability of paper to fire, water, and mice. If this is coupled with Gaskell's production figures (given above), a further implication is that papermakers rarely sold a batch of paper from a single mould to only one stationer. They are more likely to have dispersed the paper in small quantities to a number of supply outlets. Thus, identity of papers in two books may not imply that they were bought from the same stationer. A picture that seems to fit the facts of the music trade is that of specialist stationers (such as John Playford)

obtaining a ream of paper and ruling it for music; then selling it in small quantities to various individuals .... So identity of watermark, if coincidental, is coincidence within a relatively short time-span; equally probably, it is not coincidence at all.<sup>39</sup>

The explanation for the use of certain types of high quality papers and not others is probably that, rather than a large number of retailers buying paper, ruling it and selling it again, there was probably only a single trader—Thomas East and then William Barley being the obvious candidates in the early seventeenth century—making arrangements of his own to buy the paper which he thought the most suitable and of the most consistent quality for music, so that his decisions are reflected in the majority of music sources of his time. Since there was probably only a single stationer at any one time producing paper ruled for music, the problem caused several stationers stocking paper with the same mark may not arise, as other sources would be supplying the paper for different uses. Therefore, identity of *music* papers in disparate books is probably significant.

Ideally, music paper must be top-quality writing paper of a fairly heavy kind. *Sampson* is made up from quite a poor paper though it has survived show-through and the vicissitudes of age remarkably well. The watermark is not known anywhere else in music manuscripts despite its distinctive pattern, and may be English. According to Thompson,<sup>40</sup> papers of lesser quality and good quality light papers alike would, or should, be unsuitable for music. Imported papers were preferred to English for this reason, and if English papers appear at all it is usually as end-papers, though the low quality of end-papers means that they are rarely watermarked. Almost all the English lute sources use papers that were imported from France, particularly Strasbourg (the Strasbourg 'bend' appears several times), or from Holland and the makers of Amsterdam. *Pickeringe* somewhat idiosyncratically uses the high quality imported paper for the end-papers while the body of the book shows a pot watermark in a lighter paper that is similar to marks originating in England in 1619. Numerous pots in various states of disintegration appear throughout the lute sources, but since use of these was so widespread across Europe with a large number of varieties, there seems to be no local significance in their predominance among the marks found in lute sources.

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<sup>39</sup> Thompson 1988B, 4.

<sup>40</sup> Thompson 1988B, 2-4.

### §MUSIC PAPER, RULING

The only study made of printed music papers between 1550 and 1650 is the brief article of John Milsom and Iain Fenlon in 1984<sup>41</sup> that lists all the printed papers in music manuscripts and discusses their possible provenance. They found that most lute, vocal, consort and keyboard manuscripts were written on hand ruled paper, but gained the impression that, proportionally, far more lute sources used printed papers than did any other type of manuscript source. Even so, only a very low proportion of the lute sources are not written on paper ruled by hand, either with or without the help of a rastrum. There appears to be no correlation between those sources that use printed paper and the purpose to which they were put, or for which they were bought, although all of the books identified here as professional books make use—if not entirely—of printed paper (the Holmes books are treated here as a single extended source). It may be significant that Fenlon and Milsom mention five-line staves with an extra line added to make a six-line keyboard stave, or a four-line stave made up to a five-line one. It seems, though, that one case where one might expect to see hand-ruled lines added to printed ones would be in lute tablatures—or even an extra line added to a rastrum-ruled stave. In fact, there is no instance where this is the case. Why this should be so is not immediately obvious. Fenlon and Milsom do note that in printed lute papers, the lines within each stave are spaced wider apart than in blank five-line staves used as furniture to fill up pages of printed music, and it may be that five-line staves were not added to because the lines were too closely spaced to accommodate lute tablature. Or perhaps lute paper was so easy to obtain that the time-consuming process of cannibalizing other types of paper was unnecessary. Although music books were often bound up in oblong landscape or quarto format, from about 1580 the lute books favour progressively larger upright sizes, and the discrepancy between the standard format of vocal or keyboard books and the size and shape of lute manuscripts may also account in part for the rarity of mensural staves altered for tablature use.

The royal patent held by Byrd and Tallis included the printing of music paper as well as music of all kinds, and although the patent was financially a virtual dead loss, a report on the operation of all royal patents in 1582 suggests that despite their well-known lack of business acumen, their trade in printed music paper during the first seven years of the monopoly was nevertheless economically successful. Even this part of the business, however, had fallen into disarray by the time Morley took over Byrd's patent on its expiry in 1598.<sup>42</sup> Fenlon and Milsom suggest that the monopoly may not have been enforced very strictly between 1582 and 1596 and pirate papers may have undermined the legal market. The only paper signed by a printer is that of Thomas East, who gave each signature his initials, 'T.E.', but none of the other papers in circulation can be traced to their printers, nor does the type used for blank music paper appear as furniture in blank spaces on pages of printed music issued by Byrd and Tallis. As a result, none of the printed manuscript papers that appear in English music sources can be dated any more accurately than the watermark (vague, as is seen above), the binding, any inscription or the repertory may suggest. It appears that printed music paper was widely obtainable on

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<sup>41</sup> Fenlon/Milsom 1984.

<sup>42</sup> Fenlon/Milsom 1984, 141.



the continent from c1550, and Fenlon and Milsom suggest that many of the types they were not able to identify may have been imported,<sup>43</sup> particularly as virtually all paper used for music in England came from abroad anyway until the late seventeenth century. Several printers employed fleurons for borders, and these seem to have come into use in England during the mid 1560s, remaining in use until the early seventeenth century. The production of printed music paper in England had almost entirely been eclipsed by hand ruling by 1610, although evidence that East's papers continued to appear in manuscripts up to 1610 suggests that his printed paper was enough in demand to make its sale viable for his heirs. Henry Denham took up music printing in 1583, and Thomas East in 1588, relatively late in their careers (East had been a printer—but not of music—since 1565). East inherited the larger of the two music fonts belonging to Thomas Vautrollier, who died in 1587, and subsequently began to print music as the assign of Byrd. He certainly printed lute paper (with widely-spaced six-line staves instead of narrower spaced five-line ones) implying that Byrd had done so before, though since there is no way of tracing the papers this can only be conjecture:

... a wide variety of papers can be identified in twenty-nine manuscripts copied by English scribes during the period *ca.* 1560-1610. Several of these manuscripts are made up exclusively from a single design of printed paper, others are composite manuscripts that contain two or more designs or a mixture of printed and hand-ruled paper, while in a few cases the incidence of printed music paper amounts to nothing more than a fragment cut from a larger sheet. The quantities of each surviving design vary considerably, from several hundred near-identical leaves to small fragments of a single leaf.<sup>44</sup>

East's first music publication was Nicholas Yonge's *Musica Transalpina*, in 1588. There was no more influential music publication in England in the sixteenth and seventeenth centuries than this one, and in the same year he also published William Byrd's highly successful *Psalmes, Sonets and Songs of Sadness and Pietie*. From then on, East flourished as a music printer, as well as continuing to produce non-musical material, until his death in 1608. After Byrd died, East operated as the assign of Thomas Morley, and of William Barley from Morley's death in 1606. Considering the uncertainty of the market when East entered it, he made a remarkable success of his business, and it did not die with him. It continued to operate very successfully under the management of his widow, Lucretia, and his adopted son Thomas Snodham, both of whom continued to publish under East's name. Since the music paper business was clearly successful before East began to issue it, it is reasonable to assume that it continued to be a viable trade while East operated the patent, particularly as his papers continue to turn up for some years after his death, in spite of the fact that Morley at least felt that the trade in printed music paper had already been made financially non-viable by the trade in hand-ruled papers. Snodham may have been selling off old stocks of printed paper rather than printing new, which would have allowed him to keep his pricing competitive with the hand-ruling business.

If printed paper was as financially viable as East's business suggests, then it is not surprising that a large group of papers identified by Fenlon and Milsom are without recognisable printers. The authors suggest that the 14 designs of paper they can isolate may have been printed by unknown

<sup>43</sup> The collection of Hans Heinrich Herwart, mentioned in Chapter 3, Fenlon/Milsom 1984, 145.

<sup>44</sup> Fenlon/Milsom 1984, 142.

printers either between the patents of Byrd and Morley, when no patent was in force, or else by East's successors, or else were issued illegally while a patent was still in force. These may have been printed in England or imported. That none of these papers seem to match up with each other suggests

either that there was a rapid turnover of printer's stock due to wear and tear or that a competitive market existed, and many outlets, legal and otherwise, were at hand.<sup>45</sup>

This picture of many outlets does not match up with Thompson's convincingly argued impression of a single specialist stationer who was virtually the only source for music paper. It may be that hand ruled paper had a different commercial status and viability from that of printed paper, though watermarks are just as difficult to find a matches for, in spite of an average production of around 300,000 sheets for each mould in use. However, type does not wear down so quickly, and would have continued in use unchanged probably for many years, as East's inheritance of Vautrollier's font implies. Fenlon and Milsom summarized music printing activity in England as it emerged from the study of printed paper:

By the 1570s there are firm indications of both a wider constituency for music (and of a more cosmopolitan taste), in the sudden increase in manuscript sources and by the revival, after a forty-year interlude, of English music printing. It was no doubt in response to this growing audience for music that printed paper was produced in greater quantities than ever before in the final decades of the century. The virtual disappearance of the phenomenon in the early seventeenth century is more difficult to explain. It may be that such a marginal aspect of a small business fell foul of the sharp rise in inflation that took place during the 1590s. More probably, printed paper became temporarily obsolete since, as Morley remarked to Cecil, "There is many devices by hand to prejudice the press."<sup>46</sup>

It is interesting in this context that the more cosmopolitan taste is seen to start in the 1570s, whereas the contents of the lute books indicate that, at least in that repertory, aspects of repertory that would be referred to as cosmopolitan hardly had any place in the manuscripts before 1620, and only *Herbert* is one for which that epithet is entirely appropriate. This in fact may highlight one important aspect of the lute repertory when compared with virtually any other instrumental or vocal repertory on a parallel time-scale, and that is the conservatism and insularity of the lute players' repertory, while all around 'things Italian' were taking hold of the English musical imagination.

The following printed papers in English lute manuscripts were listed by Fenlon and Milsom (the numbers refer to their place in Fenlon and Milsom's tables). Their survey was principally of papers between about 1570 and 1610, a period that they identified as the most active in the production of printed music papers.

No papers with lute copying were found in the category represented by Table 1 ('English manuscripts containing printed music paper presumably in circulation before the Tallis-Byrd monopoly (1575)'). Only one lute manuscript, *Dallis* (2d), appears in Table 2 ('English manuscripts containing printed music paper presumably issued by Tallis and Byrd'), but Table 3 ('English manuscripts containing printed music paper signed "T.E." (Thomas East)'), contains *Dd.9.33* (3f) and *Cosens* (3g).

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<sup>45</sup> Fenlon/Milsom 1984, 153.

<sup>46</sup> Fenlon/Milsom 1984, 157.

Table 4 ('English manuscripts containing music paper presumably printed *ca.* 1575-1600, of unknown origin and legality') is the most significant, as they isolate three papers from *Marsh*, (4d, 4e and 4f), and further a paper from *Cosens* (4h), as well as four others, from *408/2* (4i), *Trumbull* (4j, 4k), and *Hirsch* (4l). Their tabulation of the information is reproduced in the table below (though all the manuscripts now appear in one table), which also includes further manuscripts that are written on printed papers. The numbers in the first column relate to Fenlon and Milsom's tables 1-4 while *Herbert*, *Richard* and *Folger*,<sup>47</sup> without numbers, have been added by the present writer.

The most characteristic attributes of a design are those that concern the staves themselves: the number of lines within the staff—four, five, or six—the height of the staff, its length, the number of staves to the page, and the total distance between the uppermost line of the highest staff on the page and the bottom line of the lowest<sup>48</sup>

**TABLE 17**  
PRINTED PAPERS IN LUTE MANUSCRIPTS

Measurements are in centimetres and are approximate because of variable paper shrinkage.

	Source	Staves per Page	Lines per Staff	Height of Staff	Length of Staff	Total Height	Comments
2d	<i>Dallis</i>	4	6	1.65	15.0	10.2	Some hand-ruled paper <i>passim</i>
3f	<i>Dd.9.33</i>	4 + 4; central gap 3.1	6	1.55	15.3	25.0	Signed T.E. Vertical printers' rules to either side of staves, 15.8 apart
3g	<i>Cosens</i>	8	6	1.55	15.3	24.6	ff.1-142. Signed T.E. Vertical printers' rules to either side of staves, 15.8 apart
4d	<i>Marsh</i>	4 + 4; central gap 3.8	6	1.6	15.2	24.5	<i>passim</i> (cf. f.1)
4e	<i>Marsh</i>	4 + 4; central gap 4.0	6	1.65	14.9	25.95	<i>passim</i> (cf. f.79). Watermark concordance with 4f
4f	<i>Marsh</i>	4 + 4; central gap 2.6	6	2.0	15.1	26.55	<i>passim</i> (cf. f.117). Vertical printers' rules to either side of staves, 15.4 apart. Watermark concordance with 4e
4h	<i>Cosens</i>	8	6	1.55	15.0	22.9	ff.149-[92]. Bound with T.E. paper (3g)
4i	<i>408/2</i>	8	6	1.65	15.1	22.0	
4j	<i>Trumbull</i>	8	6	1.6	15.0	24.8	<i>passim</i> (cf. f.1). Dimensions variable
4k	<i>Trumbull</i>	8	6	1.6	15.0	22.4	<i>passim</i> (cf. f.4)
4l	<i>Hirsch</i>	?	6	1.65	14.8	?	fragment attached to f.19r
	<i>Folger</i>	10	6	1.35	16.8	25.6	Staffs 1-6 and 10 are 1.35 wide, but 7-9 are 1.3. Vertical hand rules enclosing staves, 16.7-16.8 apart
	<i>Herbert</i>	10	6	1.55	14.5	24.8	Top line inset by 2.1 cm
	<i>Richard</i>	5					Compiled and probably bought in the Low Countries or Germany, in oblong folio format. Measurements not available.

The presence of a central gap in the printing of both *Marsh* (c1595) and *Dd.9.33* (c1600-1605), suggests that both papers were originally intended for oblong quarto format; the paper of *Dd.9.33* may therefore have come from an old printing forme or batch of paper, since oblong quarto

<sup>47</sup> The identification of this paper as printed was made in Ward 1976B, 18. Although Ward did not supply any measurements for the volume, overall dimensions of the book were kindly provided by Laetitia Yeandle of the Folger Shakespeare Library. Since the present writer's copy of the source appeared from comparison with these measurements to be at full size, the staff measurements were made from this copy. Accordingly, although they are reasonably accurate, they should not be treated as exact.

<sup>48</sup> Fenlon/Milsom 1984, 142-3.

lute books are not found after about 1595. The lack of central gap in the printing of *408/2* (c1605), on the other hand, confirms a date after 1600, but as the forme and watermark are otherwise unidentified it is possible that the paper was bought ready-printed from a continental supplier.

Measuring any written, printed or drawn matter older than about 100 years has its own particular problems associated with paper shrinkage. Gaskell<sup>49</sup> notes that shrinkage is more pronounced across chain-lines than along them, so comparison of measurements of upright and oblong format books is impossible when the chain lines do not run in the same direction on the page. Referring to the immediate shrinkage of paper after printing on slightly damp paper, he found that the impression of metal type was generally 1%-2.5% smaller than the type itself. He does not appear to be calculating shrinkage over time in these figures, but rather the shrinkage observed between the printing process, when the paper was moistened to allow it to stretch when the type was applied, thus enhancing the impression, and its subsequent drying. Because of the practice of moistening paper in this way, shrinkage within a printers block is likely to be more uniform than across paper that has not been pressed by a printer's forme. Even so, all papers cannot be relied upon to shrink uniformly, as a vast array of environmental factors will affect the amount of shrinkage ranging from the quality of the paper to its age and embracing not simply the storage conditions of the paper throughout its life, but also techniques employed in the paper-making process, the preparation of the writing surface, the quality and type of binding, the amount of use it received and so on almost indefinitely. Where measurements of printed papers may be useful, it has been found that measuring pages of hand-ruled paper, even of the same batch and bound in a single book, results in widely differing measurements, and particularly between written and unwritten pages. Currently research into papers and their origins is making use of quite detailed measuring of stave ruling,<sup>50</sup> but the present writer has found the practice of recording extremely small accurate measurements to be meaningless because of the ubiquitous and insuperable problem of paper shrinkage.

In any sources of this age the degree of paper shrinkage is not uniform in any way, and this is not simply between different books or between separate leaves of a book, but even across a single sheet; particularly noticeable where one edge of the book has been distressed in any way, through water or other damage. Printed papers may shrink more uniformly than those that were hand-ruled, due to the fact of their having been put under pressure while damp. Thus measuring the distance between the lines of the staves ruled with a single rastrum on a leaf—a matter of only about three to five millimetres—becomes reduced to average measurements across the page concerned, and those measurements cannot be taken as representative of any other leaf in the book. Mathematical precision is not only impractical but pointless, since even if a reasonably accurate set of measurements could be obtained, comparison with other sources is inconclusive. Attempting to discover whether multiple-stave rastra in discrete sources match is equally dubious since the degree of variance between unrelated sources sold by the same stationer is likely to be deliberately small because of buyers having a certain

<sup>49</sup> Gaskell 1985, 13.

<sup>50</sup> The distance between staves and the distance between each of the lines of the stave, as well as very precise measurements of the overall block on each page.

expectation of the appearance of a book. In this situation, the variation in measurements between books from different stationers is likely to be large enough that measurements do not need to be in extremely small increments, and even a single stationer is unlikely to be able to match his rulings precisely. In fact, exactly equal measurements between two sources must be viewed with suspicion unless every circumstance of their physical characteristics and history match. In this (hypothetical) case though, identity of ruling would hardly be significant.

**TABLE 18**  
HAND-RULED PAPERS IN LUTE MANUSCRIPTS

Source	Staves per Page	Comments
<i>2764(2)</i>	4	
<i>31392</i>	6	
<i>Andrea</i>	8	
<i>Ballet</i>	8	
<i>Board</i>	12	
<i>Brogyntyn</i>	6	
<i>Dallis</i>	4	usually irregularly hand-ruled
<i>Dd.2.11</i>	11/12?	
<i>Dd.3.18</i>	4	
<i>Dd.4.22</i>	8	
<i>Dd.5.78.3</i>	5	
<i>Edmund</i>	8	probably double-stave (i.e.12-tine) rastrum
<i>Euing</i>	6	
<i>Hirsch</i>	10	
<i>Krakow</i>	8	
<i>Lodge</i>	4	
<i>Magdalen</i>	?	fragments of larger sheets
<i>Mansell</i>	5	
<i>Marsh</i>	10	various ruled and printed papers combined throughout
<i>ML</i>	12	
<i>Mynshall</i>	10	
<i>Nn.6.36</i>	10	
<i>Och439</i>	10	
<i>Och532</i>	6	
<i>Och1280</i>	6	
<i>Osborn</i>	3	
<i>Pickeringe 1</i>	10	
<i>Pickeringe 2</i>		Each page is differently ruled
<i>RA58</i>	6	
<i>Rowallan</i>	4	
<i>Sampson</i>	10	
<i>Thistlethwaite</i>	5	
<i>Trinity</i>	8	
<i>Trumbull</i>	8	
<i>Welde</i>	10	
<i>Wickhambrook</i>	12	
<i>Willoughby</i>	4	

Hand-ruled papers almost invariably made use of a rastrum, either a single rake which ruled one stave at a time, or a multiple instrument that allowed the ruling of anything up to ten staves simultaneously. The latter type of rastrum would only have been used by a stationer, and it is unlikely that an everyday lutenist would have possessed even a single-stave instrument when it was probably quicker and cheaper to buy paper ready-ruled. The construction of rastra is an enigma, since none survive, and it is not known whether they were cast from metal or constructed from a number of quills.

If the latter is the case, then the life of an average instrument must have been extremely short, and identity of hand-ruling between papers is highly unlikely.

The analysis of rastrum ruling is too large a subject to be adequately explored here, and is unlikely, given the range and diversity of sources in the lute repertory, to be a significant aid to dating. If a stationer or bookseller were to find a particular format or ruling popular or easy to bind, or if he owned a multiple rastrum with a specific number of staves, he would probably repeat it, but as table 18 shows, there is considerable variety in the numbers of staves to appear on pages of lute books. Sources written on hand-drawn (i.e. un-ruled) lines are omitted as they would have been prepared by the scribe and not repeated.