English music manuscripts and the fine paper trade, 1648-1688.

Thompson, Robert Perry

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ENGLISH MUSIC MANUSCRIPTS

AND THE FINE PAPER TRADE,

1648 - 1688

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VOL I

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VOLUME I
ABSTRACT

The hand-made paper found in English music manuscripts in the latter part of the seventeenth century almost all belongs to a limited number of recognisable regional types, produced in a few areas only and by a relatively restricted number of mills. An identifiable pattern in the trade in high-quality paper suitable for music provides means of dating musical manuscripts independently of their contents.

Part I of the thesis deals with the fine paper trade in the later seventeenth century, examining such factors as wars, trade barriers and industrial developments. Part II examines the content and structure of a number of dated manuscripts, in the light of the pattern of trade described in Part I. In Part III the evidence of watermarks and paper is brought to bear on some musicological questions: the persistence of fantasias and other early seventeenth-century forms in the amateur repertory of the later years of the century; the place of continental music within that repertory; and the extent to which Italian sacred music was known to English musicians c.1650 and earlier.
## CONTENTS

List of Tables  
List of Illustrations  
List of Musical Examples  

Acknowledgements  

Introduction  
Notes to Introduction  

### PART I

**THE FINE PAPER TRADE**

<table>
<thead>
<tr>
<th>Chapter I</th>
<th>Hand-Made Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes to Ch.I</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter II</th>
<th>Sources of English Music Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes to Ch.II</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter III</th>
<th>Types of Paper used for Music Manuscripts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes to Ch.III</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter IV</th>
<th>Music Books and Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes to Ch.IV</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter V</th>
<th>Some Watermarks from English Music Manuscripts</th>
</tr>
</thead>
</table>
PART II

SOME DATED MANUSCRIPTS, 1648 - 1688

<table>
<thead>
<tr>
<th>Chapter VI</th>
<th>English Music Manuscripts from 1648 to 1660</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lbl Add.10338</td>
</tr>
<tr>
<td></td>
<td>Ob MS Mus.Sch. d.220</td>
</tr>
<tr>
<td></td>
<td>Ob MSS Mus.Sch. e.406-9</td>
</tr>
<tr>
<td></td>
<td>Lbl Add.10337</td>
</tr>
</tbody>
</table>

Notes to Ch.VI 251

<table>
<thead>
<tr>
<th>Chapter VII</th>
<th>English Music Manuscripts from 1660 to 1678</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ob MSS Mus.Sch. e.410-14</td>
</tr>
<tr>
<td></td>
<td>Lbl Add.30488-90</td>
</tr>
<tr>
<td></td>
<td>Ob MSS Mus.Sch. c.54-7</td>
</tr>
</tbody>
</table>

Notes to Ch.VII 278

<table>
<thead>
<tr>
<th>Chapter VIII</th>
<th>English Music Manuscripts from 1678 to 1688</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lbl Add.31427</td>
</tr>
<tr>
<td></td>
<td>Lbl Add.30930</td>
</tr>
<tr>
<td></td>
<td>Lbl Add.33234</td>
</tr>
<tr>
<td></td>
<td>Lbl Add.29283-5</td>
</tr>
</tbody>
</table>

Notes to Ch.VIII 317
PART III

WATERMARKS AND SOME QUESTIONS OF REPERTORY, 1648 - 1688

Chapter IX  The Cumulative Repertory  324
Lbl Add.31423 folios 1-75  325
Lbl Add.10444-5  340
Lbl Add.31431  367

Notes to Ch.IX  381

Chapter X  Italian Church Music
抄ied by Locke and Jeffreys  387
Lbl Add.31437  387
Lbl Add.31479  394

Notes to Ch.X  426

Chapter XI  Some Early English Sources of Italian Sonatas  431
Lbl Add.31431  436
Lbl Add.33236  444
Ob MSS Mus.Sch. e.400-3  458

Notes to Ch.XI  462

Appendix 1  Ob MS Mus.Sch. d.220:
catalogue and concordances  468
Appendix 2  Lbl Add.17801  524
Appendix 3  Rastrum measurements  530

Bibliography  534

Conclusion  544
LIST OF TABLES

Chapter II

Table I  Sources of Paper Imports to London 1662-1700  33

Chapter III

Table I  Nominal Paper Prices from the 1657 Book of Values  62
Table II  A Stationer's Inventory of 1674  69

Chapter V

Table I  Table of Watermarks  88

Chapter VI

Table I  Lbl Add.10338: Catalogue and analysis of structure  174
Table II  Ob MS Mus.Sch. d.220: Distribution of watermarks  226
Table III  Lbl Add.10337: Summary of content and structure  231
Table IV  Lbl Add.10337: Catalogue and list of concordances  236

Chapter VII

Table I  Lbl Add.30488-90: Concordances  270
Table II  Lbl Add.30488-90: Watermarks and stave rulings  272
Table III  Lbl Add.30488-90: Distribution of watermarks  273
Chapter VIII

| Table I    | John Jenkins' 'Little Consort': Concordances | 285 |
| Table II   | Lbl Add.31427: Distribution of watermarks     | 287 |
| Table III  | Lbl Add.33234: Summary of watermark distribution | 293 |
| Table IV   | Lbl Add.33234: Contents and printed concordances | 295 |
| Table V    | Lbl Add.29283-5: Titles and ascriptions        | 305 |

Chapter IX

| Table I    | Lbl Add.31423 folios 1-75: Thematic catalogue | 326 |
| Table II   | Lbl Add.31423 folios 1-75: Distribution of watermarks | 337 |
| Table III  | Lbl Add.10444-5: Summary of contents           | 340 |
| Table IV   | Lbl Add.10444-5 sets 2, 3 and 4: paper, contents and hand | 344 |
| Table V    | Lbl Add.10444 set 2: Distribution of watermarks | 351 |
| Table VI   | Lbl Add.10445 sets 4 and 5: Distribution of foolscap watermarks | 354 |
| Table VII  | Lbl Add.10445 sets 4 and 5: Distribution of paschal lamb watermarks | 355 |
| Table VIII | Lbl Add.31431: Ayres and dances ascribed to Jenkins | 373 |
Chapter X

Table I  Lbl Add.31437: Italian motets 389
Table II  Lbl Add.31479: Thematic index 397
Table III Lbl Add.31479: Distribution of watermarks 414
Table IV  Ob MS Mus.Sch. c.83: Distribution of hat watermarks 418
Table V  Ob MS Mus.Sch. c.85: Distribution of hat watermarks 419

Chapter XI

Table I  Lbl Add.31431: Italian sonatas 438
Table II  Lbl Add.33236: Contents 445
Table III Lbl Add.33236: Stave rulings 446
Table IV  Lbl Add.33236: Distribution of watermarks in folios 3-14 and 70-73 447
Table V  Lbl Add.33236: Chronology 449
Table VI  Related English sources of Colista sonatas 452
Table VII Ob MS Mus.Sch. d.254: Anthology of sonatas 454
Table VIII Ob MSS Mus.Sch. e.400-3: Contents 458
LIST OF ILLUSTRATIONS

Chapter I

Figure 1  Chain lines in paper  20
Figure 2  Watermark and countermark  21

Chapter IV

Figure 1  Folio and oblong quarto formats  77
Figure 2  Upright quarto format  79
Figure 3  Format of Lbl Add.22098  80

Chapter V

Watermarks from English music manuscripts  91-160
(See Table of Watermarks, 88-90)

LIST OF MUSICAL EXAMPLES

Chapter VI

George Jeffreys: revisions in 'Turn thee again' and 'O bone Jesu'  211-2

Chapter IX

Lbl Add.10444: variants in Locke's Consort for Several Friends  358-60

Chapter XI

Examples from Playford, Introduction (1694)  432-4
ACKNOWLEDGEMENTS

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ENGLISH MUSIC MANUSCRIPTS
AND THE FINE PAPER TRADE, 1648 - 1688

INTRODUCTION

English musical life in the latter half of the seventeenth century is remarkable for its richness and diversity. Traditional English forms, including fantasias as well as lighter ayres and dances, retained some popularity; Italian sonatas came in due course to be quite widely known; and the English composers who were at the height of their powers after the Restoration, such as Locke and Christopher Gibbons, made their own contribution. English sources also exist of music by French, Italian and Flemish composers, and of Italian vocal music. Most of this varied repertory is in manuscript, much of it undated, and the relationship between its various elements is far from self-evident. It would be helpful to know, for example, how long the viol consort repertory continued to be copied; at what time the new Italian sonatas began to circulate and how widely they were known; and whether the different styles were regarded as incompatible. These questions can never be fully and finally answered, but a clearer picture could be gained by establishing means of dating music sources independently of their contents and improving our understanding of their construction, history and manner of use.

The value of watermarks in bibliography and manuscript studies has long been recognised, but for a variety of reasons the large
general and regional encyclopedias of watermarks already available are not wholly satisfactory for the study of music manuscripts. The accuracy of their illustrations is often insufficient to identify a particular mark with certainty, and their watermarks are catalogued according to type with little or no detailed information about the size, weight and quality of the paper in which they are found or the way in which the paper was used. None of these comments is intended to diminish the work of Heawood, Churchill and others, but it seemed that a further step - to catalogue watermarks within a limited area of manuscript use - needed to be taken. Music paper, which has to satisfy exceptionally demanding requirements, offered a suitably limited field of study.

The first step was therefore to carry out a preliminary survey of late seventeenth-century music manuscripts, mostly in the British Library, to find out whether any particular types of watermark were found in music more commonly than others. These enquiries yielded the surprising result that although the watermarks differed in detail, they, and the paper containing them, mostly fell into a very small number of definable types. There also appeared to be a considerable degree of standardisation in stave-ruling, and it seemed that closer study would produce useful results. The time limits of 1648 and 1688 were chosen because a manuscript containing the former date, Lbl Add. 10338, provided a good basis of datable material near the middle of the century (although the reality turned out to be rather more complex: see Ch. VI) and the latter date,
when political events in England and Europe led to the outbreak of the Nine Years' War, marks the end of the French domination of the English paper trade which had existed previously. The period thus selected included several important musical developments, such as the introduction of Italian sonatas to England, and also coincided with most of the life of Purcell.

The next stage was to form as clear a picture as possible of the English paper trade during those years: this forms the subject of Part I. The traditional process of papermaking is admirably dealt with in works of varying technical depth, and is merely summarised in part of Chapter I; but the considerable literature that exists on sources of supply to England, the various types of paper available, patterns of seventeenth-century trade, and the effects of wars and other political developments, contains nothing which outlines the paper trade as a whole and also concentrates in some detail on the small part of it represented by high-quality writing paper of the kinds found in music sources. Chapters II and III, though largely based on published material, attempt to meet this need, and Chapter IV deals with paper specifically ruled for music. Watermarks found in music paper are included in Chapter V, with cross-references to the detailed discussions of sources elsewhere.

Part II, divided into three chapters, contains a number of studies of dated manuscripts intended to provide a framework with which undated material can be compared. In each case there is some discussion of the source's content and concordances, not least in
order to show to what extent the date can be taken at its face value. Where possible, biographical information about the manuscript's owner has also been included.

Although the main purpose of the study was to examine paper, it was inevitable that the music the manuscripts contain would demand attention, and the temptation to explore random musicological byways had to be resisted. There were three musical questions, however, where the study of paper seemed to have a special relevance: the persistence of earlier repertory alongside modern music discussed in Chapter IX; the copies of Italian music made by Locke and Jeffreys and their historical implications, discussed in Chapter X; and the possible date of some sources of Italian trio sonatas described in Chapter XI.

For most manuscripts I have provided references to concordant sources, or to a work where a complete list of concordances can be found: especially where anonymous works are involved, a thematic catalogue is often included. For the major mid-century dance collection Ob MS Mus. Sch. d.220, the thematic catalogue seemed absurdly long to be included in the main text but too useful to be omitted, and so is relegated to Appendix 1. An interesting matter which seemed to have no real connection with anything else - paper evidence casting a little light on the history of Locke's autograph score Lbl Add. 17801 - is discussed in Appendix 2. Appendix 3 is an index of the stave-rulings found in the sources described in this study.
NOTES TO INTRODUCTION

1. This Austrian and Flemish repertory is discussed in detail in Mark Caudle, 'The English Repertory for Violin, Bass Viol and Continuo', *Chelys* vi (1975-6), 69-75.


PART I

THE FINE PAPER TRADE
CHAPTER I

HAND-MADE PAPER

English music manuscripts dating from between 1648 and 1688 are all made of foreign paper, mostly imported from France. During these years several changes took place in the watermarks and dimensions of the paper generally found in English music sources, reflecting a major change in the preferred source of supply from Normandy to the Angoumois; legislation introduced by the French government to regulate and raise the standards of the paper industry; and the personal fortunes and commercial decisions of individual papermakers and merchants. At the end of the period, after the outbreak of the Nine Years' War, a combination of social, political, commercial and technological factors enabled the newly-developed paper industry of Holland to take over the dominant position in the English market for high-quality paper for so long held by the French. The variety of watermark and other features found in paper during these years is due not to random causes or to the whims of individual craftsmen, but to a coherent pattern of social and industrial change which in turn enables us to assess the likely date of a manuscript independently of its content or handwriting.

The process of making paper by hand must first be described, although it has been frequently and expertly dealt with before, to provide a background to the varying features of paper in the sources discussed in detail. The second part of this chapter, in which the potential and limitations of paper evidence will be considered, concentrates on the aspects of the finished paper which provide means of comparison and dating.
Papermaking

In the 17th century, and indeed throughout the history of hand-made paper, white paper for writing or printing was made from linen rags. These were cut into convenient sizes, left partially to decay, and then subjected to a long process of washing and beating to separate the linen fibres and reduce the rags to pulp. Traditionally the beating was carried out by large hammers, normally driven by water power, in three different troughs, the rags being transferred from trough to trough during the process. The finished pulp, from which paper could be made, was known as 'stuff'.

Such a stamping mill depended upon water power, and a supply of extremely pure water was also required for the continuous washing to which the rags were subjected at the earlier stages of the beating process. The ideal site for a paper mill was therefore one where a reliable and fast-flowing river was available to drive the waterwheel, and a smaller stream or spring to supply the washing water. Paper industries therefore tended to grow up in hilly areas. The Zaanland mills in Holland had to be driven by wind, and therefore used a completely different beating system, a rotary machine that became known as the 'hollander'. Technical advances in these machines made possible the flowering of the Dutch white paper industry after 1670. When the beating was complete, the pulped rags were transferred to the vat. The vat was the heart of the papermill, and most mills had only one or two. Each sheet of paper began its life on the mould dipped into the liquid stuff in the vat.

Essentially the mould consisted of a lattice of fine metal wire supported on top of a wooden frame. To prevent the stuff from running off the mould, an oblong wooden edge or deckel was fitted
over it, and the mould and deckel together were dipped into the vat by a craftsman known as the vatman. He then allowed the stuff to drain, removed the deckel, and slid the mould along a board to his colleague the coucher, who at the same time returned an empty mould to him. This second mould was covered with the deckel and in turn dipped into the vat, while the coucher was transferring the partly formed paper to a stack made up alternately of similar sheets and pieces of felt. When this stack, known as the post, was large enough it was pressed to remove as much water as possible and the paper and felt were separated. The felts were returned to form another post, and the paper went on to be dried, sized so that it could be written or printed upon, pressed again, and subjected to whatever finishing processes of beating or polishing were appropriate for it. When all was finished, the paper left the mill packed into a ream wrapper, which was often elaborately printed with a description of its contents.

Three basic requirements had to be met before white paper could be made: there had to be a suitable site, a good supply of raw materials, and a number of skilled craftsmen. The first could be found in England, and the second could be imported, but the fact that England did not have a native linen industry and English people made far more use of wool meant that until political developments intervened towards the end of the century, the French had an automatic advantage in white paper making and English mills were confined to the manufacture of wrapping paper, which did not have to be made from linen.
The characteristics of hand-made paper

Each sheet of hand-made paper reflects the characteristics of the mould on which it was made. The wooden frame of the mould had ribs running in one direction only, to which relatively heavy wires or 'chains' were attached. When the paper is lit from behind, the marks left by these wires are visible as 'chain lines'.

Figure 1

In the seventeenth century, the chains were sewn directly to the ribs of the mould, which resulted in shadows visible on either side of the chain lines. Paper with this feature is properly called 'antique laid'. The extra vertical wires at either end of the mould were not attached to ribs and did not cause this shadow: they were known variously as edge wires, water bar wires or tranchefiles. At right angles to the ribs and chain lines were the finer and much more closely spaced 'laid' wires, perhaps 1mm apart, which created
the 'laid lines' visible in paper; finally, a watermark of some kind would almost invariably be provided for a mould intended for making high-quality paper (see figure 2: laid lines not to scale).

Figure 2

Thus the dimensions as well as the various marks in the paper were determined by the mould. The weight of each sheet was decided by the vatman using the mould, and the surface of the paper was created by the felts employed for pressing and the different finishing processes. Despite the skill of the craftsman, however, the weight of hand-made paper tends to be inconsistent, and surface texture cannot be quantified, so the features of the paper derived from the mould are the most valuable means of comparison and dating. Every hand-made paper mould was unique, the complexity of its con-
struction being such that no mould-maker could create two identical in every respect. Therefore only sheets of paper made in the same mould can properly be described as 'identical', and even they will show changes as the mould ages, deteriorates, and is repaired.

The finished sheet of paper took the form of a rectangle with proportions similar to those of figures 1 and 2. The smallest sheets made measured c. 300 mm x 400 mm, and the largest commonly sold c. 465 mm x 675 mm. Conventionally the sheet is viewed with the longer edge at the top, and the watermarks were made to be seen in this way. There were no fixed sizes for different types of paper, although there was a generally accepted range of dimensions within which the various types would fall (see Ch. III). In any case, the paper would have no straight edge to measure from, as the uneven 'deckel edges' left when the stuff seeped between the mould and the deckel were not removed at the paper mill; paper was cut, if at all, by the stationer or bookbinder, but many musical sources still have all or some of their deckel edges intact. These edges are useful in the study of paper as they give the only sure indication of the paper's original size.

All of the marks visible in paper - chain lines, laid lines and watermarks - can provide means of distinguishing different types of paper. In high-quality papers the pattern of laid lines is generally very similar, but the exact distance separating the chain lines differs from mould to mould. These lines are rarely evenly spaced, so it is usually possible to distinguish different moulds or to identify the same one in a different source by measuring the spacing of chain lines around the watermark. The watermark itself, however, is bound to be the focus of attention in the sheet.
The normal position of the watermark at this period, in the centre of the left-hand half of the mould, is shown in figure 2. The pattern on the mould was normally a mirror image of the mark intended to be seen in the paper, although many 17th-century marks are equally satisfactory either way round. In the centre of the right-hand half of the mould there was sometimes, though not always, a countermark, normally consisting of the name or initials of the papermaker. The presence of countermarks was to some extent a regional feature: Norman makers frequently incorporated their initials or names into watermarks such as the pot and posthorn, but in the Angoumois the maker's mark is almost always in the countermark position, initials beneath the watermark itself belonging to the merchant for whom the paper was made. In the finished paper, letters in both countermark and watermark can be read normally with the countermark on the left and the watermark on the right.

The complex marks of this period were presumably made on patterns, although there is no contemporary description of one and no examples have survived. An account of a craftsman using traditional methods, published in 1917 and quoted at length by Allan Stevenson, refers to the use of a pattern: Stevenson's enquiries to the firm of Van Gelder Zonen revealed that watermarks had traditionally been made by shaping the wires around pins hammered into a drawing on a wooden block. This must have been the method that enabled Angoumois and Dutch craftsmen to produce such elegant and complex marks as the Dutch lion, arms
of Amsterdam and fleur-de-lys, not only in beautiful forms but also with little variation between them. In the later seventeenth century the watermarks seem to have been fastened to the mould partly by the old 'sewing dot' method, which leaves a visible mark in the paper, and partly by running stitches which cannot be seen.

The tendency of watermarks to drift towards chain-lines evident in earlier paper does not affect most of the marks of this period, which are generally large enough to be firmly attached to at least one chain-line from the outset. Movement can, however, sometimes be seen in outlying parts of a mark, such as the stem of a foolscap. But manuscripts do not provide the quantity of paper from the same moulds that might be expected in even a small number of examples of a printed book; in the manuscripts I have studied, only three mould-pairs occur in different and apparently unrelated sources. The small amount of paper that survives from each pair of moulds limits the possibility of finding a progressive series of identifiable 'states' of the same mark.

At each papermaking vat two craftsmen, the vatman and the coucher, worked together using two moulds and one deckel. In the original post paper from the two moulds of the pair, showing their inevitable minor differences, would form alternate sheets. Every watermark has a pair somewhere, although the original alternation of sheets may well have been lost by the time the paper was written upon. Sources of paper from the same moulds can be identified with most confidence if both marks of the pair, and the characteristic distribution of chain lines of each mould, can be disting-
uished. Some mills had two vats, and if both were used to produce the same type of paper we might expect to find not a pair but a quartet of related marks. Such a quartet occurs in a group of sources with hat watermarks including Lbl Add. 31479 and Lom 920 (see Ch. X).

Marks which are very similar do not necessarily form a pair in the sense just described. In the Angoumois and Holland moulds were made by specialist craftsmen, not at the paper mills, and the mould-makers appear to have used a limited number of patterns for producing watermarks, moulds made for different papermakers being distinguished by their personal countermarks. In its form, as opposed to the way it was used, a mark is no more closely related to its pair at the vat than to another made on the same pattern, so where the papermaker, stationer or copyist have mixed papers of the same watermark type and quality, it is sometimes difficult to tell which sheets were in fact produced by a mould pair at the vat. As signs of damage or inexpert repair are seldom found in high-quality Angoumois paper, it is possible that the mills had spare moulds to use if one had to be returned to the 'maître faiseur de formes' for attention.

Watermarks can be recorded and identified in a number of ways. The most valuable information, apart from the general type of the mark, is its precise relationship with the adjacent chain lines; for example, whether one of a foolscap's bells is to the left or right of a chain, or is bisected by it. With care, a fairly accurate sketch can be made by plotting the position of a large
number of features of a mark relative to the chain lines, which should always be shown in a watermark illustration, but rough drawings including the chain lines and one or two basic dimensions are often enough to show whether two marks are likely to be identical. The best illustrations are of course those provided by beta-radiography, but the expense of this method and its unavailability outside major libraries mean that preliminary work at least will probably have to be carried out by eye. Tracing, the method used for most watermark encyclopedias, is an unsuitable method for bound volumes and in any case often shows less detail than is visible to the naked eye.

Watermarks and musicology

Watermarks certainly do not provide ready-made solutions to musicological problems, but their evidence, correctly interpreted, can often be very helpful. The recognition of identical marks, or of different marks of a particular type, may help in relating a manuscript to other sources or in examining its own internal structure.

Only sheets of paper made in the same mould can be described as 'identical', and as the life of a mould at James Whatman's mill in the eighteenth century was only a matter of months, it is not surprising that the limited quantities of paper in music manuscripts show so few examples of identical watermarks in different sources. The high-quality paper suitable for music copying
served many other purposes, and surviving identical sheets could well be found in correspondence (up to c.1660 when letter-writing paper and heavier types became more distinct), account books, drawings or other material. By no means all of the paper made in a mould was necessarily exported to England. The scarcity of identical watermarks, however, means that their occurrence in different sources is potentially valuable evidence: for George Jeffreys' Italian music collection, Lbl Add. 31479, identical watermarks help to establish both a date of copying and a relationship with another Jeffreys source (see Ch. X).

Much scorn has been cast on the evidence, or lack of it, provided by 'similar' marks which, it is true, prove nothing in themselves. Many of the principal types of mark appear in similar forms for half a century or more, so an isolated dated occurrence is no guide to the date of something else not quite the same. But if the various features of paper and watermarks can be related to a historical context which offers an explanation of their changes they become a useful historical tool. The appearance c.1679 of paper combining the patriotic Dutch lion watermark, the initials of Abraham Janssen, a Dutch factor working at Angoulême, and the countermarks of Angoumois papermakers is likely to reflect the ending of the Franco-Dutch war in 1678 and the favourable trading conditions for the Dutch negotiated at the treaty of Nijmegen. Without such explanations, the evidence of dated material is open to question and revision: the appearance of Claude de George's countermark from 1678, for example, must be qualified by the
observation that he worked at the Nersac mill from 1674 or 1675 (see Ch. II). Gillis van Hoven's monogram, which does not occur in the Zaan archives until 1693, is found in the Lord Chamberlain's bill book for January 1686 onwards, and there is no biographical reason why even the latter date should be the earliest possible for this type of mark. The occurrence of a mark at a particular date needs to be placed in a satisfactory context before it can be used as evidence for the dates of marks that are merely similar.

The identification of different types of paper within a source sometimes offers a clue to its history, especially if the various papers are likely to have been produced in different areas or periods. The commonest type of musical source in the later seventeenth century, however, is the instrumental part-book, which normally consists of one type of paper only in relatively small quantities. When large amounts of identical paper are found there is usually some other evidence, whether the source is a score or a part-book, that it was supplied as a bound volume, and if the folios of a source are mounted separately in a modern guardbook, the watermarks and countermarks sometimes offer evidence of the original quiring.
NOTES TO CHAPTER I

1. Henk Voorn, De papiermolens in de provincie Noord- Holland, Haarlem 1960, 532. The fitting of bronze blades and bed-plates to hollanders from 1673 made the manufacture of white paper possible; iron bladed machines could only be used for other grades.


3. Philip Gaskell, A New Introduction to Bibliography, Oxford 1972, 63, quoting T. Balston, James Whatman, Father and Son, London 1957, 60, 120. Moulds at Whatman's mill had to be replaced after about seven months.


5. For a discussion of the significance of letters in watermarks, especially groups of three, see E. Heawood, 'Further Notes on Paper used in England after 1600', The Library, series 5, ii (1947-8), 119-149.


8. Watermarks XXII and XLII.

9. For a detailed study of this question see Stevenson, The Problem, 26-127.
10. In 1672 Jean Delafont 'l'aîné' was working as 'maître faiseur de formes à papier' at La Couronne in the Angoumois: see G. Babinet de Rencogne, Recueil de documents pour servir à l'histoire de commerce et de l'industrie en Angoumois, (Bulletin de la société archéologique et historique de la Charente, 5ième série, tome ii), Angoulême 1880, 96. See also Voorn, op. cit., 537.


12. Voorn, op. cit., 134 and watermark 83. One example in Heawood, Watermarks, dated '1663 (?)', is unlikely to be so early: all other Heawood examples, 348, 391, 453, 1786, 1811, 2718, 3144, are post-1679.


14. See the account of Janssen's trial for fraudulently using de George's countermark in 1686; G.B. de Rencogne, op. cit., 103-114.


16. PRO LC9/278.
CHAPTER II

SOURCES OF ENGLISH MUSIC PAPER

The trade in paper of the quality used for music manuscripts passes through three distinct phases between 1648 and 1688: 1648-1660, 1660-1678 and 1678-1688. These phases will be considered separately after an initial discussion of the various sources of information throughout the whole period.

Most reliable information about quantities imported is derived directly or indirectly from the records kept at the customs houses. Apart from the Port Books preserved at the Public Record Office, figures for 1662-3 and 1668-9 were derived by Charles Davenant in 1711 from a manuscript at the London custom house containing an abstract of imports and exports passing through the Port of London. This manuscript is almost certainly Lbl Add. 36785.

The Port Books do not provide a complete record, and they give little information about the types of paper imported. Even the origin of the paper is not always clear, as the books merely record the port from which the ship last sailed. Other contemporary statements have to be treated with even greater caution. For example, Davenant points out that in the abstracts for 1662-3 and 1668-9 the values of imports are calculated from retail prices in England while the values of exports are based upon the price paid to the original supplier or producer, an arrangement which creates the impression of a serious imbalance in France's favour. This distortion, he
suggests, was deliberately carried out for political reasons: 4

And France rose so fast as to beget just apprehensions to England for our future safety. In the meanwhile several good patriots perceiving the court then fatally running into French interest and measures, and finding it would be difficult to engage the people (newly come out of a civil war) to follow and join with them in more national councils, by speculations merely political, concerning the progress of the French arms and power, they thought the best course to awaken Englishmen was to alarm them about the danger they were in to lose their trade, and for this reason, nothing was so common as to cry, that England was undone by the prodigious over-balance the French had upon us. To this purpose, divers estimates were delivered to King Charles II, to the Committee of Council and to the House of Commons, and sometimes the court gave in to this matter when great sums of money were to be asked in Parliament to carry on a vigorous war against France, this overbalance was made use of maliciously by some who had a mind to disturb and defame the government.

But at least the quantities recorded in these abstracts are consistent with those recorded in the Port Books. Other contemporary commentators, such as Samuel Fortrey, and even Charles King in the frequently reliable British Merchant, make wildly improbable claims about quantities imported.
The following table was derived from the Port Books and PRO customs records with the exception of the figures for 1662-1663 and 1668-1669, which are from Lbl Add. 36785, and 1685-1686, which are derived from those printed in The British Merchant as 'An Account of the Imports and Exports to and from England and France from Michaelmas 1685 to Michaelmas 1686 which was laid before the Parliament in 1713 by the Commissioners of the Customs'.

Table I

<table>
<thead>
<tr>
<th>Years</th>
<th>France</th>
<th>Holland</th>
<th>Italy</th>
<th>Germany</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1662-3</td>
<td>116,698</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1667</td>
<td>2,782</td>
<td></td>
<td></td>
<td></td>
<td>471</td>
</tr>
<tr>
<td>1668-9</td>
<td>154,392</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1672</td>
<td>114,740</td>
<td>165</td>
<td>2,255</td>
<td>64</td>
<td>41</td>
</tr>
<tr>
<td>1676</td>
<td>138,856</td>
<td>4</td>
<td>3,300</td>
<td></td>
<td>794</td>
</tr>
<tr>
<td>1677</td>
<td>150,911</td>
<td>3</td>
<td>2,334</td>
<td></td>
<td>2,176</td>
</tr>
<tr>
<td>1678</td>
<td>63,647</td>
<td>1,179</td>
<td>23,400</td>
<td>954</td>
<td>12</td>
</tr>
<tr>
<td>1679</td>
<td>300</td>
<td>73,902</td>
<td>36,219</td>
<td>363</td>
<td>1,854</td>
</tr>
<tr>
<td>1685-6</td>
<td>80,685</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1697-8</td>
<td>4,083</td>
<td>39,203</td>
<td>2,758</td>
<td>5,710</td>
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<td>1699</td>
<td>28,301</td>
<td>92,017</td>
<td>31,640</td>
<td>10,950</td>
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<tr>
<td>1700</td>
<td>15,586</td>
<td>68,677</td>
<td>76,229</td>
<td>36,668</td>
<td>3</td>
</tr>
</tbody>
</table>

(From D.C. Coleman, The British Paper Industry 1495-1860, 121.)
Coleman also observes that between 1699 and 1703 97% of all paper imported came into London. Davenant's 1711 computation assumed that only 75% came into London, but he based this figure on records of customs revenue for all ports in 1676-7 which are not broken down into separate commodities.

At various times throughout the period, imports from either France or Holland were forbidden. Legislation to this effect, couched in strong language and threatening dire penalties for offenders, was passed in 1665 and 1666 prohibiting Dutch and French imports respectively, and in 1678 and 1689 forbidding French imports. Each of these measures will be considered in greater detail below, but some contemporary observations on such legislation in general are best mentioned here.

Writing in 1680, admittedly in favour of free trade, the pseudonymous 'Philanglus' points out that:

'Tis already found, and 'twill be more and more discovered every day, that great quantities even of the goods prohibited by the late Act are and will be imported ... mere prohibitory laws never did nor can answer the ends they were intended for, being made in restraint of the effects without removing the causes, whilst it remains in the interest of traders to elude the prohibition.

Such laws were not easy to enforce:
How few in England, if any, can positively swear this or that is French manufacture in the mere view? Nor are our people apt to inform, and will be less when it shall come to be the common interest of traders to connive.12

In the case of the 1678 prohibition, more than a year elapsed between the introduction of the bill (8 February 1677)13 and its receiving the Royal Assent (20 March 1678).14 Merchants therefore had plenty of time to import large stocks of French goods. 'Philanglus' also observes that merchants who do observe the prohibition may and will furnish us with the same things from other ports ... more linens and paper, from Holland, Hamburg and Genoa & c.15

Prohibitions certainly had some effect on the availability and prices of paper, but it is equally certain that they were never the sole cause of a significant change in the pattern of trade.

From c.1660 onwards most of the paper used for music in England was made in the Angoumois, where the paper mills were increasingly financed by Dutch capital, and was frequently exported by Dutch merchants. Franco-Dutch relations are therefore as important as those between either country and England. The English Navigation Acts, however, which imposed extra import duties on goods carried in a ship which was not English or of their country of origin, applied only to certain listed commodities and did not affect paper.16
1648-1660

Until the final years of this phase, English musical sources are completely dominated by paper made in Normandy. The commonest type of mark is the pot, with the double pillars and the posthorn occurring in smaller numbers. In 1638 Lewes Roberts listed paper as a product of Normandy available at Rouen 'under the title whereof I shall comprehend the trade of the rest [of Normandy]', but he makes no reference to paper exports from any other part of France.¹⁷

There were no real impediments to trade in these years, in spite of the Dutch War of 1652-4. Dutch maritime policy followed the principle of 'free ships, free goods', which meant that neutral ships trading with the enemies of the Dutch would not normally be interfered with.¹⁸ During this period, and indeed before, Dutch merchants were taking an increasing interest in the paper mills of the Angoumois, whose exports were sent through La Rochelle. In 1644 the Amsterdam merchant Marcus Jordis made a complaint about the quality of some paper he had received from Henrick ter Smitte, a merchant at La Rochelle, who himself had bought it from Pierre Gaultier at the Rochandri mill near Angoulême, and Jean Louis Guez de Balzac, a distinguished resident of the Angoumois, refers in his published letters to paper from that area being sent to Holland in the early 1650s.²⁰ Angoumois paper was evidently being imported into England by the late 1650s as the Book of Values of 1657 refers to 'Rochelle paper as large as demy':²¹ several music sources of c.1660 have characteristic Angoumois watermarks. A final significant element in the range
of papers used for music consists of that marked with the 'cardinal's hat', a traditional Italian mark which in the sixteenth century had become exclusively Venetian. Several contemporary sources refer to paper imports from Italy, including Lewes Roberts (1638) who lists it amongst the commodities, 'not many, nor of much worth', of Venice, and Thomas Fuller (1662) who says that Venetian paper is 'neat, subtile and court-like'. Roberts' general comment need not be taken to reflect upon the quality of the small amounts of Italian paper imported in the mid-seventeenth century. Most types of paper used for music between 1648 and 1660 are also used for correspondence and other less specialised purposes.

1660-1678

Compared with the previous phase, these years are full of incident. English dependence upon imported paper was highlighted by the effects of the ban on French imports in 1666, in the course of the Second Dutch War of 1665-7. Imports of Dutch produce were forbidden from 15 March 1665, and French from 1 December 1666. These prohibitions, which coincided with the difficulties caused by losses in the Great Fire in September 1666, did not stop the importation of paper. Numerous special licences were issued, making the extent of English reliance upon French paper abundantly clear. Thus on 5 February 1667 instructions were given for the St Lucy of Nieuport to be allowed to unload certain goods,
'the late prohibition against the import of French goods notwithstanding'. This ship, which belonged to Samuel Swynock, was permitted to unload paper, skins, cream of tartar and cork, and on the same day Samuel Atkins' St Anthony was permitted to unload brandy, wine, paper and linen. The day after, John Wadlow's Fortune was granted a warrant to unload wine, paper and prunes. Later in February, Christopher Barker petitioned to be allowed to import 1000 bales of paper from France, 'the present impediment of trade to that country causing a great scarcity of paper': a licence was granted on 13 February. In response to petitions from the Stationers' Company of London, the St John of Morlaix and the Charity of Caen were licensed to import paper from France, and on 25 March the Fortune of Ostend was allowed to unload sixty tons of paper for the Stationers. These are by no means all of the licences petitioned for or granted. Much of the paper covered by the licences was intended for printing, and it is not surprising that the French ports named are in Normandy and Brittany. Paper for more specialised purposes, however, was already being obtained from the Angoumois, as can be seen not only in music manuscripts but also from the papers bought by the Lord Chamberlain's office for the correspondence and record keeping of the Royal household. The stationer Thomas Rooke's bill of 29 December 1667 includes paper described as 'Dutch Post', 'Venice', 'Janua' (Genoa) and 'Dutch Deni', and here and in later bills there are many references to 'Fine Armes' paper at 11/- a ream. In 1668 there is a reference to 'Dutch Armes' at the same price. Such papers cannot be of Dutch manufacture, since the high-quality paper industry of the
Zaanland did not begin to develop until the 1670s; earlier Dutch papers from other areas are described by Fuller as 'thick, corpulent and gross, not to say sometimes charta bibula, sucking up the ink with the sponginess thereof'. Like the 'Dutch' papers of the 1674 inventory (see Ch. III), described as having characteristic Angoumois marks, the Lord Chamberlain's paper was undoubtedly produced in France and marketed by Dutch traders.

The interest of Dutch merchants in the Angoumois has already been mentioned. In 1656 one Dericq Janssen bought the St Michel mill, where in 1671 Estienne Touzeau, 'maître', was working for him: the connection between the Touzeau family and the Janssens was to last into the 1680s. Meanwhile, in 1668, Dericq Janssen had rented another mill in the area, Tudeboeuf; he was then described as 'merchant and citizen of Angoulême'. In 1677 Jacob Janssen advanced 1000 livres to Adam Mazure, against paper to be made which Janssen agreed to buy at a fixed price; also during the Franco-Dutch war (1672-1678), Jacob Janssen rented the Maine Gaignaud mill for 600 livres a year until the end of the war and 700 a year thereafter.

Clearly the Janssens were well established in Angoulême, and were mill owners and merchants rather than papermakers. That they were 'Amsterdam merchants', as they are so often described, seems not to be true, except in the sense that they undoubtedly exported paper to that city. Their situation seems to have been different from that of the van Hovens, for example, who were residents of Amsterdam and in due course took over or opened paper mills in Holland itself.
The Franco-Dutch war referred to in Jacob Janssen's lease lasted from 1672 to 1678 and was preceded by a period of deterioration in relations between the two countries. In response to a severe French protectionist tariff of 1667, Dutch edicts of 2 January 1671 and 2 November 1671 prohibited imports from France, the latter specifically referring to paper: this prohibition officially lasted until the end of the war in 1678, when new commercial agreements were made at the time of the treaty of Nijmegen. These edicts also required Dutch craftsmen to return home, and according to the Hollandse Mercurius great hardship was caused by the closure of Dutch businesses in various areas: at Angoulême, it was claimed, the fine paper mills belonging to the Jesuits stood idle. Some of the Angoumois mills were on land leased from the abbey of La Couronne.

Dericq Janssen apparently did not leave; in 1673 he took on the mill called 'l'Abbaye' for the duration of the war. In any case, by no means all of the Angoumois mills were tenanted by Dutchmen; in 1670, for example, Bremond was held by Pierre Clausure, Chamoulard by François Tourne and Pont-des-Tables by Pierre Gaultier, no doubt a relative of the Gaultier whose paper disappointed Marcus Jorths in 1644. Janssen's predecessor at l'Abbaye could have been a Dutchman who returned home before the war, but the vacancy might equally well have arisen for some other reason.

The reduction of the rent at Maine Gaignaud from 700 to 600 livres a year for the duration of the war shows that the conflict
did some harm to the Angoumois paper industry, but the relatively small amount by which the rent was cut suggests that the damage was far from catastrophic. During the subsequent war with England (1688-97) the rent of the Coetanfers mill in Brittany was reduced from 250 livres to 186, proportionately a greater difference. During the Dutch war, paper could well have been conveyed to Amsterdam in neutral ships, and direct exports to England apparently continued: an inventory of 1674 (see Ch. III) lists several types of paper as 'Rochelle', implying that they were imported from there.

Conditions changed after the treaty of Nijmegen in 1678. Trade with Holland was then relatively unimpeded, but trade barriers were more or less coincidentally introduced against imports from France to England. Abraham Janssen emerged as the most prominent member of his family, and other Dutch factors, including the Amsterdam-based van Hoven family, became involved in Angoumois papermaking and initiated a third phase in the history of music manuscripts in our period. Before 1678, however, two significant developments took place, one in France and one in Holland.

In France, measures were taken to regulate the paper industry in the same way as other aspects of industrial and commercial life. The Arrêt de Conseil of 21 July 1671 consists of sixteen sections concerning the making and marketing of paper and the conduct of workmen and apprentices. Some of the sections merely prescribe normal good practice, such as the weekly cleaning of the vats and the provision of good stocks of raw materials; more
significant regulations are one requiring a personal mark in each sheet of paper, consisting of the initial letters of the maker's name and surname, and several regulating the contents of a ream. Each ream had now to consist entirely of paper of the same type and quality, and the contents had to be clearly indicated on the ream wrapper. The practice of including 'outside quires' of damaged or lower-quality paper was forbidden, and each ream had to consist of twenty quires of twenty-five sheets each. The fine for counterfeiting a personal mark was 1,000 livres, more than a year's rent for a mill, and for merely omitting the description on the ream wrapper the fine was 500 livres. The first of these penalties threatened Abraham Janssen in a lawsuit in 1686 (see below).

In the 1674 inventory, apart from some cheaper papers, only those which by name or description appear to be Angoumois were supplied in quires of twenty-four sheets. This suggests that Angoumois mills depended on exports rather than sales within France, a conclusion borne out by their collapse during the Nine Years' War and by Savary's statement, admittedly in the next century, that Angoumois paper was not much used in Paris but mostly exported, especially to Holland.50

In Holland, meanwhile, technical and commercial developments were taking place. Although white paper had been made for some time in the Veluwe and Guelderland, the Zaanland mills had been confined to making brown and blue papers. Lacking fast-flowing rivers to drive watermills and clear streams for washing, they had been obliged to use well water and a different type of pulping machine, the Hollander, which could be driven from a windmill.
Improvements in these machines in the early 1670s led to a steady development of white paper production, aided, in spite of the general upheaval caused by the war, by the ban on French imports, even if this was only partially enforceable.\textsuperscript{51}

Although this development undoubtedly took place, it cannot really have been as dramatic as the English import figures for 1678 and 1679 suggest (see Table 1 above). Well into the next century, high-quality paper was still being sent from the Angoumois to Amsterdam, and the similarity between French and Dutch papers would have made it easy for an importer to pass French goods off as Dutch if it were expedient to do so.

1678-1688

The trade agreements associated with the treaty of Nijmegen, which was signed on 31 July 1678, were highly favourable to the Dutch; on 20 March, however, a long-awaited English ban on French imports had finally become law. The effect of such prohibitions was generally limited, although this one does at first appear to have been taken seriously: a report from Lyme on 20 March 1678 refers to a ship wrecked as the result of excessive haste in trying to get to port before the ban took effect.\textsuperscript{52} Gilbert Burnet describes the situation thus:

A severe Act passed, prohibiting all importation of the French manufactures or growth for three years, and to the next session of Parliament after that.
This was made as strict as was possible, and for a year after it was well looked to. But the merchants found ways to evade it, and the court was too much French not to connive at the breach of it.53

This was a trade embargo, not a war, and paper supplied from Dutch ports or by Dutch merchants could scarcely be objected to with a white paper industry already flourishing in Holland. Thus the grim warning of the act:54

that from and after the twentieth of March One Thousand six hundred seventy seven, no French wine, vinegar, brandy, linen, cloth, silks, salt, paper or any manufactures made of or mixed with silk, thread, wool, hair, gold or silver or leather being of the growth, product or manufacture of any of the dominions or territories of the French King ... shall be imported...

and the threat that any illegally imported paper 'shall be publicly burnt and destroyed in the open fields or streets' can have had little effect on the Angoumois paper trade. Throughout the period of the prohibition the Lord Chamberlain's office paid bills for 'Fine Rochelle' paper, in spite of a further provision of the act which laid down that from 1 May 1679 the sale of all French goods, whenever imported, was illegal.55 The prohibition was for three years, or until the end of the first session of parliament after that, so at the dissolution of the short-lived
Oxford parliament on 28 March 1681 the prohibition automatically expired de jure, having apparently expired de facto some time before. James II's formal repeal of the act in 1685 was a friendly gesture to France rather than a legal necessity.56

A far more serious development was the increasing persecution of Protestants in France, leading to the revocation of the Edict of Nantes in 1685. It is indisputable that large numbers of skilled workmen, including papermakers, fled to foreign countries.57 In the Netherlands, William Carr observed an 'exceeding increase of their subjects occasioned by the French King's tyranny against the distressed Protestants in France, Alsace and other parts of his conquests'.58 He goes on to explain how refugee craftsmen had been treated:

I ought not to omit telling you of their great charity to the distressed French Protestants, who are here in great numbers. They maintain no less than 60 French ministers, and unto many handicraft tradesmen and makers of stuffs and cloth they lend sums of money without interest to buy working tools and materials for their work.59

The French ambassador d'Avaux wrote repeatedly on the subject of Protestant refugees. His letter of 29 November 1685 about 'un nommé Vincent', a merchant involved in the Angoumois paper trade, seems to point accurately to the nature and extent of the problem facing the Angoumois paper industry:
Un nommé Vincent, Marchand d'Amsterdam, m'a fait prier aujourd'hui par un de ses amis, de demander un passeport à Votre Majesté pour son frère, qui avoit entrepris ci-devant des manufactures de papier à Angoulême. Il est certain que ce Vincent qui est à Paris à cette heure est Hollandois, & qu'il n'est point naturalisé: mais il est encore plus certain que sa sortie causera quelque prejudice; car il maintenoit avec son frère qui est à Amsterdam plus de cing-cents ouvriers auprès d'Angoulême. Il y en a déjà beaucoup qui se sont retirés en ce pays-ci, où l'on va établir des papeteries. Comme ces sortes d'ouvriers pourront bien demeurer lorsqu'ils trouveront à travailler, peut être que si quelqu'un entreprenoit de maintenir ces papeteries à Angoulême, on empecheroit tous ces gens-là de sortir du Royaume.

The implication of the latter part of this message is that it is the withdrawal of capital, rather than an exodus of craftsmen caused by religious conviction, that poses the main threat. The figure of five hundred workmen is probably an exaggeration, but if their number is taken to include everybody involved in the paper trade from rag collectors to warehouse labourers at La Rochelle it need not be as excessive as at first appears.

There was certainly a Protestant community in the Angoumois: in 1568 they had pillaged the abbey of La Couronne itself. Nor is there any reason to doubt that in or before 1685 some Protestants decided to emigrate to countries with a broader
measure of toleration. But there need not be a simple equation between the opening of a new paper-mill in Holland or England and the closure of one in the Angoumois; emigrant journeymen, for example, might have set up on their own in their new homes, or emigrant masters have been replaced by journeymen, without seriously affecting the economy of the area. The poorer labourers and rag-gatherers, who formed the majority of those supported by a paper mill, can have had little option but to remain.

The number of mills in the Angoumois had in fact been declining since 1656, when there had been eighty. At the beginning of the war in 1672 there were sixty, and in 1688, in spite of Dutch competition and the obstruction of the Dutch trade between 1670 and 1678, there were still fifty. After the Nine Years' War in 1697 there were only twelve, which suggests that the loss of the English export market was much the most serious problem for the Angoumois trade in the later seventeenth century. Further pressure had been put on the paper industry by the reintroduction of excise duties on paper in 1656 and later increases in taxation.

Ambassador d'Avaux was clearly concerned that an exodus of Dutch investors might have serious consequences, and his instructions previously received make it clear that Dutch citizens were to be exempt from the provisions of the revocation.

Le Roi manda que l'Ambassadeur de Hollande avoit fait encore de nouvelles instances pour obtenir la liberté de sortir de son Royaume en faveur de
Those who had become naturalised French citizens, however, would be treated like other Frenchmen.

Many foreigners who had set up industries in France nevertheless left at this time, but Abraham Janssen was not amongst them. A lawsuit in 1686 shows that he was still at Angoulême, and that he had employed the papermaker Claude de George at the Nersac mill up to his death in 1683. De George had been established there by Janssen’s brothers, no doubt Jacob and Dericq, eight or nine years before he died, so the Janssens must have controlled Nersac, which they rented from Jacques Salmon, ‘escuyer’, in 1674 or 1675. Thus the Janssens are found at work in the Angoumois during the Dutch war, at the time of the revocation, and for some years afterwards: the ‘AJ’ mark of Abraham is in fact found as late as 1712. In 1712 the Tudeboeuf mill was seized from Théodore Janssen and Anne Diore (said by Mathiez to have married Abraham, and so perhaps Théodore’s mother) and auctioned, which could mean that Abraham died c.1712 leaving substantial debts.
He was 57 at the time of the lawsuit in 1686 and would thus have been aged about 83 when he died. The Janssens seem to have been so firmly established at Angoulême that they could well have been amongst the naturalised citizens referred to by d'Avaux.

None of the documents collected by G.B. de Rencogne refers to disruption or difficulty at the time of the revocation, and although d'Avaux wrote on 25 November 1688 expressing his fear that the French export trade in printing paper might have been lost for good to the new Dutch mills, the trade in high-quality paper in England from 1678 to 1688 was still dominated by Angoumois paper marketed by the Janssens and other factors. Abraham Janssen's initials are common in fine paper of many kinds, and are frequently associated with the Dutch lion watermark. Although lion watermarks were first produced in the 1650s, they are conspicuously absent from the 1674 inventory. It is likely that Janssen equipped his mills with new Dutch lion moulds after the peace of 1678: certainly, it is from 1678 onwards that this watermark becomes common in English sources. Many other kinds of watermark are found with his initials, and paper without a factor's mark often has the maker's mark of a craftsman known to have worked for him. In the same period, the factor's mark 'HC' is frequently found, and the monogram of Gillis van Hoven appears in the factor's position in 1686, rather earlier than hitherto recorded, in one of the Lord Chamberlain's bill books. The van Havens are a good example of a family who responded to changing conditions by transferring their paper enterprise from French imports to home production.
After 1688

The period closes at the outbreak of the Nine Years' War, at the end of which only twelve mills were producing paper in the Angoumois: the loss of easy access to the Dutch and English markets was clearly more than the industry could stand. In 1702 the Chamoulard mill was in use as a corn and oil mill, and it is probable that other sites were converted in the same way. In 1730, however, Savary lists some fifty mills in the area, thirty-one of which are working even if at reduced capacity; only one of those not operating is described as 'ruine'. The depressed situation of 1697 must therefore have been to some extent temporary.

While French exports were impeded by the war, the Dutch and English industries were in a strong position to take advantage of the situation. Although English paper is not found in music manuscripts, it was certainly used for high-quality printed works such as Wood's Athenae Oxonienses of 1692. Much Dutch paper is used in musical sources, including some made by Dirk Pieterzoon de Jong of the 'De Wisser' mill, marked 'DP' and by the unidentified 'WHC' (see watermarks XLVIII and LIV). Both of these countermarks appear in Dutch archives from 1694. The monogram of Gillis van Hoven is found in the countermark position towards the end of the century, probably indicating that the van Hovens were then making paper in Holland (see watermark XLVI). The van Hovens were a prominent Amsterdam family who were involved in papermaking over several generations. Gillis van Hoven I (1625-1680) is des-
scribed as 'paper factor and maker and French merchant'; his son, Gillis van Hoven II (1660-1722) as 'paper factor and maker; dealer in French wines and brandies, and underwriter'. Both men lived at addresses given as 'In den Papiennolen'. The third Gillis van Hoven (1683-1753) founded the firm of Gillis van Hoven & Zoon and was a member of the city council, no mean distinction in Amsterdam, from 1729 to 1748. The monogram which appears from 1686 onwards must belong to Gillis II.

The van Havens were not papermakers in the same sense as Claude de George or Étienne Touzeau; they were substantial businessmen with interests beyond papemaking. Nor is it likely that the city address 'In den Papiernmolen' means that paper was actually made on the premises, and even if they were personally skilled in the craft, they cannot have made every sheet to bear their mark.

The paper trade was clearly subject to a variety of pressures, and none of the changes that took place in this period can be ascribed to a single cause. The relationship between the factor and the maker in the Angoumois, where the maker was not necessarily a servant of the factor and at the very least ran his own mill, represents an intermediate stage between complete independence for the craftsman and direct employment by a papermaking firm. The advantages to the maker were a guaranteed sale of his produce at a fixed price and an advance of money to buy materials, so that he could work to the capacity of the mill rather than the limitations of his cash in hand or credit. Possibly it was the security offered by this system that enabled the Angoumois makers to raise
their standards in mid-century to the point where they could oust the Normans from the high-quality English market.

As the Dutch and English trades developed, the Angoumois was forced to contract into a more and more limited field of high-quality production which its advantages of raw material supply, geographical situation and traditional expertise made especially appropriate. Indeed, so distant an area would be hard put to compete in any kind of 'ordinary' paper trade with more conveniently situated rivals. Dutch paper, however, was made from material pulped in a hollander, and as this machine sliced through the fibres of the rags instead of separating them into long strands by beating, the paper had less resilience than that made in a stamping mill. This is probably why Angoumois mills continued to trade with Amsterdam in the next century, and why so many sheets in sources made of Dutch paper have had to be gauzed.

That no one circumstance could force a change is evident from the events of 1666-7. The ban on French imports to England did not lead to increased imports from other sources such as Italy, and had effectively to be withdrawn very quickly. But when there was a keen and well-situated competitor to the French industry, from c.1672 onwards, the extra risk, trouble or expense caused by a war or trade embargo could well lead to a substantial change in the pattern of trade. As for the Protestant exodus from France, its effects are not to be sought in sudden changes in 1685. Those who had the means and the initiative to depart would almost cert-
ainly be skilled craftsmen or merchants, and their contribution of expertise and money would have had a gradual effect as they taught their skills to others and their investments developed. The exodus in fact began before 1685, as the direction of Louis' policy became apparent, and the developing Dutch industry must have been attractive to Angoumois Protestants looking for opportunities in a more congenial religious climate. The effects for the area they left would not have been immediately disastrous, but in the long run the emigration of expertise and capital weakened the French industry and strengthened the Dutch and English. Thus the war of 1688-97, combined with recent developments in the Dutch and English paper industries, permanently altered the pattern of the paper trade.
NOTES TO CHAPTER II


2. Charles Davenant, An Account of the Trade between Great Britain, France, Holland, Spain, Portugal, Italy, Africa, Newfoundland & c. with the Importations and Exportations of all Commodities, particularly of the Woollen Manufactures, Delivered in two Reports made to the Commissioners for Public Accounts, London 1715 (but written in 1711); 10 and 13-16; included in Charles Davenant, Political and Commercial Works, v, London 1771, R/Farnborough 1967, 347-463.

3. Davenant, 1715, 30.

4. Ibid., 24-25.


7. Ibid., i, 254-6.


9. Davenant, 1715, 11-12. These figures are also in Lbl Add. 36785.

10. 'Philanglus', Britannia Languens, or a Discourse of Trade, London 1680; in McCulloch, op. cit., 275-504.

11. Ibid., 485.
12. Ibid., 486.
13. HCJ ix, 435.
14. HLJ xiii, 189b.
15. 'Philanglus', 1680; in McCulloch, op. cit., 490.
18. G.N. Clark, The Dutch Alliance and the War against French Trade, Manchester 1923, 4-5.
20. Jean Louis Guez de Balzac, Lettres de feu Monsieur de Balzac à Monsieur Conrat, Amsterdam 1659, 48. See also Henri Lacamb, 'Guez de Balzac, fabricant de papier de l'Angoumois', Contribution à l'histoire de la papeterie en France (Grenoble 1945), 72-89.
22. The origin of the 'cardinal's hat' paper of the mid-seventeenth century is something of a mystery. Briquet describes a long tradition of the use of this type of mark in Italy (not, of course, in its seventeenth-century form) and states that in the sixteenth century its use was confined to Venice: see Briquet, op. cit., i, 222. It is therefore a reasonable assumption that the seventeenth-century hat was used in the paper which we know to have been imported to England from.
Venice. A later owner of George Jeffreys' partbooks, Lbl Add. 31479, thought that the hat paper there was Italian.

Heawood, however, maintained that the mark was French: without quoting sources he states that it is 'frequently mentioned as a standard French mark and ... found in French books in a form somewhat similar'; see Edward Heawood, 'Papers used in England after 1600; i, The Seventeenth Century to c.1680', The Library, 4th series, xi (1930-31), 263-299.

It is certainly true that later in the seventeenth century some Norman mills imitated Genoese watermarks (see Allan Stevenson in Briquet, op. cit., supplementary material, 35) but only a pattern with three circles seems to have been used, and even the examples of this illustrated in Churchill, Watermarks, (marks 547-550), are eighteenth century. The evidence most strongly suggesting French origin for the hats is the occurrence in some of them of initials similar to some in Norman pots, but this could be mere coincidence.

23. Lewes Roberts, op.cit., 68.
25. Robert Steele, Tudor and Stuart Proclamations, Oxford 1910, i, nos. 3408, 3481.
26. CSPD 1666-7, 492.
27. Ibid., 494.
28. Ibid., 492.
29. Ibid., 512.
30. Ibid., 527.
31. Ibid., 585.
32. These are recorded in the tradesmen's bill books, PRO LC9/271-281 and LC11/5, which cover the period 1667-1701.
33. LC9/271, folios 38-39v.
34. Ibid., f. 102.
37. Babinet de Rencogne, Recueil de Documents, 61.
38. Ibid., 62.
39. Ibid., 67.
40. Briquet, op. cit., ii, 693.
41. Ibid.
43. Van Dillen, loc. cit.
47. H. Bourde de la Rogerie, 'Les papeteries de la region de Morlaix', Contribution à l'histoire de la papeterie en France, iii (Grenoble 1941), 27.
48. In 1689 William of Orange was concerned that Amsterdam merchants would ignore prohibitions: see G.N. Clark, op. cit., 72-3; see also V. Barbour, *Capitalism in Amsterdam in the 17th Century*, Baltimore 1950, R/Ann Arbor 1963, 131.


50. Ibid., 967-8.


52. CSPD March - December 1678, 56.

53. Gilbert Burnet, *History of his Own Time*, Oxford 1833, R/Hildesheim 1969, ii, 125. (First pub. in two volumes 1724/34.)

54. Lbl 505. e. 11 (2).

55. PRO LC9/276 folios 75-78; 125v-128v; 151v-153v.

56. Lbl 506. d. 8, pp. 59-61.

57. P.D. Huet, *Memoirs of the Dutch Trade, in all the States, Kingdoms and Empires of the World*, London 1718, 17: the refugees were 'almost all of them merchants or artisans'. See also Berg, op. cit., 173.


59. Ibid., 33-34.


64. D'Avaux, op. cit., vi, 186.
65. Babinet de Rencogne, Recueil de documents, 103-114.
66. Voorn, De papiemolens, 134.
68. J. Mathorez, Les étrangers en France sous l'ancien régime, Paris 1919/21, ii, 244.
69. Voorn, De papiemolens, 133.
70. PRO LC9/278, throughout. The first bill was entered on 5 January 1686.
71. Babinet de Rencogne, Recueil de documents, 8.
72. Savary de Bruslons, Dictionnaire, iii, Paris 1730, 1051 f.
73. A copy in the British Library has several sheets countermarked 'Company', probably signifying the English Company of White Paper Makers.
74. Voorn, De papiemolens, 132.
75. Ibid., 535.

CHAPTER III

TYPES OF PAPER USED FOR MUSIC MANUSCRIPTS

Paper was manufactured in a wide variety of sizes, types and qualities appropriate to the different uses for which it was needed. There is no evidence that in the 17th century any paper was made especially for music manuscripts, but it is obvious that only the best types of writing paper would meet the high standards demanded by musical use. Music paper must be capable of carrying dense, black notation on both sides without obtrusive show-through, take heavy note-heads without the ink spreading, and be durable enough to stand repeated handling. The surviving material indicates that 17th-century music paper passed all of these tests with flying colours, and it seems to have been recognised that only a limited range of paper types would be satisfactory.

The names given to different sorts of paper in the 17th century are not always self-explanatory and do not necessarily correspond to the modern system of classifying hand-made paper according to size. The terms 'royal' and 'demy' were used for two of the larger sizes of paper in the earlier part of our period, but the watermark-derived names 'pot' and 'foolscap' were still evolving from descriptions of marks into terms for paper of a particular size irrespective of the mark it actually bore. Up to 1670 at least there seems to have been no consistent difference in size between paper marked with the pot and that with the foolscap and related Angoumois marks. The Book of Values appended to the 1657 Act 'for the better improvement and advancing the receipts of the Excise
and New Impost' specified nominal values for several types of paper, according to which the already existing duty of 5% had to be paid. The papers listed are presumably those most commonly imported:

Table 1

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cap paper</td>
<td>7s 6d</td>
</tr>
<tr>
<td>Morlaix paper</td>
<td>2s 6d</td>
</tr>
<tr>
<td>Paper of Caen and Rouen, ordinary</td>
<td>4s 6d</td>
</tr>
<tr>
<td>Ordinary printing and copy paper</td>
<td>2s 6d</td>
</tr>
<tr>
<td>Rochelle paper as large as demy</td>
<td>9s</td>
</tr>
<tr>
<td>Demy paper</td>
<td>12s</td>
</tr>
<tr>
<td>Royal paper</td>
<td>20s</td>
</tr>
</tbody>
</table>

At the Restoration, a similar Book of Rates was attached to the 1660 Act of Tunnage and Poundage. The 'Morlaix' and 'Caen and Rouen' categories were removed, and the customs value of 'Ordinary printing and copy paper' was increased to 4s 6d. Rochelle demy was valued at 1ls.

These customs or excise measures do not necessarily reflect the actual cost of the different kinds of paper, although evidence suggests that the listed values are reasonably close to the prices charged by merchants for paper bought in large quantities. Very large amounts might cost substantially less for each ream; 210 reams of pot paper, presumably of at least 'ordinary printing' quality
were supplied to the Oxford press in 1671 at 3s 10d a ream, and demy papers were supplied in subsequent years at between 5s and 7s a ream. But because the purpose of the Book of Values was to ensure that import duties were paid in proportion to the true value of the paper, an accurate indication of the relative prices of the different types is given.

In 1657, Norman paper 'of Caen and Rouen', which was 'ordinary' rather than royal or demy, was deemed superior to ordinary printing or copy paper, but Rochelle demy was significantly lower in value than demy paper of other kinds. 'Cap paper' probably means Angoumois foolscap-marked paper, which had certainly been made as long ago as 1644 and was being exported to Holland in the early 1650s; the 1657 value suggests that it was considered superior to Norman paper.

Only three years later the distinction between 'Caen and Rouen' and 'Ordinary printing' paper was abandoned, and although this need signify no more than a desire to tax more heavily the largest category of paper imported, no such explanation can be offered for the increased value of Rochelle demy. This was imported in relatively insignificant quantities, but its nominal value was now almost level with that of other demy paper. By 1674 demy papers from the Angoumois had become the most expensive, and the progressive rise in quality which these changes in value suggest coincides with the period in which the Janssen family began to invest in the area.

Much more evidence is available for the years 1660-1678. A comprehensive inventory and price-list supplied to Bishop Fell in 1674 (see below) shows that Norman papers, in particular those marked with the pot, have fallen well below their Angoumois
competitors in price and presumably in quality, and the Lord Chamberlain's bill books available from 1667 confirm that the best writing papers were 'Dutch' and therefore made in the Angoumois. 4

Several types of paper listed in the 1674 inventory can be recognised in music manuscripts. The fleur-de-lys 'crowned and bordered' with a countermark often consisting of or including the monogram IHS is found in music sources from 1668 onwards in paper corresponding in size to the 'Dutch Demy' papers, nos. 7 and 8 in the inventory. From c. 1660, 'Amsterdam arms' or 'Pantalon of Rochelle' papers are used in music, although the earliest examples seem to be rather smaller than nos. 28-30. The third of these, like the 'Caen Foolscap' no. 42, is described as 'Foolscap' although it has a different kind of mark, showing that the term was beginning to be used as the name for a size of paper. The Dutch Lion, which from 1678 onwards becomes common in foolscap size paper in English sources, is conspicuous by its absence, probably because even the Amsterdam merchants stopped short of ordering French paper with this patriotic mark while a war was in progress and French imports to Holland were officially forbidden.

The Tradesmen's Bill Books of the Lord Chamberlain's office provide a complete record from 1667 onwards of the paper bought for the correspondence and record-keeping of the Royal household, although the types of paper mentioned are not always easy to identify. 'Dutch Post' was bought throughout the period, and from 1674-1684 there are frequent references to 'Fine Rochelle' at 10s to 12s a ream. From 1683-4 'Fine Rochelle' gives way to 'Fine Horn' at similar prices, and it seems likely that most of the paper bought for
correspondence was of types not used for music. In the rough account
book for 1684 are several cut sheets of paper marked with the post-
horn and measuring 295 mm x 175 mm, and an isolated sheet of larger
paper, again with a posthorn mark, measuring 354 mm x 253 mm. Both
types are fine and light, unlike anything found in music manuscripts,
and no doubt represent the 'Fine horn' and 'Dutch post' papers
referred to in the bill books. The bill books themselves, however,
are made of paper remarkably similar to that of music manuscripts,
and there are frequent references to stitched or bound books being
purchased consisting of Dutch medium, Dutch demy or foolscap paper.
For the permanent records of the Lord Chamberlain's office, the
same kinds of paper were used as for music books.

The market in fine writing paper appears to have grown more
specialised in the last third of the 17th century. Up to about
1660, most types of paper used for music, whether French or Italian,
can also be found in collections of correspondence used for every-
day letter-writing, although lighter types of paper were also avail-
able at the same time. By the beginning of the period of the sur-
viving bill books in 1667 a clear distinction seems to have opened
up between the heavier papers, Dutch demy or foolscap, used for
permanent material such as record books or music, and the lighter
papers intended for correspondence; the posthorn watermark was
naturally associated with the latter kind of paper and so disap-
pears from music sources after c. 1660.

Heavy, high quality writing paper, especially of the larger
sizes, formed a specialised area of the market. 116,074 reams of
'ordinary' paper were imported to London from France in 1662-1663,
but only 500 reams of demy and 124 of Royal. 152,131 reams of
ordinary came from France in 1668-1669 against 1,724 of demy and 537 royal. As the demy imports must have included Norman paper like the Durand demy bought for printing in Oxford in 1672 (see also Inventory, no.24), the amounts of Angoumois demy imported must have been relatively small.

The Lord Chamberlain's records also contain useful information about the form in which paper was supplied. Apart from that made into books, paper of folio size was listed from 1679 as either 'cutt' or 'ruff', that is, with or without the deckel edges removed. Strangely, the price seems to have been the same in either case. Paper was only supplied in quarto size if its edges had been gilded, in which case they would also have been cut. Such specially treated papers, as well as quantities of undecorated paper ranging from a quire up to four reams, were readily available in London from several stationers including, at different times, Thomas Rookes, Robert Snow, Samuel Mearne and Samuel Carr. Unless it was bound into books, paper of demy size and above was frequently supplied by the quire rather than in reams.

The prices paid by the Royal household seem to have been much higher than those in the 1674 inventory. In that year Robert Snow charged 2/- a quire for Dutch demy, when the prices quoted in the inventory were no more than 16s a ream, and three reams of large Dutch medium at £3 a ream are more than twice the price of any Dutch medium in the inventory. These prices are not entirely due to buying in small quantities. Although the Lord Chamberlain's records cannot be trusted as a guide to the normal price of paper in any particular year, however, they show that apart from temporary fluctuations the prices of Angoumois paper remained fairly constant.
until the outbreak of the Nine Years' War, when they began to rise steeply. A ream of Dutch demy, £2 in 1684 as well as in 1674, had risen to £2-15s by 1695-6 and a ream of fine horn, 12s in 1686-7, had risen to 15s in 1689 and £1-4s by 1696-7. These increases are partly due to the heavy additional duties laid on paper in 1690 and 1696.

In seventeenth-century terms, the types of paper used for music would have fallen into very few categories. Up to the late 1650s the best available 'Caen and Rouen' paper was used, giving way about 1660 to Angoumois papers which by 1674 were certainly described as 'Foolscap' or 'Pantalon of Rochelle'. Small but significant amounts of Italian paper were also used in the late 1650s, similar in size and quality to 'Caen and Rouen'. If larger paper was required, 'Dutch demy' or 'Rochelle demy' could be used, sources with this kind of paper appearing from 1668. Terms such as 'Dutch post' and 'Dutch demy' were used both before and after writing paper was made in Holland, and did not change towards the end of the century; it is unlikely that many buyers of paper were much troubled about its true origin. The Angoumois, and later Dutch, papers selected were ideal for their purpose, but no reason is immediately obvious for the general absence of the best Norman paper from music after 1660, or for the suddenness and completeness of the change, unless the London music paper trade was controlled by a small number of merchants who at that time decided Angoumois paper offered better quality and more consistent standards for this very specialised purpose; it may be significant that
The dominance of Angoumois paper from 1660 is preceded by a short period when Italian paper was frequently used.
TABLE II

A STATIONER'S INVENTORY OF 1674

An inventory and price list supplied to Bishop Fell in 1674, now Bodleian Library MS Rawlinson D.398 folios 156-7, appears to be unique in giving detailed descriptions and prices for a complete range of paper types. A full transcription is given in R.W. Chapman, 'An Inventory of Paper 1674', The Library, 4th series, vii (1927), 402-408.

The following table gives the inventory name of each type of paper and a summary of the original description of watermark and countermark, followed by the number of sheets in each quire. The dimensions, in inches, are for one half of a complete sheet, as if it were a page of a folio book: the vertical measurement is given first. The price, in pounds, shillings and pence, is for a ream.

<table>
<thead>
<tr>
<th>Inventory Name</th>
<th>Watermark Description</th>
<th>Countermark Description</th>
<th>Number of Sheets</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

...
<table>
<thead>
<tr>
<th>Reference</th>
<th>Type of Paper</th>
<th>Watermark</th>
<th>Countermark</th>
<th>Quire</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Super Royall</td>
<td>Fleur-de-lys crowned &amp; bordered</td>
<td>IHS/RC</td>
<td>24</td>
<td>18(\frac{3}{4}) x 13(\frac{1}{4})</td>
<td>2 16 0</td>
</tr>
<tr>
<td>2</td>
<td>Super Royall</td>
<td>Fleur-de-lys crowned &amp; bordered</td>
<td>IHS</td>
<td>24</td>
<td>18(\frac{1}{4}) x 13(\frac{1}{4})</td>
<td>2 10 0</td>
</tr>
<tr>
<td>3</td>
<td>Dutch Royall</td>
<td>Shield with two barralets: a fleur-de-lys above</td>
<td>RC</td>
<td>24</td>
<td>18 x 11(\frac{3}{4})</td>
<td>1 14 0-</td>
</tr>
<tr>
<td>4</td>
<td>Royall</td>
<td>As no.3</td>
<td>PB</td>
<td>24</td>
<td>18 x 11(\frac{3}{4})</td>
<td>1 14 0</td>
</tr>
<tr>
<td>5</td>
<td>Dutch Medium</td>
<td>As nos. 1 and 2</td>
<td>IHS/IM or IHS/RC</td>
<td>24</td>
<td>16(\frac{3}{4}) x 10(\frac{1}{4})</td>
<td>1 6 0</td>
</tr>
<tr>
<td></td>
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<td>1 5 0</td>
</tr>
<tr>
<td>6</td>
<td>Medium</td>
<td>As nos. 1 and 2</td>
<td>IHS</td>
<td>24</td>
<td>16(\frac{1}{4}) x 11</td>
<td>1 4 0</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>1 3 6</td>
</tr>
<tr>
<td>7</td>
<td>Fine Dutch Demy</td>
<td>As nos. 1 and 2</td>
<td>IHS</td>
<td>24</td>
<td>15 x 9(\frac{3}{4})</td>
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<td>8</td>
<td>Fine Dutch Demy</td>
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<td>IHS/PB</td>
<td>24</td>
<td>14(\frac{3}{4}) x 9(\frac{3}{4})</td>
<td>0 15 0</td>
</tr>
<tr>
<td>9</td>
<td>Medium</td>
<td>Horn crowned and bordered</td>
<td>Letters</td>
<td>24</td>
<td>16(\frac{1}{4}) x 10</td>
<td>0 16 0</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>0 14 0</td>
</tr>
<tr>
<td>10</td>
<td>Royal Paper of Avignon</td>
<td>Grapes</td>
<td>Letters</td>
<td>25</td>
<td>17(\frac{1}{2}) x 12</td>
<td>1 4 0</td>
</tr>
<tr>
<td>No.</td>
<td>Name</td>
<td>Designation</td>
<td>MB 'etc'</td>
<td>Dimensions</td>
<td>Quantity</td>
<td>Price</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------</td>
<td>--------------------------------------------------</td>
<td>----------</td>
<td>--------------------</td>
<td>----------</td>
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</tr>
<tr>
<td>11</td>
<td>Paper Royall</td>
<td>Fleur-de-lys</td>
<td></td>
<td>18 x 11(\frac{1}{2})</td>
<td>25</td>
<td>0 13 0</td>
</tr>
<tr>
<td>12</td>
<td>30 Royall</td>
<td>Fleur-de-lys</td>
<td>IO</td>
<td>18(\frac{1}{2}) x 11(\frac{1}{4})</td>
<td>25</td>
<td>0 12 0</td>
</tr>
<tr>
<td>13</td>
<td>Large Horne</td>
<td>Horn crowned and bordered</td>
<td>IM</td>
<td>14(\frac{1}{2}) x 9(\frac{1}{2})</td>
<td>0 11 6</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Rochelle Demy</td>
<td>As nos. 1 and 2</td>
<td>AI</td>
<td>14(\frac{1}{2}) x 9(\frac{1}{2})</td>
<td>0 11 6</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>French Lombard</td>
<td>Fleur-de-lys</td>
<td>AC 'etc'</td>
<td>17(\frac{1}{2}) x 11(\frac{1}{4})</td>
<td>25</td>
<td>0 8 6</td>
</tr>
<tr>
<td>16</td>
<td>Lombard Fine</td>
<td>Grapes</td>
<td>'a long name'</td>
<td>17(\frac{1}{2}) x 11(\frac{1}{4})</td>
<td>25</td>
<td>0 8 6</td>
</tr>
<tr>
<td>17</td>
<td>French Lombard</td>
<td>Grapes</td>
<td>NL</td>
<td>17(\frac{1}{2}) x 11(\frac{1}{4})</td>
<td>25</td>
<td>0 8 6</td>
</tr>
<tr>
<td>18</td>
<td>Lombard</td>
<td>Grapes</td>
<td>PHO</td>
<td>17 x 11(\frac{1}{4})</td>
<td>25</td>
<td>0 8 6</td>
</tr>
<tr>
<td>19</td>
<td>Lombard</td>
<td>Grapes</td>
<td>I. GVNE</td>
<td>17(\frac{1}{2}) x 11(\frac{1}{4})</td>
<td>25</td>
<td>0 8 6</td>
</tr>
<tr>
<td>20</td>
<td>Durand Demy</td>
<td>'2 scutcheons crowned and bordered under it A DURAND'</td>
<td></td>
<td>15 x 9(\frac{1}{2})</td>
<td>25</td>
<td>0 7 6</td>
</tr>
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<td>0 7 2</td>
</tr>
<tr>
<td>21</td>
<td>Large Demy</td>
<td>Scutcheon</td>
<td>IPO</td>
<td>15(\frac{1}{2}) x 10</td>
<td>25</td>
<td>0 8 6</td>
</tr>
<tr>
<td>22</td>
<td>Large Demy</td>
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<td>I. ROUS</td>
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NOTES TO CHAPTER III


4. PRO LC9 271-281 and LC11/5.

5. In a box of rough and incomplete account books, LC9/376 part ii.


7. Ibid f.51.

8. Thorold Rogers, loc. cit.


10. LC9/274 pp.178, 183.

11. LC9/277 f.59v: 278 fols. 89v-91; 280 fols. 328-330v; LC11/5 fols 52-55v.

12. From 1690 to 1695 2s was payable for each ream of royal paper and 1s 6d for each ream of demy, additional to the duties already charged under the Book of Rates; other papers were charged double the amount in the Book of Rates. See Pickering, op. cit., ix, Cambridge 1764, 91. In 1696 a new duty of 25% on imported paper and 20% on home production was imposed: see HLJ ix 417-419; also D.C. Coleman, op. cit., 122-130.
CHAPTER IV

MUSIC BOOKS AND PAPER

By no means all of the paper used for music was formed into bound books, but because some kinds of stave ruling were done especially for books, the subject of their format and construction is best taken first.

The paper which was to be used in a music book would arrive from the mill as a complete sheet, still with deckel edges and with the watermark and countermark distributed thus:

Figure 1
This sheet would be ruled with staves as described later, and might be sold in that form without any other treatment. If it was to form a folio volume, however, it would be placed with a number of other sheets which would all be folded along the line A-B to form a gathering. A gathering normally consisted of two, three or four complete sheets, but could be many more; occasionally a single sheet formed a gathering on its own. The one or more gatherings that were to form the book would either be stitched directly into a simple cover or else properly bound, in which case the paper would normally be cut. In a folio volume the chain lines run vertically and the watermark and countermark appear in the centre of the page.

An oblong quarto volume was formed by first folding the sheet along the horizontal line X-Y before folding again and stitching along A-B. It was common for a single sheet thus to form a gathering, in which case the four sections of watermark and countermark will be found in adjacent folios. The marks will have been cut in half and appear half-way along the top or bottom edges of each folio.

The method just described produces an oblong volume very suitable for music as it permits five or six long staves to be used. The alternative upright method of forming a quarto, which is the one generally used for printed books, is rarely used for music manuscripts (see figure 2 overleaf). The volume formed by first folding along A-B and then along X-Y will have pages smaller in size, but similar in proportion to a folio made from the same paper, and in music the result would be shorter staves than would have been necessary if the same paper had been treated in the way described first. With the exception of Ob MS Mus. Sch. e.410-414, which dates from c. 1660, the relatively rare uses of the second method in English sources are with larger paper, and result in a volume similar in size to an
ordinary pot or foolscap folio. The irritating short staves in e.410-414, which consists of small paper, clearly demonstrate why this method was so rarely used. In a volume made in this way the chain lines will be horizontal and the watermark is likely to be substantially hidden by the binding.

Formats smaller than quarto are widely used in printed books in the 17th century but are very rare in music. Only one smaller-format manuscript is known to me, BL Add. 22098, in which a
foolscap-size sheet has been folded horizontally into a third of its original width along A-B and C-D:

Figure 3

The resulting volume, bound into a stout leather cover that once had a metal clasp, is not much larger than a wallet and would fit conveniently into a large pocket.

Some music books were supplied as bound volumes; others were bound or re-bound after they had been partly or completely copied. Once unbound gatherings had music copied on them, the binder needed marks to guide him in assembling the volume, and when these are absent we may conclude that the whole volume was copied after
binding. The prices of binding can be roughly estimated from the charges paid by the Lord Chamberlain's office for binding books of similar paper and size. An example of a smaller volume in 1675 is:

A book 1½ quires Dutch medium at 3/- a quire
Ruled at 2/- a quire
Stitched in fine pasteboard 6d²

but a volume of four quires of similar paper cost 4s 6d to bind.³

In 1674, six books totalling 30 quires of medium were bound at 6d a quire.⁴

Most music sources of this period were ruled with a complex pen or rastrum which normally produced between three and six staves at a time. This can easily be seen from the rare instances where the ruling is imperfect, and be confirmed by taking the measurement across the span of the rastrum, which is always consistent to within 0.5 mm., the slight deviation probably being due to variations of pressure on the pen. The absence of impression marks and the occasional small blot where the rastrum has been lifted show that the staves were ruled rather than printed.

The layout of the staves on the page shows a remarkable consistency. Up to the mid-1670s, when the transition was made from what was effectively pot size paper to foolscap, folio sources have ten staves and quarto five, with very few exceptions. Foolscap sources produced subsequently might have ten or twelve staves in folio, five or six in quarto, and demy paper, which in instrumental parts was used only in quarto, had six staves. Scores made of demy and larger paper might have twelve or sixteen staves. Seven-,
eight- or nine-stave paper is extremely rare in English sources and is always accompanied by some other peculiarity, even though three- and four-stave rastra which could conveniently have produced eight- and nine-stave paper did exist.

Ruling was carried out upon the flat sheets, which were subsequently folded and bound if necessary. If a sheet was intended for use in folio size, the staves would be ruled so that the different blocks of ruling could not be readily distinguished, but once they have been recognised, consistent overall measurements and the repetition of irregularities in the width of individual staves show that only a single rastrum was used. Paper intended for quarto use was ruled in the same way, but with two well separated blocks of staves, so that when the paper was folded the staves would be central upon the pages. The volume would not necessarily be cut until it was needed, as the uncut folios of the lyra part in Ob MS Mus. Sch. e.430 demonstrate. Several examples exist of paper which has been ruled for quarto but used in folio, even when the layout of staves was inconvenient and an extra stave has been added, as happens in Ob MS Mus. Sch. c.58.

English sources are generally very neatly ruled, with little variation between the folios of the same source unless there is a corresponding change in paper type. Rulings in different sources which are identical in every respect governed by the rastrum itself (i.e. the width and spacing of staves) are, however, almost as rare as identical watermarks, and it is probable that the life of a rastrum was not very long. Because no examples have survived, it is impossible to tell for certain whether they could be repaired; for example, whether the nib that ruled one particular stave could be
replaced individually if it was broken. The occurrence of rulings with identical overall measurements but slight differences in the measurement of each stave suggests that such repairs could well have been possible.

The blocks of staves are neatly placed upon the pages with a normal allowance of around 35-40 mm for vertical margins. Stave lengths therefore vary from c. 150 mm in pot sized sources to 200 mm in demy sizes. The high standard of ruling, the broad similarities of style and layout in many different sources, and the closely similar or identical measurements in a few, all suggest that stave ruling was done by stationers rather than by individual copyists, which is confirmed by the many cases where thoroughly competent scribes such as George Jeffreys, in Add. 10338, or Locke in parts of Add. 31437, have made use of unsuitable rulings, added freehand staves to existing rulings, or ruled up whole pages of blank paper without a ras- trum.

There are many references to 'ruled paper' as a commodity bought from stationers, a few of which clearly refer to music paper. Within our period, none of the references which specify that the ruling was for music mentions a price, but for ruling of other kinds the Lord Chamberlain's bills give at least a suggestion of the kind of charges that might have been involved. An example of ruling costing 2/- a quire has already been mentioned, and other prices ranged from 4d a quire upwards, probably depending upon the complexity of the ruling. Music ruling, which required a special tool, might be expected to correspond to the higher prices charged for ruling of other kinds, which increase the cost of the paper by between 25% and 66%. 
The stationers who ruled paper for other purposes could no doubt have prepared music paper as well, and although the Playfords are the principal merchants whose advertisements for music paper have survived, there is no means of telling whether the paper was ruled on their premises or supplied ready-ruled from elsewhere. The music paper they advertised corresponds closely with the surviving sources. In the 1664 edition of An Introduction to the Skill of Music John Playford advertises 'All sorts of the best Dutch ruled paper and all Sizes of Rul'd books for Musick' and similar advertisements are to be found in many other Playford publications. A set of parts containing music by Locke, Jenkins and William Gregory, Lbl Add.31430, has the elaborate monogram 'JP' on the title page of each part, now folios 14, 42, 70 and 98, which led Hughes-Hughes to suggest that the books might have been copied by Playford; the formation of the monogram, especially the letter 'P', is strikingly similar to the autograph inscription 'John Playford his book' on the flyleaf of Playford's copy of Leonardo Simonetti's Ghirlandia Sacra. Whether or not Playford himself copied Add.31430, the initials 'JP' strongly suggest that the parts were produced at his shop, and that the characteristics they share with many other sources of the later seventeenth century - oblong quarto format; Angoumois paper marked with a fleur-de-lys (watermark XXXIX); six-stave ruling drawn with a three-stave rastrum - could well be those of the music books and paper Playford offered for sale.
NOTES TO CHAPTER IV

1. For a description of the process of binding see Gaskell, op. cit., 146-53.
2. PRO LC9/274 p.364.
3. Ibid., p.365.
4. Ibid., p.178.
6. Manuscript paper was commonly advertised in printed editions of music, and the Playfords, who dominated the music publishing business, had most opportunity to print such advertisements. John Playford's neighbour and, from 1681-84, publishing partner John Carr also advertised ruled paper in his edition of Matthew Locke, The English Opera ..., London 1675: see Miriam Miller, 'Carr, John', Grove iii, 822-3.
CHAPTER V

SOME WATERMARKS FROM ENGLISH MUSIC MANUSCRIPTS

The illustrations in this chapter depict a number of watermarks from the sources discussed in Chapters VI-XI below, some of which have already been mentioned. With the exception of mark XLVIII, a beta-radiogram from a gauzed manuscript, all of the illustrations are drawings made by accurately reproducing the distribution of chain lines adjacent to the mark and then plotting its major features horizontally from the chain lines and vertically from some point of reference such as a cut edge or a stave line. Their accuracy is therefore affected not only by my own limitations as a draughtsman but also by the degree of care required by the material containing the watermarks. Marks in unwritten pages received far more thorough treatment than those in written ones, and marks in upright quarto sources, partly hidden by the binding, were recorded only as far as was possible without subjecting the volumes to any potentially harmful handling. Within these limits, the drawings of the marks themselves and the chain lines are as accurate as I could make them, but the other features of the background to the marks do not represent the real pattern of the paper.

Wherever possible both members of a mould pair have been recorded and are included under the same watermark number. Similarly, all marks from a single original sheet are classed under the same number. Watermark XLII, for example, therefore includes
both fleur-de-lys marks of the pair and the two countermarks. The
two members of a mould pair are designated 'a' and 'b'.

When a source containing more than one pair of marks is anal-
ysed in detail the different watermarks are generally identified
by type name or by type name and number: thus watermark VII is
Lbl Add.10338 pot 3 a and b. In sources with only two pairs of
marks, however, the first pair is sometimes designated 'a' and
'b' and the second 'c' and 'd' for convenience in setting out the
tables.

In oblong quarto manuscripts the sections of the mark are
numbered according to the following pattern:

| Watermark top   | a1 |
| Watermark bottom| a2 |
| Countermark bottom| a3 |
| Countermark top | a4 |

The following table lists the marks illustrated in this chap-
ter. Dates without brackets are those actually written in the sour-
ces and apparently reliable; bracketed dates are derived from the
evidence set out in subsequent chapters. Page references are to
the principal discussion of each source.
## TABLE OF WATERMARKS

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<td>&quot;</td>
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<td>219, 340, 342-3</td>
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<td>(before 1648)</td>
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<td>&quot;</td>
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<td>Lbl Add.31423 (c.1690)</td>
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<td>Lbl Add.10338 (c.1665)</td>
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<td>Ob MS Mus.Sch. e.414 (c.1660)</td>
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<td>Ob MS Mus.Sch. e.406</td>
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<td>XLIV</td>
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<td>1661</td>
<td>266-75</td>
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<td>Lbl Add.29283-5</td>
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XLVIII  Lbl Add.35043  1694  315
XLIX   Lbl Add.29283-5  1682  304-12

BEND
L     Lbl Add.17801  (early 1650s?)  524-9
LI    Lbl Add.33236  (c.1682)  444-57
(see also watermark LVI)

LION
LII   Lbl Add.35043  1694  315

ACORN
LIII  Lbl Add.29283-5  1682  304-12

DUTCH COUNTERMARKS
LIV   Lbl Add.35043  1694  315
LV    "  1694  "

BEND
LVI   Lbl Add.17801  (late 1650s?)  524-9
(see also watermarks L and LI)
folio 19
Pot 1a

folio 22
Pot 1b
folio 35
Pot 4b
folio 59
Pot 5a

folio 53
Pot 5b
folio 170
Pot 6a

folio 164
Pot 6b
folio 176
Pot 7a

folio 2
Pot 7b
Add. 18943
folio 33
Mark a1

Add. 18943
folio 34
Mark a2

Add. 18940
folio 35A
Mark b2

Add. 18940
folio 35B
Mark b1
Extension to folio 264

Pot 8
Add. 30488
folio 6

Posthorn
Add. 31479
part iii
folio 47A
Mark a

Add. 31479
part ii
folio 28B
Mark b
Add. 30488
folio 19

Foolscap a
WATERMARK XXXI continued

folio 118
Mark 3b
folio 246
extension
WATERMARK XXXV continued
c.56 folio 27
Mark a
WATERMARK XXXVII continued

0.54 folio 24
Mark b
WATERMARK XXXVII continued

c.56 folio 26
Countermark a

c.54 folio 27
Countermark b
WATERMARK XXXVIII continued
WATERMARK XL continued

colio 3
Mark a3

folio 4
Mark a4
folios

Mark b1

Mark b2
WATERMARK XL continued
Mark a.
WATERMARK XLII continued
folio 127
Add. 30490
folio 3

Amsterdam 1a
Add. 29283
folio 2
(end-paper)
Add. 29285
end-paper