Studies in Bibliography

Tudor Roses from John Tate by ALLAN STEVENSON

Most accounts of the beginnings of papermaking in England tell us that the first mill was established near Hertford by John Tate the younger and that his paper-mark was a Flower or Star or Wheel. There has been some uncertainty as to whether this John Tate was the son of John Tate or of Sir John Tate, both of them Mercers and Mayors of London. ¹ And there has been much uncertainty as to what the device represents, for it is a conventional or mathematical figure consisting of eight thin loops within a two-line circle about an inch and a quarter (32 mm) across. No botanist would accept it as a composite, for though it has rays like an aster it has no center flowers. No astronomer would recognize it as a star, for it has eight beams roughly pointed at both ends. And no wheelwright would fashion a wheel with spokes not reaching the rim. Nevertheless, as there are eight of these floating spokes, as in a comic-strip cartwheel or waterwheel, I call it sometimes the Wheel of Tate. Briquet, caught in the same trilemma, classifies it as a *Fleur* (Br 6608) and congratulates himself on having included a single English watermark among his 16,112 *filigranes*.

What hardly anyone has been uncertain about is that Tate used but a single mark. To be sure, Plomer mentioned the possibility of other marks, but he knew only of one. Heawood reproduced just one, and that in quarter size, and then (curiously) did not include it in

SB 020: Page 16

his collection published in 1950.³ Shorter, without going to original sources, reproduced two mythical examples from Powell and an acceptable mark from Clapperton; ⁴ then Labarre dropped these three sizes of pancakes on to a ready-made grid of chainlines and wirelines which have nothing to do with the mark.⁵ Jenkins furnished a single engine-turned example. ⁶ A more realistic tracing appears in the

Victoria History of the County of Hertford, drawn by Lewis Evans from a 'blank leaf' in De proprietatibus rerum. ⁷ Clapperton alone presents an excellent photograph, from the same book, reproduced by collotype. ⁸ Though a better leaf might have been chosen, this is a reproduction to be grateful for. Yet all seem to have been unaware that the watermark is twins. Briquet himself did not seek out an original example but reproduced Jenkins' prettified tracing, and so, contrary to Briquet's usual method, without benefit of chains. ⁹ It is in accord with his practice that Briquet ignores the fact of twins: two similar but distinguishable marks from the pair of moulds handled by vatman and

SB 020: Page 17

coucher. 10 In this sense John Tate certainly had more than a single mark.

Four books contain *runs* of this handsome Tate paper, three proud and important folios plus one thin supplementary folio, all from the atelier of Wynkyn de Worde:

Bartholomaeus: De proprietatibus rerum, tr. Caxton [1495]

Jacobus de Voragine: *The Golden Legend*, tr. Trevisa (8 Jan. 1498)

Chaucer: The Canterbury Tales (1498)

Lydgate: *The Assembly of the Gods* [1498] 11

The Bartholomaeus has the famous verses at its end in which Wynkyn tells us that the paper was supplied by Tate:

And John Tate the yonger Joye mote he broke Whiche late hathe in Englond doo make this paper thynne That now in our englyssh this boke is prynted Inne

He tells further (in effect) that Caxton had learned to print in Cologne while working on a Bartholomaeus in Latin, and so later had translated the text for English use. De Worde's edition is a thick volume of 478 leaves, nearly half a ream of paper, and the fine Grenville-British Museum copy measures 12 x 8.6", whereas the Sir Joseph Banks-British Museum copy measures only 9.9 x 7.7". The paper is fine in quality, except that not all of it is thin, and that the mid part of the book shows bits of grit within its pulp -- as if sand had blown across Papermill Mead and into the stuff while the vatman was plunging his moulds into it. These imperfections are sharp to the touch and unlike anything I have encountered elsewhere in paper. Hereabouts the paper is a trifle rusty also.

The Legenda offers the same text that Caxton had used in the only book he printed

on large paper, made mainly by Antonio Gallizian at Basel. 12 Now it was printed on small paper made by the son of John Tate the elder, presumably one of Caxton's friends of the Mercers'

SB 020: Page 18

Company. 13 The volume contains 449 leaves, almost as many as the Bartholomaeus before it. As in that volume the Wheel marks look forth from a 'window' nearly a quarter inch wide between columns. The marks do not seem so fresh as they did, and there are shadows along some chains; and occasionally there are small knots, perhaps bits of wool, within the linen stuff. The rim of one mark has got flatter or thinner in one place, as we can see in the open spaces in the Tabula.

The Chaucer is a shorter folio of just 157 leaves. As it was finished not long after the *Legenda aurea*, its paper is in a similar state, with perhaps a higher proportion of thick leaves. The marks are now a little easier to see because of the jagged verse endings and reuse of the cuts that Caxton had placed in his second edition. The book is rare, the Morgan copy being a fine one, the British Museum copy having several early leaves in facsimile by Harris, and others are at Folger and Illinois. 14

The Lydgate poem contains just 16 folio leaves and represents a continuation of the paper stock in the *Canterbury Tales*. Perhaps it was a way of using up a remainder of Tate stock. (Two other Wynkyn de Worde editions are in quarto.) Only the Pierpont Morgan copy is complete, for the copy bound after the British Museum *Canterbury Tales* contains one leaf in facsimile, A7, and lacks the (unwatermarked) final leaf.

The four folios contain 478+449+157+16 = 1100 leaves or 550 edition sheets. If the edition of the relatively common Bartholomaeus was around 500 copies and those of the other three around 250, the whole effort must have used some eight hundred reams, if we include something for trial, make ready, and waste. In order to keep going a papermill would need to sell considerably more paper than that.

We know of a few further edition-sheets. Presumably the mill at Hertford began operation in 1494, for the first publication using the Tate mark has a text dated that year. This was a reissue in Latin of the Papal Bull of Innocent VIII, in which Alexander VI concurred, showing their pleasure in the marriage of Henry Tudor and Elizabeth of York (though cousins of some degree) and in recognition of Henry

SB 020: Page 19

as the rightful occupant of the English throne. The earlier edition had been printed by William de Machlinia as an English broadside in his *bâtard* type on Gothic p paper from Lorraine (de Worde's country) after 27 March 1486. The Latin Bull of Wynkyn de Worde is a document of 85 lines in textura, a broadside printed similarly along the chains and down the sheet. There are six copies extant. 16

The Library of St John's College Cambridge owns two incomplete exemplars, halfsheet fragments, showing the twin Wheel marks in the preserved lower portions of the sheets, behind a single layer of type. It is thus possible to make out the relation of the marks to the individual chain-patterns. A copy at Ripon Cathedral is much repaired. It is the copy at Lambeth Palace Library (Maitland Fragment 7) that has been famed as the earliest extant piece of English paper. Though it has a hundred small wormholes, the broadsheet is intact except for two spots along creases where parts of words have been lost. The sheet is from Mould E and it measures 11.9 x 17" cut. The mark is clear though it has two or three small wormholes in it. As in the St John's College copies it occurs in the lower end of the sheet. Eton College has two copies of this Bull of [1494], used as pastedowns in J. Reuchlin: *De rudimentis hebraicis* (Pforzheim: T. Anshelm, 1506) F°. Though cropped at the top, they are otherwise in good state, except that the rear flyleaf hangs by a thread of paper. The front sheet hides its Wheel within pasted paper, but the rear one shows its mark clearly enough. It also is from Mould E, to be described presently.

It is a later abbreviated restatement of this Bull that provides the best opportunity for studying the paper of John Tate. Though Duff assigned it to [1495], Pollard noted that it was issued as a supplementary proclamation by Henry VII to a further Bull of Alexander VI. The text of the Bull is in British Museum MS Cleopatra E. III. 147 and is dated 12. kal. Jan. 1498. 'The proclamation, therefore, must be not earlier than the end of Jan. or the beginning of Feb. 1499.'17 The coarsening of the watermarks and chainlines accords very well with the date [1499], which places it after the three folios of 1498. The proclamation was a device for reassuring the populace during the period of Perkin Warbeck's high pretensions; and to the first Tudor monarch it seemed good to have a pair of popes, Innocent and Alexander, on his side.

SB 020: Page 20

As Wynkyn de Worde printed it, the Supplementary Proclamation is a document of just eleven textura lines in double column. Thus he found it possible to place two different settings (with minor variants) on each halfsheet, parallel with the chains, so that there was space between; and these through print-and-turn became four short proclamations to the sheet. If just one ream was printed, it made available two

thousand pieces of persuasion in favor of the Tudor dynasty.

The space between permits a clear and unimpeded view of the Wheel of Tate, almost the only full view of the 'naked' mark in any publication. We can examine the particular treatment of the mark by the mouldmaker, its position on the supporting chain, its relation to the other chains in the watermarked end of the mould. We see that the moulds were Italianate, perhaps made for Tate by a workman from Genoa. In the unwatermarked half of the sheet the spacing of the chains is uniform, with the spaces averaging around 35 mm. But in the watermarked end the spacing varies, so as to provide the watermark with a supporting chain through its center and a place between attendant chains. Beyond these two accompanying chains the mouldmaker has erred in his spacing on one mould but worked out his spacing satisfactorily on the second. For convenience we may call the mould with unequal attendant spaces Mould U and that with equal attendant spaces Mould E, and the consequent watermarks U and E. As the chains can be seen not merely within the blank space between the eleven-line proclamations but within all margins of Tate books, this space-difference proves an infallible method for distinguishing the twin marks.

The exact measurements need to be set down. As the watermarks are round, it is not easy to know which ends of their moulds they were sewn on, though it was a period when marks of the Rhine valley (for instance) commonly were moulded as twins in opposite ends of the sheet, even when the wire designs were placed in the same end of their moulds. When there are no inscriptions or heraldic bearings that prevent, we commonly reckon with the mould side of the paper up. With marks such as Tate's which are ambiguous in their orientation we may treat them as in either end of the sheet. Here, for later comparison, we shall consider them as in the right end, and so measure from the quire-fold across chains and mark towards the edge or deckle, or else across chains in the margins.

In practice measurements, in so narrow a unit as the millimeter, vary slightly, because chains are not absolutely parallel, because some move slightly on the mould, because paper sometimes shrinks, because

SB 020: Page 21

we cannot use the same steel ruler or transparent plastic ruler (which themselves are slightly variable) in all situations and over a span of years. In earlier measurements I tried to read them to the nearest tick on the scale; in later measurements I have given chains that clearly fall between ticks a half-millimeter value. Yet despite the variables facts and truth emerge from a series of measurements. Luckily, because of the supporting chain, this Tate watermark does not wander or slip along the laid wires in the manner of Bull's heads and other small marks of the time. See the appendix table

on Chainspaces Accompanying the Tate Wheel Watermark.

All the while the twin marks from the Tate moulds differ, as twin marks do, in details of shape and sewing dots and position between attendant chains. For instance, in the Bartholomaeus (Newberry copy) Mark U measures 36|8[17|16]8|28 mm and Mark E 35|8[16|17]10|36 mm, reading from left to right with marks in right folio. The vertical lines indicate chains, the square brackets the width of the watermark. It is amusing to note that in the Uneven Mould the mark is centered neatly within its broad chainspace, while in the Even Mould it is not quite centered. If one could always see that distinction, that would be sufficient for distinguishing the two marks. The shapes are sufficiently regular to make for uncertainties, though Mark E is actually slightly taller (more oval) than the other. Also, a sharp eye may note that the rim of Mark E is more even than that of Mark U, which (with right-end mould-side orientation) has bulges in the southeast and southwest. And some of the Dots are misleading because they are situated on the star points, while those on the circles are a score or more but small and hard to see behind type. It is thus more convenient to distinguish them by means of their chain-patterns. What is evident at a glance is that the spaces beyond the attendant chains are definitely *unequal* in one mould and virtually *equal* in the other. In Mould U these attendant spaces average 36 and 28 mm, with a difference of about 8 mm. In Mould E the corresponding attendant spaces measure 34 and 35 or 35 and 36 mm, with a difference of no more than 1 mm. As these chains, clear in the watermark space in the Supplement, are regularly visible in margins, this method of distinction becomes the one to use while we turn the leaves of a Tate folio or quarto.

Of this Supplement (Duff 229, *STC* 14098) five copies are now known. The fountainhead was Magdalen College Oxford, where four remainders of the broadside were found stuffed in a binding. Magdalen magnanimously distributed copies to the British Museum, the Bodleian, and the University Library Cambridge; but the Eton College

SB 020: Page 22

Library copy turned up in one of their own bindings. ¹⁸ In all these copies the mark is clear and photographable, except that the Bodleian copy shows paste and the Cambridge a little ink on the mark. The Eton copy of the Supplement is a halfsheet found in the binding of Gabriel Zerbus: *Liber anathomie corporis humani* (Venice: B. Locatellus, 1502) F°. When I examined this piece of Tate paper, there was an anxious moment. The four copies emanating from Magdalen College had proved one by one to be all from Mould E. Naturally I hoped now for the other mould. As the leaf law within its host volume, I could see faintly the rounded form of the Wheel rim. The mark was in the preserved end of the sheet. Breathless, I turned the leaf up to the light. The attendant spaces were unequal! At last I beheld Mark U without interfering black

type. It was photogenic. See the plate. 19

The search for further examples of Tate's watermarks, of further books printed on the earliest English paper, has produced interesting results. First it is well to note the latest known appearance of the paper, in 'Loose sheets' at the Library of Canterbury Cathedral, dated 1512. This paper was recorded by Michael Beazeley, F.R.G.S., Hon. Librarian, within the excellent collection of tracings which he made from Canterbury documents in 1896-1900 and presented to the British Museum in 1912. Again the mark he reproduces is from Mould E. But Beazeley is the only filigranist to show the attendant chains and spaces. As he reproduces them, the measurements across the mark are 36|4[20.5|18.5]7|34; but the bulges on the rim seem to be overemphasized, so that the rim varies from 1 mm to 4 mm in thickness. He notes that there are 30 wirelines to an inch and that the sheet measures 13.75×19 " uncut. This is most interesting information. This first English paper was of the size known as Bastard, that is oversize in comparison with the norm. In an accompanying notebook Beazeley says this is 'The first & only specimen met with of John Tate's paper among the Canterbury materials'.

SB 020: Page 23

Two further Tate books have been discovered by H. Clifford Maggs, among Wynkyn de Worde's books after the turn of the century. In Maggs Catalogue 830 (1957), in discussing the *Legenda aurea* with its Wheel mark, Mr Maggs noted that Tate paper occurs in two later quartos. In a letter of 29 July 1957 he kindly informed me of his research at the British Museum in 1935, when he examined Wynkyn de Worde books of 1501 to 1517 and came upon Tate Wheels in *Thordynary of crysten men* (1506) and *The Justyces of paes* (1510) (*STC* 5199 and 14864).

The Justyces of paes is a typical example of a book containing an intrusive remnant of paper hidden within the volume in the manner suggested by Moxon.²² Such a random sheet would not be useful for dating an undated book. As Mr Maggs indicated, there is just one instance in the British Museum copy, within the inner gully of sheet d: d2.3, where the rim of the Wheel emerges from the spine in both leaves. A similar sheet occurs in the Bodleian copy but not in the Huntington fragment.²³ One might suspect that this sheet is a gathering from an earlier edition, such as the 1506 quarto at the Huntington (*STC* 14863); but the point is not yet resolved. Other sheets of the 1510 edition show Pot marks within narrow chainspaces of 23 mm, paper from Champagne or Normandy.

Thordynary of 1506 had been preceded by a quarto of 1502, entitled The Ordynarye

of Crystyanyte or of crysten men (STC 5198). As Frank Isaac shows in pages reproduced from both quartos, they were set in different 95 texturas. ²⁴ The 1502 quarto contains only Hand watermarks, from Genoa or Piedmont. The 1506 quarto collates Aa⁴ A⁶ B-X^{4/8} AA-MM^{4/8} NN⁴ OO-PP⁶ = 218 leaves or 54.5 sheets. The alternating pattern of single and double quarto sheets gives the printer opportunities for using up remnants of paper. I first examined the Harmsworth-Folger copy (in 1958) and was pleased to find in its gullies remnants of the Wheel paper in gatherings A, D, and X, much as Mr Maggs had led me to expect. From three instances of Tate paper at intervals within a volume containing runs of other Flower paper and Hand papers (with once only a Gothic y from Champagne), it was easy to infer that de Worde was making use of Wheel paper left

SB 020: Page 24

over from his supply for the *Legenda aurea* and the *Canterbury Tales*. But this inference proved only partly right.

When later I was able to examine a copy at the British Museum, the copy that Maggs had handled, then a copy at Cambridge, and on return to America the copy at the Pierpont Morgan Library, I was amused and then puzzled at the way in which the Wheels moved about in the book. I began to make watermark collations showing the positions of the Wheels among the Hands and the Flowers, which I now saw were Roses, broken within the quarto fold. The Wheels were not behaving in the manner of other remnants that I had encountered in printed books. In *Hamlet* Q2, for instance, the remnant Pot from the Lower Loire with the date 1598 on its belly is hidden away in a middle gathering (as Moxon later recommended). But here the Wheel paper appeared in well separated gatherings: at B D X in the BM copy examined by Maggs, at D H in a second BM copy, at B C D X in the Douce copy at Bodley, at A C D F in the other Bodleian copy, at A D X in the ULC copy, at D X in the Folger copy, and at C D P X in the Morgan copy. Sometimes the position varied in two-watermark gatherings. The only consistent set of occurrences was in single-sheet D, though also the Wheel turned up five times out of seven in the inner sheet of X.

Not until I returned to the Folger copy, after examining three others, did I know the answer. Then suddenly I realized that *Thordynary* contains other paper manufactured by John Tate. Among the ambiguities three principal facts stood out: the Roses so intermingled with the Wheels are surely Tudor Roses . . . and the two papers have the same Italian chain pattern and the same substance.

A Tudor Rose is of course a double rose compounded of the Red Rose of Lancaster and the White Rose of York. Though the Rose watermark has no contrasting colors, it

shows prettily and convincingly five cordiform petals with sepals between and in the midst thereof a similar group of five small petals overlapping the larger ones. It is a free treatment of the heraldic rose, not a Gallic or garden rose with multiple petals. Here it arrives auspiciously as a symbol of Henry VII and Elizabeth of York, within their reign, which lasted till 1509, and within the lifetime of John Tate, who died in 1507, the year after *Thordynary* was published. In his will, now at Somerset House, Tate mentions supplies of paper still on hand: 'as moche whit paper or other paper as shall extende to the somme of xxvj $s \ 8 \ d \dots$ owte of my paper myll at Hartford'. As this was a particular bequest to Thomas Bolls of

SB 020: Page 25

Hertford (who may have been Tate's foreman) and evidently not all the paper on hand, the common assumption that paper manufacture at the Sele Mill (or its predecessor) lasted through the time of Wynkyn's folios of 1498 only is probably incorrect.

It may be objected that such Roses may have come instead out of Italy or France. The chain pattern indeed might suggest Genoese make or influence, just as it did for the Wheel marks. But Briquet knew of few double roses in Italian paper. As for France, an enterprising Norman maker appears to have anticipated the Tudor Rose by a year or so. Consider Briquet 6628, a Rose with stem and leaves which comes from Cuy (Orne) near Argentan dated 1484.26 Three quarters of a century later a Rose of Tudor form appears upon a small Shield in petit petit papier (24.5 x 31 cm): Br 6431 (1561). As Briquet found this mark among the Archives of Calvados in tabellionage from Troarn, east of Caen in the direction of Lisieux, the paper probably came from the Pays d'Auge, which had supplied Unicorn paper to England. The Shield contains, above the rose, one of the earliest names in Norman paper: I LOYSEL. A century still later Rose paper was made in the Bocage near Sourdeval with the name-abbreviation MLO for M LOYSEL, as well as NGM for N GERMAIN and ILG for I LEGRAND (Heawood 1886, 1888-9, 1902a). The Rose MLO paper occurs for example in Daniel King: *The Vale-Royall of England* (J. Streater 1656) pot F°.27 These double Roses come from the region that supplied paper to England for nearly two centuries.

Nevertheless it was proper for an English mill to make her own roses. Around 1600 England again had a white paper mill, in which John Spilman, Elizabeth I's jeweler and papermaker, made suitable paper for printed books and manuscripts. Curiously, no Jenkins, Heawood, or Shorter has sought out more than two or three of Spilman's watermarks, whereas I have encountered perhaps eight. But this is not Spilman's inning, except for a Tudor Rose that seems

SB 020: Page 26

to be his. It occurs, with pitiful irony, in the midst of that Proclamation which denounces the Earls of Essex, Rutland, and Southampton as traitors (1600/1) (*STC* 8279). The Tudor Rose is unmistakable in the Huntington copy, where I first came upon it, as also in two British Museum copies. For Essex this symbol of Tudor authority must have seemed the unkindest of his career, and its thorn cut to the heart -- as Lytton Strachey would have enjoyed saying. Other evidence have I none, except that the texture and chain-rhythm of the Essex paper fit neatly and persuasively with those of other sorts of paper made at Dartford in Kent.

And this is partly the nature of the proof for the Tudor Roses of John Tate. It is probable that the same Italian mouldmaker who had made the Wheel moulds and marks made the Rose moulds and marks as well. For the Roses are situated on supporting chains precisely in the manner of the Wheels, with a few millimeters on either side within the watermark double space and similar attendant spaces beyond. The two Roses are so similar that they may well derive from the same design. Indeed, when I first admired these Roses in the BM copy of *Thordynary* stamped with the royal arms, ²⁹ I grew amazed that there should seem to be but one mould -- a thing unparalleled in my experience with small paper, though I could understand the possibility of it in the making of so huge a size as Antiquarian. But then when I turned to the King's Library copy, I was able to make out small differences. I began to make sketches of the bits of Roses showing in the gullies, as they slid back and forth across the spine, building up two similar but different designs, never seeing as much as half a rose between fold and type. As often in such situations of near-identity, it was a chainline the top heart-shaped petal at contrasting points, though the difference is hardly more than two millimeters. Because no photograph can present the composite effect from a number of gullies, I reproduce these pencil-sketches, rough and inaccurate as they are, to fill in selected Contoura prints.

It will be seen that in one mould the supporting chain cuts near the vent in the top petal and then between two smaller center petals, and in the other along the edge of the top petal and then across an inner heartlike petal. If we look at the indented or mould side, the edge coinciding with the chain is to the right. But again it may be more convenient to differentiate by chain-pattern. In the mould with the chain cutting near the center of the petal, reading the chains from



SB 020: Page 27

fold to foot, we find they measure 34.5 33.5 23.5 18.5 36.5 36; and in the sheets with chain slong the petal edge they measure 33 34.5 19.5 16.5 33.5 36.5; wherefore the first may be called Mould U, with a 3 mm difference between attendant spaces, and the second Mould E, with a 1 mm difference. Always (or almost always) in Filigranistan there are two moulds; always they are distinguishable. 30

As yet I can give no precise measurements for both Rose marks. When they turn up, as they should, in some manuscript, perhaps a royal one, then we can measure with mathematical glee.

All this may seem insufficiently convincing that the Rose paper is Tate's. But final and sufficient evidence resides in the character and the texture of the paper, the stuff from which it was made. For the Rose paper and the Wheel paper obviously came out of the same vatstuff. In this volume they have the same yellow-whiteness, with the same liability to slight foxing, the same tendency to closefelted thickness, some sheets of both being overly thick, and, most telling of all, the same flecks and occasional clots of foreign matter, perhaps knots from woolen underwear. For the paper is indeed 'naughty', as Moxon would have said. Tate's once-beautiful paper has slipped a long way in quality. Or else this is paper remaining after the good sheets have been culled out, used along with good quires or reams. As there are about a dozen known copies of Thordynary of crysten men, bibliographers can examine the book and judge the evidence for themselves. In an accompanying table I show the Distribution of Watermarks in seven copies. The distribution suggests that de Worde used the Wheel and Rose papers as if they were one, except for the runs of Wheel in gatherings D and X, or else that the paper came from the mill with some reams made up of both sorts. In any case short runs of Rose paper occur, into which the Wheel paper intrudes; and sometimes the Wheel in one copy is opposite a Rose in other copies.

We might be satisfied to let the argument rest there. But the distribution table brings forward another question which has lurked behind the Wheel and Rose papers. Is there a third Tate paper in this volume? What of the Hand & star paper which we

find associated with the Rose paper? The question is worth a short exploration. Unfortunately we do not know how many presses the printer was using, how he fed paper to them, whether there was an advantage for him (beyond ease in binding) in printing in alternating fours and eights. 31

SB 020: Page 28

There are two contrasting sorts of Hand paper in the book. The main one, the one associated with the Rose and Wheel papers, has a Hand & star mark with close fingers and is situated on a regular chain in the Genoese manner. It is the sort of Hand that the Norman paper-makers began to imitate twenty years later, producing what the printer Thomas Berthelet called 'jene' in his bill to Henry VIII. 32 The chain-spaces are 30-32 mm wide, with a tranchefile space of about 17 mm. 33 Though in these points the Hand paper does not correspond to the Rose and Wheel papers, the fineness of the wire or laid lines does. The other, coming late in the volume, is a Hand mark without star but with separated fingers, of a sort preferred by other makers at Genoa and in Piedmont. And now we note that this open-fingered paper uses supporting chains in the manner of the Rose and Wheel papers. Some of these separated Hands show an x or α on the palm and others a pair of circlets, and these may indicate twin marks. This paper comes of a sudden in a single run of seven to ten sheets at the end of the book. It represents a definite shift in paper stock. The Hand & star paper, on the other hand, though it appears mainly in runs, is interrupted by Rose or Wheel paper. Or vice versa. Thus in gatherings B C E the Hand interrupts the flow of Rose-Wheel paper. Then the main run of Hand & star begins with the inner sheet of gathering J and continues for about thirty-two sheets except for interruptions of Rose-Wheel in L P R S T X BB DD, after which Hand & star runs an uninterrupted course for seven sheets, until it yields to the run of separated Hands. It looks as if Wynkyn de Worde regarded the Rose-Wheel and Hand & star papers as a sufficiently homogeneous stock of paper and the Hand separated paper as a satisfactory one to follow with.

Are there clues in the physical character of the Hand papers? When I reëxamined the Folger copy, I began to think that the Hand papers might also be Tate's. For again these papers have occasional thick sheets and similar flaws or knots in the stuff, though less often than the Rose and Wheel papers. And there is some variation from copy to copy. If the British Museum copies seem cleaner in this respect than some others, the Oxford and Cambridge copies definitely show the telltale blemishes and bits of foreign matter -- some of them apparently bits of brown wool. Perhaps a chemist can determine the contents of

SB 020: Page 29

these naughty sheets. Meanwhile it looks probable that we now know four kinds of Italianate paper used by John Tate the younger. Joye mote he broke.

In conclusion we may consider some of the values in such a study as this. In the present state of our knowledge of paper and what to expect of it in a bibliographical way we see that something has been accomplished, that much remains to do. The gains are of two main kinds.

1) As the history of paper is the history of an important human activity, it deserves notice both for its own sake and for its implications for economics and culture. The French frequently honor it as the *suppôt des pensées*. Yet among literary historians and critics, and even among 'bibliographers', there are numerous scholars who treat paper as if it were manna from heaven, always there for the picking up, whereas any printer, ancient or modern, can tell them how wrong they are. The availability of paper, of sorts suitable to the book at hand for printing, also considerations of format, quality, and price have continually conditioned the production of books down through time. Yet even most descriptive bibliographers treat it, ostrich-like, almost as if it did not exist. Ignorance has set a pattern which ignorance follows, and thus ignorance becomes a part of standard method, while all the while it is evident that paper and print are the things that books are made of, and thus are worth mention. If this is so, any real increase in information on *les origines* has an historical value, and thus a use in book description.

When we consider writing the first chapter in the history of English paper, a history shorter than that of other nations, we find, not too much to our astonishment, that few have adequately reproduced the first English watermark. Indeed, there are acceptable tracings by Jenkins, Lewis, and Beazeley, but only the last of these (not published) provides the chainlines essential for accurate depiction and in this case for distinguishing one mould from another. But tracings are always distortions (more or less), always fallible interpretations by the human hand and eye, and sometimes (as in this geometrical design) prettifications of what shows in the paper. Only Clapperton (it seems) has published a photographic collotype, and that in a costly limited edition, and presumably more for showing the normal appearance of the mark in a Wynkyn de Worde folio than for making details of the mark clear. This can be done, for instance, from the Tabula in the *Golden Legend*. A dozen years ago Erwin Morkisch, the gifted photographer at the Huntington Library, placed the twin Wheel marks on

SB 020: Page 30

microfilm for me, and I have shown the resultant slides a number of times. Now I offer collotype reproductions of the Tate Wheels from Contoura prints of Mark E in the British Museum copy of the Supplementary Proclamation of [1499] and Mark U from the Eton College copy. I use photocopies rather than photographs because photographers often err as to correct size. The collotypes show the chain-patterns in part so that all may tell the difference between the two moulds.

I am not able to do as well by the Tudor Roses. Here as the marks have not yet turned up in folio blanks but mainly in the gullies of one quarto, I have had recourse to partial reproduction through Contoura prints and rough pencil sketches, except for an example which shows through a narrow folio window, to be noted presently. But even these imperfect reproductions should make it possible to seek out examples of John Tate's second watermark more suitable for reproduction in a history of English paper, probably from B-radiographs.

In any case something new has been accomplished. Where it has been generally supposed that Tate had but one mark or pair of marks, we now see that he had at least two. The Tudor Roses are surely his, the Hand & star marks probably his, the Hand separated marks possibly his. Always in this art there is something for further investigation. Incidentally, a careful study of the Wheel marks has shown that Tate had but one pair of them, whose prolonged life extended from 1494 to 1499, whereas moulds producing paper in great demand commonly lasted but a year or two. At the same time the study of the Wheel paper has provided a more important gain: a *method* for demonstrating that the Tudor Rose paper associated with the Wheel paper belongs to John Tate. For bibliographers always searching for new methods this is a real advance. At the same time the device is tricky: where the paper substance is clearly the same, as in the Wheel and Rose papers, we can be certain; where the substance is similar yet a little less knotty, as in the Hand papers, we proceed more cautiously.

2) Naturally, for the bibliographer, studies of paper and watermarks become most interesting when they lead to discovery of facts in the history of book production -- and thus often clarification of the texts printed on the paper. It may be that little of this sort will arise from a study of Tate's paper; we may have to be content mainly with historical values. But the spadework must be done before the hyacinth grows and blooms. Like minor Briquets we make ready for future discoveries that we cannot foresee. As the Wheel has a supporting wire to hold it in place, and the Rose also, we do not have the information afforded by a mark that slides along the laid wires. Yet even here the

SB 020: Page 31

chains accompanying the Wheel become worn and curve at their ends, and the bumps

on the rims become more noticeable. Thus even without the facts that have come to light concerning the Supplementary Proclamation since Duff described it, we might have judged that it is closer to 1500 than to Duff's date around 1495. And there also is the upstart Perkin Warbeck to persuade us.

One reason for getting acquainted with a paper as special as Tate's is that doing so may bring to light facsimiles and fakes, and so help in the valuation of costly but imperfect books. For instance the titlepage of Bartholomaeus De proprietatibus rerum is a black woodcut containing just those four words and no more. It is thus not difficult to provide a 'reasonable facsimile' and even to deceive by means of it. This title on the Pierpont Morgan copy is known to be a facsimile, and was admitted to be a facsimile in the original Morgan Catalogue edited by Alfred W. Pollard. 34 It hardly takes an expert on paper to decide that a Bartholomaeus title on wove paper is not so good as it ought to be. The answer is not quite so easy for a Bartholomaeus in the collection of Paul Mellon. The copy is handsome and its titlepage appears acceptable, but the paper proves otherwise. For the paper has a chain-rhythm reminiscent of the close chains accompanying the Wheel mark but not of the broader spaces beyond. A person not conversant with this Italianate chain-pattern might spot the fault, but it helps to have made some slight study of the Tate product. Whether or not the facsimilist intended to deceive, he took advantage of the fact that the blackness of the woodcut would obscure the place of the watermark. But holding the leaf aslant to sunlight or lamplight, with the chains parallel with one's eyes, reveals the grooves and the fact that a watermark is not there.

A related example is furnished by the British Museum copy of the Lydgate folio *Assembly of the Gods*. I do not know that this book has ever before been listed among the Tate-paper books, though it comes as an appendage to the *Canterbury Tales* and thus on the same paper. This sameness of paper gives a date to an undated piece of printing: [1498]. But it also gives the lie, unhappily, to leaf 13. It is on paper with chainspaces similar in size to those in the Wheel watermark areas of the same Chaucer-and-Lydgate folio. Actually the facsimile is signed minutely by the expert and honest workman: 'F.s H.', that is Harris. The work is so good that it might deceive almost any bibliographer

SB 020: Page 32

who pays little attention to paper. It did for instance Gordon Duff. 35

And now comes a small discovery with a problem attached. I have spent a number of unexciting hours ranging through the folios containing long long runs of the Wheels of John Tate. Recently I leafed through the British Museum copy of the *Legenda aurea*

of 1498, holding each leaf to the light. Each sheet contained the expected Wheel, either from Mould U or from Mould E -- until I came to M3, folio '286' in 'The lyf of saynt Edward kynge'. There came a surprise and a very acceptable one: a Tudor Rose! Once only in the book, for from that point again the Wheels roll on to folio '398'. It was the first time I had seen the Rose within a folio leaf, and here it was mainly limited to an intercolumn space of less than a quarter of an inch. The mark measures about 35|6[18|16.5]2|34 in right folio and is from Mould U. Shortly after, I ascertained that leaf M3 in the Cambridge and Oxford copies also contains the Rose, and again only that one leaf. The Cambridge Rose is E and the Bodleian Rose is U. If we might use a \$\beta\$-radiographic plate for taking pictures of these Roses, we would need to look no farther. For radiography ignores the obscuring type.

But what may be the significance of the single Tudor Rose on leaf M3 of the *Legenda*? Presumably it means a cancel or else a reprint to complete the edition-sheet. That is, Wynkyn de Worde found he had made a grievous error and so reprinted, or else he ran out of copies of sheet M3.6 and so reprinted. The leaves are conjunct. As the book is dated precisely 8 January 1498, this reprinting probably occurred in 1498 or 1499. There remained but five reasonably complete copies to investigate. With the kindly aid of the custodians of these copies, the votes have come in. The Pierpont Morgan copy has a Rose in M3. The Phillis & John Gordan copy has a Rose in the conjunct M6. The John Rylands copy has a Rose in the same sheet. There is a Rose in the St David's College copy at M3. And also in the *Golden Legend* at Trinity College Cambridge. What monotony! Where is the assumed *cancellatum*? But TCC reports also a Tudor Rose, not far away, in K6. There is always something further to investigate.

Many years ago a copy of the Tate-de Worde *Legenda* was damaged in a fire and the remaining leaves were dispersed. The Newberry Library has nine of these leaves, including four with Wheel marks, and Dartmouth College Library has a similar fragment. 36 Even the writer

SB 020: Page 33

of these pages has four leaves carefully selected to represent two pairs of Wheel watermarks. 37 Today Maggs Bros. still offer a leaf from this dismembered copy -- and the price has risen to 5 guineas. The leaves are now scattered far and wide. Who, oh who, if anyone, owns leaf M3 or its conjunct? Some mute unsung bibliophile, some country college with a Rare Book Room containing but one leaf may hold the key to the mystery. . . .

As the eight copies of the *Legenda* already examined all have the Rose leaf,

chances seem to favor the cancel hypothesis. If so, whether or not the *cancellatum* has disappeared, the Rose paper should belong to 1498. If the leaf or sheet is a reprint in order to make up copies, it may belong to 1499 or later.

The situation presents a pleasant possibility. As we know from the Household book of Henry VII, he was at Hertford Castle on 23 May 1498 and on the 25th he saw the papermill. The entry reads:

For a rewarde geven at the Paper Mylne, 16s 8d

The interesting thing is that a similar entry occurs in the following year:

Geven a rewarde to Tate of the Mylne, 6s 8d38

What is the meaning of the additional reward? Apparently the King did not revisit the mill. I suggest that after the visit of May 1498 Tate's Italian workman fashioned new moulds emblazoned with the royal symbol and that at Westminster (say) John Tate presented to Henry VII a supply of writing paper marked with Tudor Roses.

Chainspaces Accompanying the Tate Wheel Watermark Right halfsheet, left to right, fold towards edge

Mould U			S	
Bull [1494]	St John's CC	35.5	24.5:23.5	27 mm
Bartholomaeus [1495]	CSmH	37	24 :23	27
	DFo	36	24. :23	28
	ICN	36	25 :24	28
Jacobus de V (1498)	ICN	37	26 :24	29
Thordynary (1506)	King's BM	35.5	24 :23	28
	NNP	36.5	24.5:23.5	28

SB 020: Page 34

Mould E			S	
Bull [1494]	Lambeth	34.5	24 :25.5	36
	St John's CC	35.5	24.5:26	35.5
Bartholomaeus [1495]	CSmH	34	25 :27	35
	DFo	36	24 :26	36
Jacobus de V (1498	ICN	34	25 :26	35
Supplement [1499]	BM	34.5	24.5:25.5	34.5
	ULC	34.5	23.5:26.5	34.5
Thordynary (1506)	King's BM	35	23.5:26	35
	DFo	35	24 :26	35
Justyces of paes (1510)	BM	35	24.5:25.5	34.5
Loose sheet, 1612 (Beazeley) S = Supporting Chain	Cant	36	24.5:25.5	34

Distribution of Watermarks in *Thordynary of crysten men* (1506)

Note: $H^* = Hand \&star (Italian)$

W = Wheel (English)

y = Gothic y (Champagne)

H = Hand &star (probably English)

R = Rose (English)

Hs = Hand separated (perhaps English)

King's Linc. 0.164 5.65		BM 224.g.3	BM C.25.f.7		Bod A.7.14		Bod Douce		ULC Sel.		NNP
4 TTM TTM TTM				King's		Linc.		O.164		5.65	
Aa ⁴ H [*]	Aa ⁴	H*	H*		H*		H*		H*		H*

A ⁶	R		R		W	R	R		R	W	R	
B ⁴	R		W		H		W		R		R	
C8	R	у	R	y	W	Н	W	W	R	y	W	у
D ⁴	W		W		W		W		\mathbf{W}		W	
E8	R	R	Н	R	H	R	H	R	R	R	R	R
F ⁴	R		R		W		R		R		R	
G^8	R	R	R	R	R	R	R	R	R	R	R	R
H ⁴	W		R		R		R		R		R	
J8	R	Н	R	Н	R	R	R	H	R	Н	R	H
K ⁴	Н		Н		H		H		Н		Н	
L8	Н		Н	Н	H		H		Н	Н	R	H
M^4	H		Н		H		H		H		Н	
N8	H	Н	Н	H	H	Н	H	H	H	Н	Н	H
O^4	Н		Н		H		H		Н		Н	
P8	H	R	Н	R	H	R	H	R	H	R	Н	W
Q^4	Н		Н		H		H		H		Н	
R ⁸	H	Н	Н	Н	H	Н	H	H	H	H	R	Н
S ⁴	R		R		R		R		R		R	
T8	H	Н	R	R	R	R	R	R	Н		R	R
U ⁴	H		Н		H		H		H		Н	
X8	H	R	Н	W	R	R	R	W	R	W	R	W
AA ⁴	H		Н		H		R		H		Н	
BB ⁸	R	R	Н	R	R	R	R	R	R	R	R	R
CC ⁴	H		Н		H		Н		H		Н	
DD^8	R	R	Н	R	H	R	Н	R	R	R	Н	R
EE ⁴	H		Н		R		Н		Н		Н	
FF ⁸	Н	Н	H	Н	H	Н	Н	H	Н	Н	Н	Н
GG ⁴	Н		H		H		Н		Н		Н	
HH ⁸	Н	Н	H	Н	lacking		Н	Н	Н	Н	Н	Н
JJ^4	Н		Н		H		Н		Н		Н	

KK ⁸	Hs											
LL ⁴	Hs											
MM ⁸	Hs											
NN ⁴	Hs											
OO6	Hs		Hs	Hs	Hs		Hs		Hs	Hs	Hs	Hs
PP ⁶	Н		Н	Hs								

The elder John Tate was Mayor in 1473 and died in 1478 or early 1479. His relative Sir John Tate was Mayor in 1496 and died in 1514, and he also had a son John. The situation has confused Blades, Clapperton, and others. But clearly the first John Tate was the father of the paper-maker. The latter is called 'John Tate the younger' in family documents. He died in 1507, he was buried at St Dunstan's in the East, and his will was probated in 1508. See John Stow: *A Survey of London*, ed. Charles L. Kingsford (1908), I 135, II 176-7; *Calendar of the Close Rolls* . . . *1476-1485* (1954), nos. 611, 689, 1165; *Wills Proved in the Prerogative Court of Canterbury, 1383-1538*, II (1893), 518.

Henry R. Plomer: Wynkyn de Worde & His Contemporaries (1925), pp. 55-56.

Edward Heawood: 'Sources of Early English Paper-Supply', *The Library*, 2d ser., X (1929), 292 and fig. 36. Heawood's example in a Paston Letter appears to be a ghost. His reason for not including this important English mark in *Watermarks* (Hilversum 1950) may have been that he had the mark from a correspondent in the first place. But he might have published Beazeley's honest tracing. John Fenn does reproduce the Tate mark in *Original Letters*, II (1787), pl. XIII, to illustrate his preface but not from a Paston letter. Letters of 1494-96 do not have the mark.

Alfred H. Shorter: *Paper Mills and Paper Makers in England 1495-1800* (Hilversum 1957), p. 174 and figs. 1-3.

When I wrote my friend E. J. Labarre in high protest, he replied only: 'I thought you would not like that!' As Dr Shorter was mainly interested in the mills, the perverse treatment of the watermarks was mainly Labarre's. Although the collections of the Paper Publications Society prove very useful to the scholar, often the tracings provide only a

starting point for bibliographical research.

Rhys Jenkins: 'Paper-Making in England, 1495-1788', *The Collected Papers* (1936), p. 157. Reprinted from *Library Association Record*, II (1900).

Victoria History of the County of Hertford, ed. William Page, IV (1914), 256-257. The 'blank leaf after the eleventh book' actually has the Caxton device on the recto but is blank on the verso.

- R. H. Clapperton: *Paper: An Historical Account of Its Making by Hand* (1934), England pl. III. The photograph is of leaf f1 in the Bodleian copy, from Mould E. At the end of this handsome volume are facsimile reproductions of early watermarks by J. Barcham Green, Hayle Mill, Maidstone, including one of the Tate Wheel, in handmade wove without chains.
- C. M. Briquet: *Les Filigranes* (Geneva 1907, Leipzig 1923), II fig. 6608 with note and p. 373. Briquet errs in placing the mill at 'Herford'. Such errors are difficult to get rid of. For instance, Clapperton's *Modern Paper-Making*, 3d ed. (1952), p. 2, places the mill at Stevenage despite the fact that the author had already convinced himself in *Paper: An Historical Account* (1934), p. 106, that it really was at Hertford. Thus the error goes on in Colin Clair: *A History of Printing in Britain* (1965), pp. 2, 29. The mill was on the River Bean outside Hertford near the road to Stevenage.
- 10. Briquet thought of twin marks as 'variétés identiques': Les Filigranes, I xix, 17, and thus not something to reproduce. For a basic study see Allan Stevenson: 'Watermarks Are Twins', Studies in Bibliography, IV (1951-52), 57-91, 235, which includes an earlier discussion of Tate's Wheel mark; also application of the method in The Problem of the Missale speciale (Bibliographical Society 1966).

Duff 40, 408, 90, 253; STC 1536, 24876, 5085, 17005.

For the Gallizians and the Klingenthal Mill see *The Problem of the Missale speciale*, ch. VIII.

A letter of 1466 addressed to Caxton and signed by 'J. Tate' and others of the Mercers' Guild is published by William Blades: *The Life and Typography of William Caxton* (1861), I, 92. Cynthia Harnett's novel for boys, *The Load of Unicorn* (1959, Penguin 1966), which deals with

Caxton's problem of obtaining paper (with more truth than fact), includes pictures of Caxton's 'friend' Robert Tate and his young relative 'Jack' Tate, who already in 1482 becomes interested in making the first English paper; and the 'water mark of Tate's paper' is pictured at the end.

The last two I have not as yet examined.

The original date of the Bull. Duff 227, STC 14096.

Duff 228, STC 14097. The Eton and Ripon copies are listed by Ramage.

Note on flyleaf of binding containing the Bodleian copy, 'teste A. W. P[ollard]'. This copy measures 10.6 x 16.7" cut.

Mr Neil Ker, Librarian of Magdalen College, has kindly furnished information.

The Eton copies of the Bull and the Supplement, with their host volumes, came to the Library through the bequest of William Horman, Fellow and Vice-Provost, he who contracted with Richard Pynson for the printing of *Vulgaria* (1519). I am grateful to Dr H. K. Prescot of the College Library for aid and information.

20. The collection is far stronger than Briquet plus Heawood in Norman Unicorn, Hand, and Pot marks of the fifteenth century. Unfortunately many of the tracings look too faint for further reproduction.

Though long used in France, the term Bastard (as a paper size) is not known in English documents before Thomas Berthelet's bill of 1541-3 rendered to Henry VIII largely for printing proclamations. See Arber's *Transcript*, II, 50-60.

Joseph Moxon: *Mechanick Exercises*, ed. Herbert Davis & Harry Carter (1958), p. 322.

Surprisingly, the Bodleian copy shows in D a Wheel with a new and thinner rim. As the mould does not change, this is presumably a repaired watermark.

Frank Isaac: *English & Scottish Printing Types 1501-35 * 1508-41* (1930), figs. 2-3.

PCC 3 Bennett. Quoted by Jenkins and the Victoria History.

A curious coincidence! It transpires that a 'Tudor' Rose, perhaps the twin of Briquet's example, occurs in the unique Caxton *Psalterium* (Duff 354, Blades 38) at the British Museum, the two quarto sheets of gathering i. As the mark is space-centered, whereas Br 6628 after much use has slipped left to the chain, the date of the *Psalterium* may be 1483 or 1484. As the paper of the book is otherwise Italian, this intrusive Norman paper strongly suggests a cancel. Innocently I ask: How did the Norman papermaker (perhaps at Fervacques south of Lisieux) know that Henry Tudor would come to the English throne in 1485?

As noted by Heawood. Checked by the Folger copy and my own. The book contains also a Harp mark made by R. Guesdon, perhaps for the Irish market.

Such as gartered Arms of England marks in the Ellesmere papers at the Huntington and in manuscripts of Sidney's *Arcadia* at the Folger and the Bodleian.

224.g.3. The King's copy is C.25.f.7.

30. This watermark Utopia was created by the late Armin Renker, papermaker and scholar of Zerkall bei Düren.

What results is a sort of duodecimo with the extra sheet, in lieu of cutoff, placed before or after. Not yet in 1506 was there a true Demy or Medium paper such as the eighteenth century had for printing octavos and duodecimos. Then came the fashion of printing and sewing duodecimos in halfsheets. Presumably in the early sixteenth century it was considered easier to sew in fours and eights than in twelves.

See note 21.

A tranchefile is an extra chain placed near the mould end to help the deckle restrain the pulp, and also its impression in the paper. This transchefile impression is useful for estimating the original length of a cut sheet.

Catalogue of . . . Early Printed Books . . . Now Forming a Portion of the Library of J. Pierpont Morgan, ed. A. W. Pollard (1907), III, 204.

Duff 253.

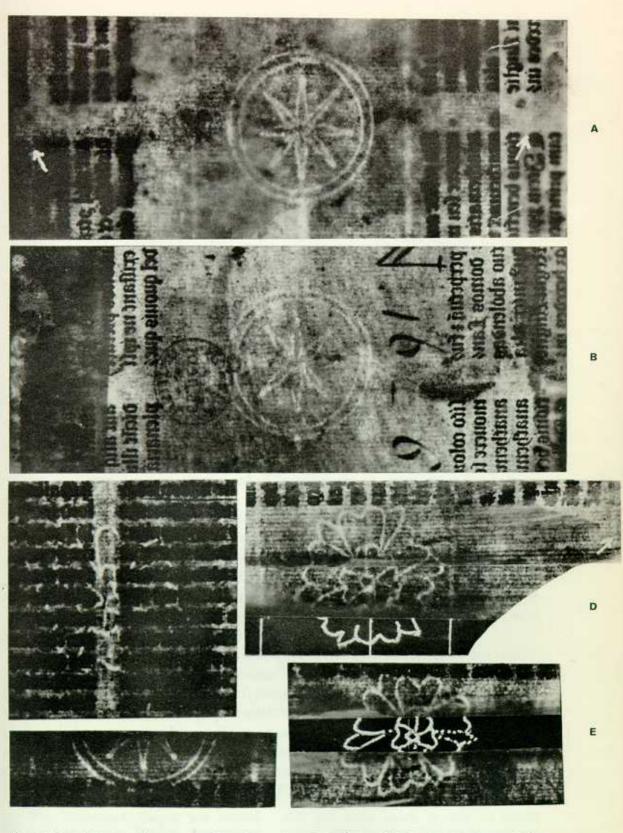
Possibly the burnt copy goes back to the Sotheby fire of 1865 and the damaged Charlemont books sold on 27 September. Victor Scholderer, in his *Handlist of Incunabula in the National Library of Wales* (Aberystwyth 1940-41), no. 118, notes that the twelve burnt leaves there had belonged to Sir C. Thomas-Stanford.

When Dawson of Los Angeles advertised these leaves, I ordered two with watermarks, specifying the chain patterns from the twin moulds. Muir Dawson readily understood and sent copies so good that I ordered and received two more.

These entries occur in the Household Records at PRO. The first has long been known from BM Add. MS 7099, and the second is noted in the *Victoria History*, loc. cit., p. 256. There is also an entry for 6 June 1499: 'Itm to the pñters at Westm: 20s'. This may refer to the Supplementary Proclamation.

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Tate's Wheel and Tudor Rose Marks in Wynkyn de Worde Proclamations and Books



- A Wheel U: Supplementary Proclamation [1499] Brs (STC 14098): Eton College
- B Wheel E: Same: British Museum
- C Tudor Rose U: Golden Legend (1498) F° (STC 24876): BM, sig. M3 (reversed)
- D Tudor Rose U: Thordynary of crysten men (1506) 4° (STC 5199): BM, pieced from gullies of 224.g.3 sig. F1 and C25.f.7 sig. J2, with penciled edge
- E Tudor Rose E: Same: BM, from 224.g.3 sigs. G5 and C8, with penciled center Wheel U: Same: BM, from 224.g.3 sig. H4

- Tudor Rose U: Thordynary of crysten men (1506) 4° (STC 5199): BM, pieced from gullies of 224.g.3 sig. F1 and C25.f.7 sig. J2, with penciled edge Tudor Rose E: Same: BM, from 224.g.3 sigs. G5 and C8, with penciled center Wheel U: Same: BM, from 224.g.3 sig. H4
- E