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WATERMARKS AND THE DATES OF
FIFTEENTH-CENTURY BOOKS

by
CURT F. BÜHLER

NEARLY half a century ago, a landmark now famous in the annals of historical research made its memorable appearance; this was Charles M. Briquet's *Les Filigranes* (Paris, 1907), a work to which many students in varied fields of scholarship still turn daily with gratitude. The value of Briquet's contribution in its broadest implications cannot be questioned, whatever reservations one may entertain in regard to the more precise information to be gleaned from its pages.

For the students of "prototypographica" in 1907, one of Briquet's summaries seemed to hold the greatest potential significance.¹ This concerned the appearance of "filigranes identiques" in the ordinary fifteenth-century formats of paper; according to Briquet's findings (vol. I, p. xx), the extreme limits of their first and last datable occurrence could be determined in this fashion:

Within	1 to 5 years:	512	instances
"	6 to 10 "	:	255 "
"	11 to 15 "	:	115 "

Thus, 882 of the 978 examples used for this calculation (or 90% of the total) made their initial and final appearance within the limits of fifteen years, the longest recorded extent of duration being 85 years.

Briquet's table further indicated that the use of over half the papers was confined to a maximum period of five years.² Despite these ascertained

1. Compare E. J. Labarre, *Dictionary and Encyclopaedia of Paper and Paper-making* (Oxford, 1952), p. 358: "His general conclusion was that the *probable* employment of a given mark fell within a period of about 30 years at most. In the collection of his data Briquet paid attention almost solely to Mss., paper for which, unless they extended to many sheets, was far more likely to have a long currency than that used for books, since *small* quantities might remain long on hand, while again the varieties of sorts and sizes was great, and the use of paper was not quite so general nor the sorts used so standardized as in later times." This is not quite true since Briquet certainly cited many examples of watermarks from incunabula, as we shall

see. Further, the use of paper for the press between 1450 and 1470, must have been insignificant as compared with that used in the production of manuscripts. First of all, the proportion of printing on vellum was then at its highest rate. Secondly, we may recall that prior to 1470 only fourteen presses (established in ten cities) had begun to print, the total production of four of these being quite slight.

2. Conversely, we may note that, according to these findings, over 47% of the examples were in use for a period longer than five years, while 96 watermarks (nearly 10% of the total) continued in use for more than fifteen years.

facts, the theory that "les filigranes" could supply evidence for the dating of incunables was not heartily endorsed by incunabulists. In respect to this, the comment of the British Museum's great catalogue may be cited:

By the aid of M. Briquet's facsimiles it might be possible, according to the method he describes, to use this multiplicity of marks as a means of determining dates. But the method is laborious and not free from uncertainty, so that other kinds of evidence are almost always preferable.³

In more recent years, especially since the founding of the Paper Publications Society in 1948, the attention of scholars has again been directed towards the significance of watermarks for the determination of date. It has even been suggested that Briquet's estimates were much too liberal and that the normal elapsed time between the manufacture and the final use of a run of paper was three years, frequently less but sometimes as much as ten years.⁴ Naturally enough, such assertions have not gone unchallenged, though one need not, perhaps, go so far as to echo the words of a scholarly Keeper of Printed Books at the British Museum, who publicly stated: "I have no use for watermarks." Sir Henry Thomas was, of course, mildly jesting here, though he was serious enough in his reservations as to their use for dating.⁵ Nor can one entirely ignore, in this connection, the statement made (in 1923) by the dean of American experts on paper:⁶

A great deal has been written on watermarking from a historical point of view but their value as a means of determining the dates of paper, books, and prints or the locality where the paper was made, is to be questioned.

The information that watermarks can supply for purposes of dating is beset with several difficulties. First of all, the employment of averages for specific purposes is always hazardous — as observers of scientific facts are

3. *Catalogue of Books Printed in the XVth Century now in the British Museum* (London, 1908-1949), I, xv.

4. See, for example, Allan H. Stevenson's estimates in *Briquet's Opuscula* (Hilversum, 1955), p. xxxix. A more hesitant view was expressed by Edward Heawood, *Watermarks mainly of the 17th and 18th Centuries* (Hilversum, 1950), p. 31: "The idea that paper-moulds had a fairly long life has been pretty generally held, and the currency of a given mark (in identical form) therefore fairly long — 30 years or so according to Briquet. If correct for early periods it is to be questioned as regards later ones."

5. "Watermarks," *Edinburgh Bibliographical Society Transactions*, II (1946), 449-450. Sir Henry also observed that watermarks "may be able, during certain later periods, to suggest a date (or at any rate a *terminus ante quem non*, as in the simple instance [a dated mark] mentioned above) but rarely a place."

6. Dard Hunter, *Old Papermaking* ([Chillicothe, Ohio], 1923), p. 65. He also states: "The sheets might have been dated in the watermark and then remained in the mill a great time before the paper was sold, and after being purchased the paper might have been held for years in the warehouse of the printer before being printed upon."

well aware. We all recall the story of the man who, in wading through a river, drowned in a channel seven feet deep, having been assured that the average depth was only two feet. Special circumstances may always be present to contradict averages; two such instances are conveniently at hand to illustrate this point. My whole correspondence relating to this article has simply been dated by month and day, and I have suggested to my correspondents that the year can easily be deduced from the watermark in the paper: this happens to provide 1909. In 1956, the Morgan Library issued, as a gift to its Fellows, a facsimile of a previously-unknown Dickens letter; entirely by itself, however, the watermark present in the facsimile would suggest that the edition had been printed forty years ago. The "filigrane" in the Dickens facsimile is — at least so far as I can judge — in the identical state as that found in the printed *Archives of the General Convention* [of the Protestant Episcopal Church in the U. S. A.], New York, 1911-12. It certainly *should* be identical since all the paper (Kelmescott Handmade) comes from a single purchase made prior to 1911. The Library has, from time to time, made varied use of this paper — but there is still enough on hand to print a sizable edition of some reasonably-sized text. These facts relate, of course, to special circumstances. Nevertheless, it would manifestly be impossible, five hundred years after the event, to single out the special circumstances from those which were entirely usual.

There are, obviously, two prime elements of uncertainty in regard to the use of watermarks for purposes of dating; first, no one is quite certain for how long any particular mould could be used (i.e., how long was it possible to make paper with the same watermark) and, secondly, it is not clear how successful the methods for speedy distribution were — or even if this was considered essential or desirable in those days. Estimates for the "life" of a mould vary between half a year and four years;⁷ but how can one ever be sure of the value of such figures in determining the life of any *particular* mould? It could as well be asked: how long will the machine last upon which the present study is being typed? Clearly, the reader will want to know: (1) who made the type-writer (i.e., question of quality); (2) how is it looked after (problem of maintenance); and (3) how much is it used? This last query is certainly as crucial for a mould for making paper, as Alfred Schulte was quick to recognize, as it is for a type-writer. This scholar⁸ preferred to estimate that the average pair of moulds could

7. According to Alfred W. Pollard (*Shakespeare Folios and Quartos* [London, 1909], p. 93), Briquet believed that a device "had a life of about two years before it lost its shape altogether." Various estimates are given by Alfred Schulte, "Papiermühlen- und Wasserzeichenforschung," *Gutenberg Jahrbuch* 1934, p. 22.

8. Schulte, *op. cit.*, p. 24. The same writer also remarked (in his contribution "C. M.

Briquet's Work and the Task of his Successors," *The Briquet Album* [Hilversum, 1952], p. 56): "If, for instance, it is assumed that a paper-mill manufactured only one size and one sort of paper, it would every year require a new pair of moulds. If, however, it made several sorts and sizes, as was nearly always the case, then this single year of possible usage was extended into several or even many calendar years."

produce half a million sheets before they became unfit for further use, rather than to speculate on the conjectural life of a mould.⁹ We know, too, from contemporary records that early paper-makers were not particularly reliable as a source of supply:¹⁰ plagues, floods, droughts, and other inconveniences played havoc with the productivity of the makers and frequently curtailed the essential water-supply for the mills or made it unfit for use.¹¹

The dubious facilities for distribution in those days create another factor for uncertainty in the estimates under consideration. As BMC (I:xv) reminds us:¹² "we have to reckon with the existence of middlemen, such as Adolf Rusch, who bought paper from the makers and sold or bartered it to other printers." A most significant time-lag¹³ is noted by Adolf Tronnier:

Es ist höchst eigentümlich, wenn auch wohl kein Zufall, dass alle die genannten und noch zu nennenden Marken sich ausnahmslos auch in den Strassburger Inkunabeln finden. Auffällig ist dabei, dass sie in Strassburg fast stets ein oder zwei Jahrzehnte früher vorkommen als in Mainz, fast nur in den sechziger und siebziger Jahren.¹⁴

If one accepts this statement, set forth by an eminent and reliable scholar, it is apparent that the same paper might be available for purchase in two cities, joined together by the easiest means of communication known to the Middle Ages (the river Rhine), at intervals of ten and more years.

We may now particularize and inquire how palaeographers and art historians view the evidence afforded by watermarks for the purpose of dating. One may cite such views as those of Arthur M. Hind ("the date of manufacture [of paper] is only certain as a *terminus a quo*")¹⁵ and Arthur

9. Assuming that a certain folio of 200 leaves, in an edition of 200 copies (fairly large for those days), contained equal amounts of three sorts of paper, then the entire edition consumed only 7,000 sheets, or less than 2% of the 500,000 sheets a pair of moulds could produce. An early printer, then, would require in a year's time only a very slight amount of the total production of a mould.

10. Cf. Oscar Hase, *Die Koberger* (Leipzig, 1885), pp. 71-72. On 17 December 1501, the dealer Friedrich Brechter asked the printer Johann Amerbach to take compassion upon the papermakers ("eyn mytliden haben des bapires halben") with regard to their products (Hase, letter 42, p. XLVIII).

11. Compare the letter from Anton Koberger to Hans Amerbach (31 Dec. 1498) and that from Thomas Anshelm to Hans Koberger (7 Jan. 1518) printed by Hase, pp.

XIX and CXXXVII. See also Hans H. Bockwitz, *Papiermacher und Buchdrucker im Zeitalter Gutenbergs* ([Leipzig], 1939), pp. 9-10.

12. On Rusch, compare also Hase, *op. cit.*, pp. 64-65.

13. In the Koberger correspondence, we find continuous complaints as to the quality of the paper (letters, 7, 8, 49, 50, etc.), much of which was returned by the printer. This contributed an extra delay in the ultimate marketing of some papers.

14. *Die Missaldrucke Peter Schöffers und seines Sohnes Johann* (Mainz, 1908), p. 81.

15. *An Introduction to a History of Woodcut* (Boston and New York, 1935), I, 26. On p. 79 he remarks: "Moreover, the uncertain period during which stocks of paper might be kept adds a further limitation in

E. Popham¹⁶ ("But in few cases can a water-mark, even when it actually contains a date, afford more than an approximate indication of period *post quem*").¹⁷ Palaeographers display similar caution. Regrettably enough, there seems to be no adequate (modern) handbook in English on "Hand-schriftenkunde",¹⁸ so that we are obliged to fall back upon the recent judgements of two German scholars:

Aber auch wenn alle diese Feststellungen lückenlos gemacht sind und das Wasserzeichen einwandfrei erkannt ist, muss noch grosse Vorsicht einwalten, dass daraus nicht zu sichere Schlüsse auf Zeit und Heimat gezogen werden. . . . Alle diese Gründe erklären, warum die grossen Hoffnungen, die man zunächst auf die Wasserzeichenforschung gesetzt, nicht in dem Umfang sich erfüllt haben, wie man sich in der ersten Begeisterung versprochen hatte.¹⁹

Gewiss, als alleiniges Kriterium für die Datierung einer Handschrift reicht das Wasserzeichen nicht aus.²⁰

The significance of all these remarks will not fail to impress itself upon the reader. Palaeographers and art historians are accustomed to assign material

regard to the conjectured dating of woodcuts on the same basis." In his *A Short History of Engraving & Etching* (London, 1908), p. 17, we find: "the manner in which paper must have been transferred from one country to another, and the uncertainty of interval between manufacture and use, necessitate many reservations and qualifications in accepting this type of evidence."

16. *A Handbook to the Drawings and Water-colours in the . . . British Museum* (London, 1939), p. 9.

17. Commenting on the use of watermarks for dating, Joseph Meder stated "dass man noch wenig Nutzen aus dem Studium derselben habe ziehen können" (*Die Handzeichnung* [Wien, 1923], p. 695). Elsewhere he endorses the view that watermarks are useful in dating "freilich nicht auf das Jahr, so doch auf Dezennien"; Meder also remarks "doch bleiben sie immer nur ein Behelf, der in dem einen Falle rasch zur Entscheidung führt, in dem anderen alle Vorsicht gebietet" (*Dürer-Katalog* [Wien, 1932], pp. 8 and 293). Some watermarks occur in Dürer prints throughout his lifetime, while the posthumous editions of

the *Marienleben* show the same watermarks in use 1540-65 and 1550-80.

18. On this point, see my review of Sir Hilary Jenkinson's *Domesday Re-Bound* (London, 1954) in *Speculum*, XXX (1955), 118-119.

19. Karl Löffler, *Einführung in die Handschriftenkunde* (Leipzig, 1929), pp. 57-58. Compare also the same writer's remarks in Fritz Milkau, *Handbuch der Bibliothekswissenschaft* (Leipzig, 1931-40), I, 296: "Dafür bieten die Papierhandschriften durch ihre Wasserzeichen mancherlei Mittel zur zeitlichen und örtlichen Festlegung, freilich nicht in dem Umfang und mit der Sicherheit, wie die Wasserzeichenforschung in der ersten Begeisterung gehofft hatte."

20. Joachim Kirchner, *Germanistische Handschriftenpraxis* (München, 1950), p. 13. A French view is expressed by Maurice Prou, *Manuel de paléographie* (Paris, 1910), p. 33: "Ces marques de fabrique considérées comme éléments chronologiques ne sauraient donner qu'un *terminus a quo*, car il est arrivé que des écrits ont été consignés sur des papiers beaucoup antérieurs à la date de transcription."

which cannot be identified with an individual, school, or related group of artifacts to quarter-centuries;²¹ those scholars who willingly fix such items within specific decades are often considered rash by their colleagues. It is suggested by scholars in these disciplines, then, that watermarks as evidence even for such broad datings must be treated with caution.²²

Among bibliographers, the incunabulists — whether directly or by inference — also suggest that such evidence as “filigranes” afford for establishing dates cannot be employed with precision. Paul Heitz (art historian, palaeographer, and incunabulist) found the same watermarks appearing over wide intervals of time in the incunabula,²³ as well as in documents belonging to the archives,²⁴ of Strassburg. This fact was further emphasized by Karl Schorbach in his study of the press of Johann Mentelin:

In 16 Druckwerken unseres Meisters ist das Ochsenkopfpapier vertreten, und zwar sowohl in seinem ersten [1460] als auch in seinem letzten [1477] Verlagswerk. Erwähnenswert ist noch, dass das bei Mentelin vorliegende Turm-Wasserzeichen [in use 1472-73] auch im Mainzer Catholicon von 1460 vorkommt und später (1480 ff.) oft in Nürnberger Inkunabeln.²⁵

21. If objects can be so identified, there will, of course, be external pieces of evidence at hand. It must, however, be recalled that, though printed on paper, the date of production of the blockbooks is still a matter of controversy, these being variously dated between 1420 and 1475.

22. Literary historians express a similar hesitation. “As a rule the utmost that we can do is to determine whether in a particular book or group of books the watermark is the same throughout or not, a point which indeed may be of great importance as indicating whether or not the whole was printed at or about the same time: it is seldom that we can go further and infer anything from the watermark as to the actual date of printing” (Ronald B. McKerrow, *An Introduction to Bibliography* [Oxford, 1949], pp. 101-102). Lawrence C. Wroth warns us on the “pit-falls” of dating by means of watermarks in *Imago Mundi*, XI (1954), 94. See also Rossell H. Robbins, “A Middle English Diatribe against Philip of Burgundy,” *Neophilologus*, 1955, p. 132, n. 3, where he refers to the manuscript as being dated “1436-1456 from the watermarks, but the hand is certainly later [“Second half XV century”]. Watermarks are evidence for establishing a *terminus a quo*, but not such reliable evi-

dence for a *terminus ad quem*.”

23. *Les filigranes des papiers contenus dans les incunables strasbourgeois de la Bibliothèque Impériale de Strasbourg* (Strassburg, 1903). “Le n° 54, représenté ici par le filigrane d’un imprimé de 1477, se retrouve dans des documents beaucoup plus anciens appartenant aux archives de la Ville, et remontant à 1351 et 1399” (p. 9) and p. 10, no. 168: “Ce filigrane a été relevé par Keinz à Munich dans un Codex de 1422. Il se retrouve dans un manuscrit des archives de Strasbourg, remontant à 1438. Nous l’avons copié dans un imprimé sans date de chez Eggesteyn [active 1466-1482].”

24. *Les filigranes des papiers contenus dans les archives de la Ville de Strasbourg* (Strassburg, 1902). The “Tête de boeuf” mark (Plate V, no. 55) is found in use for 42 years (1413-1455), the “Léopard” (Plate XV, no. 182) for 53 years (1422-1475), and the “Lettre Y” (Plate XIV, no. 154) for 27 years (1455-1482). It will be noted that these years cover the period of the prototypographica.

25. *Der Strassburger Frühdrucker Johann Mentelin* (Mainz, 1932), pp. 72 and 81. Compare also the table on p. 87.

Similar reservations as to the validity of the evidence of watermarks for dating — whether made directly or implied in practice — can be traced even to experts on the making of paper, its history and use.²⁶ In connection with this, the above-quoted statement by Dard Hunter may be recalled. We are further reminded that watermarks are “a kind of circumstantial evidence to be used with great caution by bibliographers.”²⁷ Finally, so recently as 1952, the director of the Forschungsstelle Papiergeschichte in the Gutenberg Museum at Mainz,²⁸ accepted Briquet’s judgements in regard to the dating of certain watermarks (nos. 13034-43) “dass einige derselben 50-60 Jahre ohne Veränderung bestanden.” Dr. Kazmeier,²⁹ moreover, cites Briquet without hesitation as the authority for the fact that the Gutenberg Bible’s watermark (no. 13040) was used in documents from 1440 to 1495. Solely on the basis of the “filigranes,” one wonders, how would this Bible be dated? In the *Gutenberg Jahrbuch* for the previous year (1951, p. 36), this German scholar expressed the belief that “durch längere Benutzung einzelner Formen, als auch durch Lagerung von Papieren können entsprechende Wasserzeichen um Jahrzehnte verschieden in der Zeit auftreten.” This would imply considerable hesitation on the part of a most distinguished “Papier-Forscher” as to the value of the “evidence” which watermarks could furnish for purposes of dating.³⁰

What value, then, have watermarks for the dating of prototypographica? It seems certain that a “filigrane,” without external controls or confirming

26. Labarre, *op. cit.*, p. 358: “If it is true that paper-moulds quickly wore out — as they would especially if used for sorts in common use — the value for dating purposes of the marks they bore would be much enhanced.” The use of a conditional clause is certainly significant here.

27. Cf. K. Povey’s review of Jean-Marie Janot’s *Les moulins à papier de la région vosgienne* (Nancy, 1952) in *The Library*, 5th ser., IX (1954), 274.

28. August W. Kazmeier, “Wasserzeichen und Papier der zweiundvierzigzeiligen Bibel,” *Gutenberg Jahrbuch* 1952, pp. 21-29.

29. See especially pages 23-26. The Ochsenkopf mark (Briquet 15093) is assigned to Lyons 1400-1409 and to the 42-line Bible. For the Traube mark (Briquet 13008), the given range is Cologne 1427 to Wiesbaden 1458 (and Swiss and French localities of 1437-1466). Dr. Kazmeier seems to find nothing remarkable about these wide spreads of time in the use of these (and other) watermarks.

30. In this connection, see Armin Renker’s comment in the new edition of Milkau’s *Handbuch* (Wiesbaden, 1952, I, 1065): “Da fast jedes Stück Papier seinen Ursprungsvermerk in Gestalt eines Zeichens in sich trägt, sollte man annehmen, dass es leicht sein müsste, Zeitpunkt und Ort der Entstehung hieraus zu erkennen. Die Forschung lehrt aber, dass es schwer ist, diese Ursprungsmerkmale zu deuten. . . Verfügungen über Verleihungen geben zuweilen Anhaltspunkte, weniger das Datum der Dokumente, da ja das Papier bedeutend älter sein kann. Erfahrungsgemäss nimmt man als längsten Spielraum zwischen Anfang der Herstellung und Ende des Verbrauchs eines mittelalterlichen Papiers zehn bis fünfzehn Jahre an; bei grossen und ungewöhnlichen Papieren kann er sich bis zu dreissig Jahren ausdehnen.” The recent expressions of even shorter estimates do not seem to have changed Herr Renker’s opinion, for these are almost the identical words he printed in his *Buch vom Papier* (Leipzig, [1934]), p. 107. Compare also Alfred Schulte’s opinion cited in note 8.

evidence from other sources, cannot be regarded as a sure guide for the dating, within narrow limits, of mediaeval documents or early printed books. Equally, I am sure, no one will deny that watermarks can, *and do*, provide essential and valuable pieces of evidence for this purpose; they certainly have a corroborative — though not an absolute — value in arriving at an approximate date for an early printed book. Allan H. Stevenson, for example, has shown that the watermarks in a certain Caxton volume can supply a date for it³¹ — and it so happens that this date is one that is made probable by other evidence.³² But what, one wonders, would the decision have been if the evidence had been contradictory? Relying only upon a watermark with a 1608 date³³ — and with no other evidence to go upon — it would clearly have been impossible to prove that a Shakespeare quarto with the printed date "1600" was actually produced in the year 1619 and at no other time. The watermark would certainly cast suspicion on the year 1600, but it could never have pointed to 1619 as the one likely year of publication.³⁴

In conclusion, then, it may be stated that watermarks, instead of suggesting a date based on an approximate maximum of three years between manufacture and ultimate use, do furnish the student of fifteenth-century books with an additional (and important) tool for the dating of an incunabulum "sine ulla nota," possibly within a score or so of years as Briquet intimated. It has not been demonstrated, however, that watermarks provide the incunabulist with that absolute criterion which some filigranologists believe to see in them.

31. *Historie of Jason* [Westminster, 1477]. Cf. *Briquet's Opuscula* (Hilversum, 1955), p. xlii. This year [1477] is also assigned to the *Jason* by Aurner, Bennett, Blades, Crotch, De Ricci, Duff, Guppy, Hittmair, Plomer, Winship, and the *STC* (no. 15383).

32. In any event, Caxton's work falls into the last quarter of the fifteenth century. After 1470, the demand for paper by the printing presses must have suddenly become enormous, and the paper-makers hard put to it to supply the demand. In the 1450s and 1460s the requirements of the press would have made no great demands upon the available supply.

33. See Allan H. Stevenson's informative paper "Shakespearian Dated Watermarks," *Studies in Bibliography*, IV (1951), 159-164.

34. Dard Hunter, *op. cit.*, p. 66, cites a paper made in 1859 with the date 1810 in the watermark; it was made in Pennsylvania at the Ivy Mills. See also Agnes Mongan and Paul J. Sachs, *Drawings in the Fogg Museum of Art* (1940), I, 418; here the following comment is made on watermark 45: "The date [as in the reproduction] is given, following a tariff decree of 1741 which ordered that all paper printed after the first of the following January should be dated 1742. The wording of the law was not clear, so that many papermakers continued for years to date their papers '1742.'" These examples may serve to alert scholars against "the traps that await the unwary, even in the case of dated watermarks" (Sir Henry Thomas, *op. cit.*, p. 450).