THE DESCRIPTION OF NINETEENTH-CENTURY ENGLISH WRITING PAPERS

WHEN A CATALOGUER, HISTORIAN OR LITERARY SCHOLAR works with manuscripts held by Australian and New Zealand libraries they will likely as not be written on nineteenth-century paper; yet there are virtually no easily accessible helps to the dating, localising or even authenticating of such materials. What follows is an attempt to fill this need based on information assembled in the course of preparing a catalogue of English literary manuscripts in Victorian libraries.[1]

Mode of Manufacture

Most of the nineteenth-century manuals concern themselves at length with the problem of distinguishing between *machine-made* and *hand-made* paper. Some give detailed methods for distinguishing the two by a close examination, and all of them warn of the considerable difficulty sometimes encountered in this undertaking.

As this aspect of description was so widely discussed, it is important to know its historical origin. The first crude paper-making machine was established in France in 1799 after a pattern by Nicholas Louis Robert. England saw a much improved version set up at Frogmore, Herefordshire, in 1803; in 1804 there were three machines and six by the end of the next year. By mid-century there were over two hundred, and by the end of the century economic considerations had made their supremacy over hand-craftmanship unassailable. This state of affairs can be verified from production figures: at the turn of the century hand-made paper production had dropped to about six thousand tons, the same quantity at which machine production began in 1804. In contrast, for the year 1900, the quantity of machine-made paper well exceeded three hundred thousand tons.[2]

Controversy over the merit of the new machine-made product was probably inevitable. It was a brilliant young engineer, Bryan Donkin, who first constructed a working prototype of a paper-making machine in England, one that incorporated many clear advances over Robert's original design. In 1829, Donkin issued his prospectus of the "Wove Machine"[3] which claimed that his machine produced a stronger and firmer sheet than the manual method, maintaining also that machine sheets required less drying, and could be turned out more quickly. Furthermore, damaged or inferior quality paper which was normally culled at the end of the production process, so-called *retree*, was reduced as a percentage of the entire output, since the machine process was less likely, claimed Donkin, to soil or damage the fibre stuff.

In 1829, however, J. Murray issued his *Practical Remarks on Modern Paper,*[4] in which he examined Donkin's claims, concluding that the twin processes of grinding the pulp destined for machines to the finest possible consistency and of adding large quantities of mineral substances, such as bleach and sizing

agents, must inevitably injure the essentially fibrous nature of a sheet and therefore endanger its permanence.

In 1866 the hand-made papers still retained much of their prestige, but at least one writer, A. Proteaux, could write calmly of the characteristically distinct advantages and disadvantages of each type, and the factors to be borne in mind when choosing between the two for any one particular use.[5] Proteaux was astute enough to perceive the economic advantage of the machines, which could quickly and abundantly produce wrappings and newsprint within twenty-four hours of ordering. But he concludes that "hand-made papers are reserved for printing works destined to be transmitted to posterity . . . and [for] drawing paper, which, up to the present time the machine has only been able to imitate very imperfectly." Machine-mades, he claims, lack resonance and strength.

Yet twenty years later, in his *A Treatise on Paper,* Richard Parkinson was largely able to reverse that judgement.[6] He refers to the continuing controversy in the trade journals, which has become increasingly acrid and vehement, over the supposed superiority of one type of manufacture or the other, especially in regard to the strength of the sheet. After conducting comparative tests he concluded that, given equal weights, and, depending on the direction in which the test was made, machine-mades were in most cases at least as strong as, and frequently stronger than, their hand-made counterpart.

Parkinson goes on to resurrect one of Donkin's original claims, saying that fully twenty-five per cent of all hand-made paper is sold as retree because it cannot match the machine in consistency of weight and effectiveness of sizing. In 1898 The Society of Arts' Committee on the Restoration of Paper admitted that loading paper fibre with minerals, a practice more associated with the machine process, did indeed prejudice the quality of the sheet; but careful use of these additives, it concluded, had improved the texture and opacity of machine papers.[7] Murray's early criticisms, as far as responsible manufacturers were concerned, had perhaps proved unduly pessimistic.

The parting shots in the controversy were heard when machine paper manufacturers developed the ability to produce the so-called "mould-made" or imitation hand-made papers complete with deckle edges. H. Maddox[8] acknowledges the generally greater strength and economic importance of the machine-mades and the "special uses" for which hand-mades are reserved. This is the state of affairs as it remains today.

It can be seen from this short survey that the mode by which a sheet of paper was manufactured became a matter of vital practical concern. One can easily understand why it was important to those in the trade to be able to distinguish the two (or, if we count the "mould-mades", three) types when the origin of their manufacture was unknown. But before listing the tests known to nineteenth-century paper dealers, it is necessary to explain the way in which the differing characteristics of machine-made and hand-made papers are related to their modes of manufacture.

Paper manufactured by hand is, of course, made on moulds with supporting wires of either a laid or a wove pattern. The former consists of wires laid parallel to one another with additional thicker "chain" wires laid at right angles across them, while wove patterning has each wire literally woven into place around the other wires, producing (usually) a criss-cross pattern diagonal in respect of the square frame of the mould. In the days of exclusively hand-made sheets there was a characteristic and very real distinction between "laid" and "wove" papers corresponding to the type of mould used during manufacture. The wires which supported the stuff left indentations on that surface of the sheet which was in contact with the wires. When the sheet dried, these indentations remained and could be seen as a characteristic laid or wove pattern when the sheet was held up to a strong, raking light.

But with the advent of the machine, the terms "laid" and "wove" acquired a new connotation in addition to their original sense. *All* machine-made paper, whether for writing, printing or wrapping purposes, is formed on *woven wire cloth* and consequently any sheet of machine-made paper at all must, in the original sense of the term explained above, be described as "wove".[9] However, in 1825 the Phipps brothers in England patented the "dandy roller" as an adjunct to the usual process of paper manufacturer.[10] It was constructed of a hollow brass shaft with brass "spokes" carrying a number of outer wooden or sheet-metal strips the length of the roller. It was designed to be placed above and at the far end of the woven wire belt of the Fourdrinier machine and was to be turned by the friction of contact with the newly-formed and still soft paper sheet, as the sheet travelled on the moving woven wire cloth. It was supposed to provide a final light bedding down of loose surface fibre and encourage excess water to run off the semi-liquid sheet.[11]

In addition, however, it was possible to attach thin, projecting wire onto the outer surface of the roller which pressed into the already formed but still soft sheet. These wires displaced some pulp wherever they touched, making the sheet thinner in those places to produce a fair imitation of the wire marks and watermarks of the traditional hand-made papers. The imitation was complete because these thin wires could be attached to the roller in either a wove or a laid pattern, or to produce any watermark design at all, the pattern being discernible just as that on any hand-made sheet was when held up to a strong light. But it was an imitation, nevertheless, because this artificial pattern could be seen, on minute examination, *in addition* to the mark left by the woven wire belt which supported the stuff. The "top", or felt, side of the sheet shows the small indentations left by the dandy roller; the "bottom", or wire, side of the sheet shows those left by the supporting wire belt. The dandy roller was, in fact, so named because it could give to a sheet of paper any fashionable pattern or watermark which may have been desired by the customer. Thus, Richard Parkinson said in 1886 for all machine-made papers, "there is, in these days, absolutely no difference in laid and wove papers, except in name and watermark."[12] For hand-made paper the difference is real; for machine-made paper it is merely fashionable.

The above rather technical distinctions can be put to use in order to distinguish machine-made and hand-made papers, specifically in relation to writing papers, although most hold true for book papers as well.[13]

(1) Clearly, if a piece of paper is examined on both sides under a strong raking light and shows *two* wire marks, one the *wove* pattern of the supporting wire mesh and the other the *laid* pattern of the dandy roller, then we have an infallible indication that it is machine-made. Hand-made paper has only one pattern, either laid or wove, but not both.

(2) In the case of *wove* papers, a dandy roller did not have to be used unless a watermark was needed, since the impression of the wire mesh was often deemed sufficient texture of itself. As a rule these impressions on the machine-made sheet were deeper than the corresponding wove pattern of a hand-made. This fact is due to the exhaust boxes used in the Fourdrinier process which were designed to draw off surface moisture by suction. As a side effect they also drew the fibre closer onto and between the interstices of the supporting mesh and thereby caused the indentations on the sheet to deepen. As is also the case with laid papers, these marks can be seen by looking *along* the surface of the sheet with a raking light. It is also worth remembering, says Parkinson, that hand-made moulds use a coarser weave (40 to 60 meshes per inch) than the finer machine weaves (80 meshes per inch).

(3) As a further consequence of the Fourdrinier process, the difference between a hand-made and a machine-made paper can often be determined by reference to an available watermark. For hand-made papers, the right side of the sheet (the one from which any lettering in the watermark is intelligible) was that side which came into contact with the supporting mesh: the *right* side was thus also the *wire* side. The watermark pattern, being attached to the mould wires, was a mirror image of the finished design on the sheet. Both wires and watermark were thus on the "bottom" side of the two available paper surfaces. But for machine-made papers, the right side of the sheet was *not* the wove side (the "bottom" side) but the upper side, that is the side onto which the watermark design was impressed (even though, of course, the actual watermark pattern was made as a mirror image of what was seen in the finished paper).[14]

This distinction gives rise to two possible methods of distinguishing hand and machine-made wove paper whenever a watermark containing lettering is available. Firstly, in a machine-made paper, the watermark will be impressed on the *opposite* side to that with the indentations of the supporting woven wire mesh which are therefore uninterrupted. On a hand-made paper this is impossible because the emblems and letters of the watermark are placed above, and attached to, the supporting wires. This may also prevent wires close to the watermark from marking clearly. They will appear on inspection to be discontinuous, or, more likely, to be fainter and/or less deeply impressed.[15]

Secondly, it is often possible to determine a machine-made sheet by the

subsidence of the pigments added to yellow wove, azure laid and all blue papers.[16] The dyes which were used in the nineteenth century, added to the fibre solution while still in the vats, were of a higher specific gravity than the other ingredients and so, when the pulp was dribbled onto the wire cloth from the storage vats and was proceeding along the moving wire, the dye particles usually sank to the "bottom" of the sheet, i.e. the surface of the sheet in contact with the supporting wire mesh. When the paper was fully dried this surface was found to be darker in colour than the "top" or felt side. Since hand-made papers also suffered from dye subsidence, *both* types of paper would be expected to have a darker "wire" side. However, for hand-made papers, the side of darker colour will also be the side from which a watermark containing lettering is intelligible. It will also be the side upon which the indentations of both the wire mesh and the watermark may be discerned. For machine-made papers, on the other hand, the side of darker pigmentation is *not* the same as that from which the watermark is intelligible, or to be seen indenting the surface of the leaf. By this means we have a method of distinguishing the hand and machine-made varieties of paper. In practice, however, this method, which both Parkinson and Maddox outline, may be of limited practicability. It relies on the presence of a readable watermark to determine the sidedness of the sheet, and fails to take account of a process used to counteract the subsidence of dyes used from about 1880 onwards.[17]

(4) It was said that an experienced trade buyer in the nineteenth century could detect a difference in the degrees of brightness, opacity, and finish imparted to a sheet according to its mode of manufacture.[18] From work on my catalogue I have found that this difference is detectable and of occasional use in confirming the results of the other tests. The majority of sheets that I handled were machine-made and the occasional hand-made example appeared to display a softer shade of whiteness and give a sense impression of greater suppleness when handled, resulting perhaps from the much-vaunted maturity imparted to these papers by loft drying.

The Make of the Paper

What is termed the *make* of a sheet of paper, whether machine or hand-made, refers to two features arising from its mode of manufacture. Firstly, sheets of paper are said to be either "Cream", "Yellow", "Blue", or "Tinted" in colour (or, more correctly, in opacity). These names arise from the dyes added when the pulp was in the vat. Secondly, sheets of paper are said to be either "laid" or "wove", according to the pattern left on their surface by the mesh and rollers with which they come into contact when being manufactured.[19] From the combination of these two characteristics we have the following *makes,* available as either hand or machine-made:[20]

Cream wove	Blue wove	Yellow wove	Tinted
Cream laid	Blue laid	Azure laid	

Cream papers are said to be distinguished by their purity, usually having been made exclusively or predominantly of rag (linen) or other high quality fibre. This purity imparts a creamy-white surface, sometimes blemished by occasional

traces of added dyes (depending on the manufacturer). *Blue* papers were tinted over the whole of their surface by the addition of blue dyes during manufacture (usually aniline or coal-tar derivatives) which resulted in a distinctively bright blue appearance. *Yellow wove* and *azure laid* are trade terms for papers of approximately the same colour, usually something between blue and cream, or creamy-white with small particles of blue dye just visible to the eye, or else with a perceptible blue tinge to them when viewed from further away. The care taken with, and the quality of ingredients used for, these makes was usually inferior to the Cream papers, with the result that, if left uncalandered, or imperfectly or cheaply calandered, they acquired a dull surface appearance. To counteract this defect, a small quantity of blue dye was added — hence the blue tinge. By a quirk of convention a laid paper of this type was always "Azure", while a wove paper was always "Yellow"; there were no such terms as yellow laid or azure wove. *Tinted* paper had its entire surface dyed with any colour extract available to the technology of the day.[21] Thus there were papers known as "yellow-tinted", "mauve-tinted", "red-tinted", and so on. All of these terms appear to have been current from at least as early as 1850, and some of them are still current today.[22]

An ancillary descriptive system which applies to Blue papers but not to the other makes, allows these types to be classified as either "low", "medium", or "high" in colour according to the amount of blue dye used in manufacture and the resultant intensity of tint imparted to the surface of the sheet. A sheet designated "high blue wove", for example, would be expected to show a deeper shade of blue than one described as "low blue wove". But this distinction could, in practice, be lost because each manufacturer had his own idea of what the terms meant. Quite often the difference in shade and depth of colour was dependent more on where the sheet was made than on the name used to describe it. In classifying the older documents allowance must also be made for chemical change since the time of manufacture.

Most of these categories of paper are relatively easy to identify, although there is occasionally some difficulty in distinguishing and correctly naming Cream paper and Azure/Yellow paper. The terms do not appear to have been used very strictly, and I have found no better account of the differences between them than that already given. The quality and opacity of both types often depended a great deal on the individual manufacturer. But the differences, in most cases, were significant enough for me to persist with the distinction, though the occasional item caused difficulty. One must be wary of classifying blue papers as either high, medium or low in colour, in view of the vagueness of these terms and the instability of some of the original dyes, especially when exposed to light. A high blue paper exposed to light for a long period in, say, an exhibition case might easily fade to medium on the exposed side.

The Quality of the Paper

The so-called *quality* of a sheet of paper was a term used in a very general sense by trade people and public alike. The quality of newsprint was said to be inferior to that of note-paper, and one type of note-paper might be of inferior

quality to another. But when a wholesaler purchased paper from a manufacturer he usually assessed quality with special reference to two broad areas. Firstly, he examined its standard of finish — the degree to which the manufacturer had been able to impart a smooth and uniformly opaque surface to his sheets of paper, and its freedom from blemishes, stains and pocks. Secondly, he assessed its relative bulk, thickness and weight, or what was sometimes referred to as its "substance". The "standard" of finish was a matter of quality control on the part of the manufacturer, but the "substance" of the sheet was the result of a planned choice regarding the amount of stuff that was to be used for any one grade of paper. For top quality paper, more stuff was dribbled onto the woven belt of the paper machine and so the weight, bulk and thickness of the sheet was correspondingly greater than for a lower quality sheet where less pulp made for a thinner and lighter sheet.

One example of these different grades made by nineteenth- century manufacturers can be seen in the following table,[23] where the weights of a common make of paper are set out alongside the names assigned to them. The five weights in which "post" sized paper was manufactured resulted from the popularity of this size; for other sizes only three weights were normally available, called thin, medium and thick.

WEIGHT	lb/REAM	kg/REAM
Thin Post	11 — 15	5.0 — 6.8
Middle Post	16 — 18	7.2 — 8.1
Thick Post	19 — 23	8.5 — 10.4
Extra Thick Post	24 — 30+	10.8 — 13.5+
Double Thick Post	30+	13.5+

(One ream equals approximately 480 sheets)

Even at the best of times, nineteenth-century judgements of quality could never be as precise as those of present-day paper science. They took account neither of standard of finish alone, nor of substance or weight alone,[24] and were basically impressionistic. A wholesale buyer would rely on an experienced eye and the "feel" for quality which he had developed after long years in the trade. He probably used the so-called "Handling Tests" and concluded that the sheet displayed either good or bad "snap", "rattle" and "see-through".[25] Thus the meaningfulness of the term "quality" must be seen as a product of everyday usage by experienced nineteenth-century trade buyers, and the word ought to be used with care by twentieth-century bibliographers.

Watermarks on the Paper

By the mid-nineteenth century watermarks had lost much of their traditional connection with particular types and sizes of manufactured sheets. Whereas modern bibliography can occasionally take one of the earlier hand-made papers and determine its uncut size by reference to its watermark, or perhaps derive information about its likely place of manufacture, the advent of the Fourdrinier process and the dandy roller in particular usually renders such a procedure impossible for nineteenth-century papers.

Some uniformity of watermarking survived. For the most part this was a habit acquired from the past, but it did not necessarily follow traditions without changing them. For example, the three most common sheet sizes at this time were Pot, Foolscap, and Post. These sizes in former times had carried, respectively, the watermark design of a flowerpot, a fool's cap and bells, and a hunting or post horn; but by the mid-nineteenth century the first two of these had been replaced respectively by the shield and crown, and by the Britannia, with only the horn remaining unchanged.[26]

During the nineteenth century it was commoner for writing papers to have none of these older designs at all, and for the manufacturer to replace them with his own device or, more likely still, with the name of his firm and possibly the year of manufacture. This new practice may be seen as a continuation of the habit of using a countermark on the earlier hand-made papers; but, compared to the impression produced by the moulds of the hand-made papers, the action of the dandy roller used with machine-made papers considerably improved the outline and sharpness of the watermark — an improvement which no doubt persuaded manufacturers to watermark their sheets with the full name of the firm rather than simply its initials, as was the most common practice with the older countermarks.

It is perhaps appropriate at this point to suggest a new possible use for watermarks in bibliographical investigations of paper. The location and dates of operation of nineteenth-century British paper mills, and the state of the paper trade generally, are subjects much more amenable to systematic historical research than is the case for previous centuries. In that century communications were facilitated, records began to be kept in an organised way, trade journals, pamphlets, and other printed sources became more numerous, and official government figures and estimates, such as those for taxation or excise, became more systematic and comprehensive. A consideration of this state of affairs would suggest that an historical census of nineteenth-century mills is at least feasible.[27] If such an undertaking could be accomplished its general usefulness to bibliography would be considerable. For example, if a letter were watermarked simply "Chartham Mill" but its date and place of origin were not known from the text, then reference to an historical source would enable one to determine the approximate date of manufacture of the leaf. It is known already that this mill became mechanised in 1840 and that it was burnt down twice between 1851 and 1857 and recommenced full-scale manufacture only after 1860. If the leaf were found on

inspection to be machine-made, then we could establish that either the period between 1840 and 1851 or that after 1860 was the likely date of manufacture of the leaf.[28] This could provide a valuable framework within which to pursue further contextual study of the content of the letter. Spicer's survey notes other facts in the history of the mills, such as the quality and types of raw materials habitually preferred, which weights and varieties of paper and board were produced at each mill, and the names of successive owners or tenants when the mills had changed ownership or tenancy. If more material of this sort could be obtained — and especially material concerning Australian and New Zealand mills — its value for the dating (and possibly authentication) of nineteenth-century sources would be inestimable.

The presence of watermarks should be carefully noted in all descriptions of manuscripts;[29] however, since the variation in the devices used by nineteenth-century manufacturers was great, each preferring his own house design to any standard trade system, it will probably be found impossible to standardize descriptions of them. The term "countermark" should be reserved for hand-made papers, since there can be, strictly speaking, no equivalent to it on machine-made sheets, which, of course, make no use of moulds during manufacture.

The Size of the Sheet and Leaf

Regarding the matter of paper size and dimension, one must bear in mind the distinction between uncut sheet sizes and the so-called "cut" sizes of the leaf. The list of sizes to which sheets were manufactured in the days of hand-made paper is bewilderingly complex.[30] It is clear, however, from the information in Table 1, that this list had been considerably shortened and rationalized by the middle of the nineteenth century, with the result that the manufacturer was now guided by a list reduced in length to eleven commonly accepted sizes. On the other hand, manufacturers regarded even this list as a guide only, and departed from it by quite considerable amounts.[31] No doubt this practice was due to the Fourdrinier machine, which allowed unrivalled variety of sheet size by a simple adjustment of the deckle straps controlling the width of the sheet, and by the setting of the cutter at the end of the moving wire belt used to divide the continuous roll or paper into any desired length. These considerations might seem to rule against the attempt to infer uncut sheet sizes as part of the descriptions of the paper. Furthermore, the size of the original uncut sheet from which a smaller *leaf* has been cut, as is often the case with items of correspondence, is normally impossible to determine.

However, there is a reasonable hope of recording the so-called "cut" sizes of a *leaf*. In Table 2 are set out names and sizes for leaves cut from "full-sized" sheets (as they would then be directly after manufacture and before the intervention of a subsequent cutting operation). During the nineteenth century it was usual to describe a leaf size by recording the name of the original uncut sheet, suffixed by a symbol referring to the manner and number of times it had been cut. Thus, for example, the common leaf size designated "Post 4to" refers to a sheet manufactured with the dimentions 18¾ by 15¼ inches which had been cut twice,

TABLE 1. Paper Sizes Commonly Used in the Manufacture of Nineteenth Century British Writing Papers (uncut sheets)[32]

NAME	DIMENSIONS in	DIMENSIONS cm
Pott	15 x 12½	38.1 x 31.8
Double Pott	25 x 15	63.5 x 38.1
Foolscap	17 x 13½	43.2 x 33.7
Double Foolscap	27 x 17	68.6 x 43.2
Sheet & Third Foolscap	22 x 13¼	55.9 x 33.7
Sheet & Half Foolscap	24½ x 13¼	62.3 x 33.7
Post (or Small Post)	18¾ x 15¼	47.6 x 38.7
Large Post (or Extra Post)	20¾ x 16½	52.7 x 41.9
Double Post	30½ x 19	77.5 x 45.6
Copy	20 x 16½	50.8 x 41.9
Medium	22 x 11½	55.9 x 29.2

TABLE 2. Paper Sizes, After Cutting, Commonly Used for Nineteenth Century British Writing Papers[33]

NAME	DIMENSIONS in	DIMENSIONS cm
Prince of Wales	3 x 4½	7.6 x 11.4
Queen's	3½ x 5⅝	8.9 x 13.7
Albert	3⅞ x 6	9.9 x 15.2
Foolscap Broad 2°	8 x 12½	20.3 x 31.8
Foolscap 4to	8 x 6⅜	20.3 x 16.2
Post 4to	7⅜ x 9	18.7 x 22.9
Post 8vo	4 x 7⅛	10.2 x 18.1
Copy 4to	7⅜ x 9⅝	18.7 x 24.5
Demy 4to	7⅜ x 9⅜	18.7 x 23.8
Demy 8vo	4¾ x 7¼	12.1 x 18.4
Demy 16mo	3⅝ x 4⅝	9.2 x 11.8
Large Post 4to	8 x 10	20.3 x 25.4
Large Post 8vo	5 x 8	12.7 x 20.3
Medium 4to	10¾ x 8⅜	27.3 x 21.3
Medium 8vo	8¾ x 5⅜	22.2 x 13.7

once along its length and once along its width, to yield four equally-sized leaves each measuring approximately 7 3/8 by 9 inches. The symbol "4to", in the context of writing papers, is therefore seen to do service in showing the dimensions of a leaf arising from the *cutting* process, much the same as it does for printing paper after *folding*. It will be readily appreciated that if a leaf can be identified by simple measurement as "Post 4to" in size, then we are provided with a ready statement of both the size of the sheet from which it originated, and a description of the way in which it was cut.[34] However, indications of size can only be offered subject to the following qualifications:

(1) It must be realized that information on paper size is inferred information. It is a result of relating the measurements of the extant leaf to the table of sizes.

(2) The dimensions set out in Table 2 were more a point of departure than a fixed convention for any manufacturer filling a stationer's order. The *Stationer's Handbook,* commenting upon the table, remarks:

> The foregoing are a series of sizes very generally adopted in the trade, although variations of a quarter or eighth of an inch are frequently made at the taste of the cutter, to fit wrappers, or for other reasons.[35]

That passage carries its own implicit warning to bibliographers who would use the table of sizes indiscriminately. It also emphasises the difficulty of distinguishing between sizes whose dimensions differ by very small amounts.

(3) Notwithstanding the apparent disclaimer above, one can consolidate one's inferences upon certain known preferences of nineteenth-century paper suppliers and their clientele.[36] The sizes known as "Medium", "Demy", and "Copy" were little called for. Foolscap (including multiples of foolscap, such as Double Foolscap) were used in great quantities, but chiefly in low grade for ephemeral uses. For letter paper and note paper, Post and Large Post sizes were in general use. So widespread did these two become, in fact, that letter paper can usually be identified on sight as Post 4to, and the smaller note paper size as Post 8vo. Large Post was also reckoned to be a convenient size and was used widely.

Both Post and Large Post sizes gave rise to a family of derivatives especially adapted for foreign correspondence. These were called "Bank Post" (or "Foreign Post") and "Large Bank Post", their special qualities vis-a-vis the normal grades being lightness, combined with great strength (deriving from the hard-sizing process during manufacture) and increased opacity. These grades were produced in order to take advantage of lower postage rates based on weight, and to ensure survival of the paper where prolonged handling and transit might be anticipated. These Bank grades were cut to the same sizes as regular grades. A measure of the popularity of these Post, Large Post and Foolscap sizes can be gauged from the wide range of choice available to the customer. They might be had in a variety of weights, from thin to middle to thick to extra thick and there was a considerable spread of price, ranging (for Post) from sixpence to one

shilling and twopence per ream (circa 1870).[37] In comparison, the size called Medium, which was not much in demand, was available in one weight only, of thirteen pounds per ream.

Summary

To conclude my survey of paper terminology I must stress again that it is based upon nineteenth-century sources and that this procedure inevitably involves certain limitations. Firstly, as with any trade terms in use either today or in the nineteenth century, their significance results from everyday usage by experienced men on the shop or warehouse floor, and there is, and was, no commonly felt need to be more precise about terminology than was necessary to get the job at hand done satisfactorily. One must remember that anyone who would apply these terms without bearing in mind their origin as working terms of men in the trade is open to the charge of ill-considered or misappropriated usage. It is only on this understanding that the terms become available to the present-day bibliographer.

C.R. Elmore,
Melbourne.

[1] See the author's Monash University M.A. thesis, *A Descriptive Catalogue of Literary Manuscripts by British and American Authors and Notables, born before 1900, held in Victorian Institutional Libraries* (1977).

[2] A. Dykes Spicer, *The Paper Trade : A Descriptive and Historical Survey of the Paper Trade from the Commencement of the Nineteenth Century* (London, 1907), Appendix IX, pp. 258—60.

[3] Spicer, p. 64.

[4] Summarized in Spicer, p. 87.

[5] A. Proteaux, *A Practical Guide for the Manufacture of Paper and Boards,* trans. Horatio Paine (Philadelphia, 1866), pp. 128—30.

[6] Richard Parkinson, *A Treatise on Paper* (Preston and London, 1886), p.45.

[7] Spicer, pp. 88—9 and Clayton Beadle, *Chapters in Papermaking,* 5 vols. (London, c. 1904), vol. 1, pp.123—5.

[8] Harry A. Maddox, *What a Stationer and Printer Ought to Know about Paper,* 2nd edn. (London, c.1920), pp. 24, 30. (The first edition was unavailable for study.)

[9] Parkinson, p. 34.

[10] For a diagram of the dandy roller see Philip Gaskell, *A New Introduction to Bibliography* (Oxford, 1972), p. 218, fig. 79.

[11] Carl Hofman, *A Practical Treatise on the Manufacture of Paper in all its Branches* (Philadelphia, 1873), p. 136; and Parkinson, pp. 33—4.

[12] Parkinson, p. 32.

[13] Maddox, pp. 33—4; and Parkinson, pp. 57—8. Although there are others, the four tests here outlined are the only ones which are non-destructive and applicable to cut leaves.

[14] See Gaskell, pp.218—19.

[15] Parkinson, p. 58; Maddox, p. 34.

[16] See below, *The Make of the Paper,* for explanations of these terms.

[17] Parkinson, p.57.

[18] Maddox, p.33, writes that "the look-through [of hand-made paper] appears fairly clear, and the laid papers are entirely free from the wove specks of the machine paper. The feel of the hand-made is flexible, but indicative of great strength; furthermore, although flexible, there is not the slightest suspicion of softness."

[19] See above, *Mode of Manufacture,* for a full discussion of the terms "laid" and "wove".

[20] These terms apply to *writing* papers only, as distinct from ledgers and office account books, where the terms meant different things or were differently applied. See Maddox, p.21.

[21] By 1893 the dicovery of organic and inorganic sources of dye in usable form permitted manufacturers the use of a variety of blues, various yellows, orange, red, green, vermilion, violet and maroon. See "The Manufacture of Mineral Pigments and Coloured Lakes", in *The Paper-Maker and British Paper Trade Journal,* 7 (1894), 331—3 and 8 (1894), 11—15; and Julius Erfurt, *Dyeing of Paper Pulp,* trans. Julius Hubner from the 2nd edn. (London, 1901).

[22] I have been able to determine the currency of these terms from Mr Alfred Watson of the C.S.I.R.O.

[23] See *The Stationer's Handbook and Guide to the Paper Trade,* 12th edn. (London, 1881), p.30.

[24] Parkinson, p. 52.

[25] Not that "scientific" tests were unknown in the late nineteenth century! For example, a column appears in *The Paper-Maker and British Paper Trade Journal,* 6 (1893), 79, which lists four tests of quality recommended by C.F. Cross, an American authority and writer on paper. Cross's four tests correspond to the modern-day tests known as the "rub-test" (for durability), the burning test (for mineral content), a test for breaking strain, and one for tear resistance.

[26] Parkinson, p. 67.

[27] A short survey of this sort, which prompted my present suggestion, is already available in Spicer. See his Appendix A, "The Geography of the British Paper Trade", pp. 173—225.

[28] During the nineteenth century, it was uncommon for stocks of paper to remain stored in warehouses for long periods. This is evidenced from research for my catalogue (see note 1. above) where a great number of letters have dates available in the watermark (the date of manufacture) and in the text (the date of use). Rarely were these two dates separated by more than one year.

[29] Cf. Bruno Scarfe's suggestions, in a different context, regarding the possibilities of using watermarks for purposes other than dating: "A Role for Watermarks in Bibliographical Description, with Special Reference to a Collection of Spanish Dramatic Items", *Bibliographical Society of Australia and New Zealand Bulletin,* no. 12 (1977), 85—9, especially p. 89.

[30] See, for example, Gaskell, pp. 73—5.

[31] *The Stationer's Handbook,* p. 98.

[32] Parkinson, Table 3, facing p. 68.

[33] *The Stationer's Handbook*, pp. 97—8.

[34] Not all the names in Table 2 provide this information, e.g. "Prince of Wales" gives no indication of cut size.

[35] *Stationer's Handbook,* p. 98.

[36] *Stationer's Handbook,* p. 30.

[37] *Stationer's Handbook,* p. 30.