

A note on the expression '...a manuscript on Oriental paper' by Don Baker

When I read '...on oriental paper', my interest is aroused. Usually, however, I end up little wiser than I was before I read these words. No details have been given of this particular and distinctive piece of paper. I cannot picture it!

For some years I have been keeping records of the paper of Islamic manuscripts, and with the help of these records I expect to be able to visualise any particular paper that I have handled, albeit years ago. I am a paper conservator by profession and have been interested in the care and repair of Islamic manuscripts since my days at Camberwell School of Art and Crafts. This paper reflects my admiration for the beautiful and lasting product of those early craftsmen.

The paper records that I will describe started in 1981 and at my last count numbered approximately one hundred and thirty of which fifty-four are of dated manuscripts. The scheme I use is not that of a paper technologist; its vocabulary sometimes derives from the kitchen rather than the laboratory.

- A. Description of the manuscript:
origin, date and size
- B. Characteristics of paper:
 1. *Paper thickness*
 2. *Surface characteristics*
colour
treatment of surface
by polishing?
by coating?
 3. *Pulp characteristics and 'see through'*
fibres visible?
 4. *Paper mould characteristics*
laid or wove construction?
mould structure visible?
 5. *Laid paper and chain line distribution*
completeness of chain lines
grouping and separation of chain lines
direction of chain lines
laid lines, how many /10 mm or mm/20?
laid lines, reed-like or wire-like
symmetry of laid lines
 6. *Rib shadows*
their presence and direction

7. *Estimated paper size when formed*

It is necessary to expand some of these qualities and to explain why I find them significant.

1. Paper thickness would be significant in comparing two papers such as an early sixteenth-century CE paper from Egypt and a paper from the other end of the century from Iran. The thickness of paper in a manuscript, or even across a single sheet, might vary considerably so several readings should be taken.

2. Colour is the most striking of the surface characteristics. Usually my description is simple to make comparison easier; white, light or dark cream, biscuit, brown. Some periods of papermaking have given us paper of a typical colour, the cream-coloured papers of Egypt and Syria during the Mamluk period or the biscuit-coloured papers of many Ottoman Qur'ans of the nineteenth century.

The papers of the eleventh century do not show great modification of the surface beyond some pressing and occasional sizing. Thirteenth-century papers though still thick and soft can show considerable surface modification by sizing and polishing giving papers a soft sheen. We have many accounts of the use of polishing stones but only rarely can any sign of their use be detected. The presence of streaks from polishing stones are typical of north Africa, according to Malachi Beit-Arié, *Hebrew Codicology*, Jerusalem 1981. Ottoman papers of the late eighteenth and nineteenth centuries show an increasing thickness of coating given to papers producing a layer of glaze.

3. In my paper records I describe the 'see-through' of paper as uniform or floccular, allowing such gradations as 'moderately' or 'very floccular'. This latter extreme form has the appearance of swirling clouds, perhaps with identifiable threads or even pieces of cloth in it. Floccular papers are found in the Near East up to the end of the seventeenth century, if not later. It is possible that they are the product of one of the less destructive ways of reducing rags to pulp, such as stamping as opposed to milling. Earlier papers tend to be more floccular than later ones but from the eleventh, twelfth centuries onwards, papers start to appear in which the pulp is less wild. My impression is

that from the fourteenth century onwards, it was the Persian papermakers who led the way in producing a more uniform paper pulp.

4. The western world considered that wove paper was first produced during the eighteenth century. An examination of papers in the Taylor-Schechter collection will show papers of the Fatimid and Ayyubid period that are clearly of wove construction. The long, lightly beaten fibres of the floccular papers mentioned under heading 3, however, can often obscure the fact that the paper mould is of laid construction. Only when the paper has been water damaged or skinned is the initial impression of a wove paper denied. It is not unusual to see an occasional short length of chain line in an otherwise typical wove paper.

Wove paper is found in most parts of the Middle East up to the nineteenth century. From then on European wove paper was also used in the production of manuscripts in the Ottoman Empire.

5. A wealth of information is conveyed with details of laid and chain lines. Randomly arranged short lengths of chain lines are associated with the earlier papers. The distance between chain lines can be of interest when trying to decide if the manuscript is written on paper of oriental or occidental origin. Chain lines run across the short dimension of an uncut sheet, so the direction of the chain lines reveals whether the manuscript is folio, quarto, octavo, etc. as is the practice in western bibliography. If chain lines are not visible on a laid paper, it is important to know whether the laid lines are horizontal or vertical for the same reason.

The most distinctive 'watermark' of oriental paper is the grouping in Syro-Egyptian papers of the chain lines into groups of two, twos and threes, threes and fours. Beit-Arié's suggested time-span for the production of these types of paper is somewhat restricted because the source of his information is only Hebrew manuscripts.

Counting laid lines on oriental paper is seldom easy. The more accurate way to record them is to measure twenty laid lines. I know from experience how difficult it can be to distinguish twenty clearly. Usually it is necessary to settle for the number of laid lines to the centimetre.

There are two other pieces of information that can be gathered from laid lines. Does the paper-mould appear to be made of strips of reed or does it have the look of a horsehair or wire construction? Secondly, what is the chain line/laid line relationship? Is the construction rigid, or does it sag? Are the laid lines and chain lines at right angles or is the mould out of square? The sagging mould is found frequently associated with papers from India and, I understand, some

early Spanish papers. Out-of-squareness does not seem to be connected with any region, but with a papermaker struggling to achieve his daily quota.

6. The ribs supporting the mat on which the paper is moulded have the effect during certain periods of channelling the draining pulp. The effect is to produce bands of greater density which show as a shadow. If a sheet of European paper from the eighteenth century or earlier is examined, the rib shadows can be seen to coincide with the chain lines. This could be achieved because the mat and its support were permanently attached to each other. The two parts of an oriental mould were not attached and were separated and replaced each time a sheet was made. There was therefore no incentive to make chain lines (if present) and rib shadows coincide. They can usually be seen in manuscripts of Persian origin up to the fourteenth century and Arab manuscripts up to the sixteenth century. Their presence is of particular use when seen in wove papers; they tell in the same way as chain lines how the paper has been folded to produce sections.

7. Estimating the sizes of oriental paper moulds is a pastime to last a life time!

I will give examples from my records of this system at work for three superficially similar papers:

1. A Fatimid ms. dated the equivalent of 1094 CE, size 570 × 350 mm. Colour biscuit, unpolished surface. Pulp floccular with many inclusions. Laid paper with occasional short lengths of chain line, 60 mm apart. Chain lines vertical: folded bi-folio. Distinct reed-like laid lines, 5/cm. Estimated sheet size 570 × 700 mm.

2. A Mamluk ms., fourteenth century CE, size 455 × 340 mm. Average paper thickness 0.18 mm. Colour deep cream, polished smooth surface. Pulp uniform. Laid paper with double and triple chain lines, doubles 16 mm apart, triples 28 mm across. groups 52 mm apart. Chain lines vertical: folded bi-folio. Distinct reed-like laid lines of medium thickness, 6-7/cm. Rib shadows 75 mm apart. Estimated sheet size 455 × 790 mm.

3. Ms. written in Tabriz in 1313 CE, size 435 × 300 mm. Average paper thickness 0.19 mm. Colour deep cream, smooth but not highly polished surface. Pulp mildly floccular. A wove paper with rib shadows 72 mm apart, running vertically: folded bi-folio. Estimated sheet size 435 × 600 mm, increased to 500 × 720 mm on evidence of trimmed illuminations.

I hope that this account of my system of describing paper might assist and encourage others to make a larger pool of information available for all of us who are fascinated by the beauty and durability of the so-called 'oriental' papers.