

THE MORPHOLOGY OF PAPER IN SAMARITAN MANUSCRIPTS: A DIACHRONIC PROFILE

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The study of paper in Samaritan manuscripts has not yet been undertaken in any scientific way, and this paper is the first sustained attempt to gather and assess the data.¹ We must acknowledge here, at the outset, the work of Malachi Beit-Arié whose study of paper in Hebrew manuscripts in his monumental *Hebrew Codicology*² must remain a model and a guide. However, the database from which we work is rather smaller than that used by Beit-Arié and, rather than establishing a chronological profile of paper morphology from an inductive study of numerous manuscripts, it has been necessary to give extensive descriptions of individual manuscripts, and to work deductively. The total corpus of Samaritan manuscripts is about 2,000 – most of these are modern, and not all are dated.³ Hence, our database for the earlier period of writing manuscripts on paper is rather inadequate.

Like Beit-Arié we have attempted to indicate here the patina, feel and texture of the paper as well as its colour since these are important factors in attempting to create a system of classification. In addition, wherever possible, we have indicated the size of the mould in which the paper was manufactured as there were changes in mould sizes in papers of European manufacture, and this can be an important item of evidence in attempting to date undated papers.⁴

We might begin with the general observation that the scholar

¹ A shorter version of this paper was presented at the conference of the *Société d'Etudes Samaritaines* in Jerusalem, April 1988. This fuller version incorporates further research since that presentation. The data presented here have been collected over many years spent in research in European libraries with the financial assistance of the University of Sydney and the Australian Research Grants Committee. The final assembly of the materials was done in Oxford whilst the author was the Acting President of the Oxford Centre for Postgraduate Hebrew Studies. Grateful thanks are due to all those whose support has made this protracted research possible.

² M. Beit-Arié, *Hebrew Codicology: Tentative Typology of Technical Practices Employed in Hebrew Dated Medieval Manuscripts* (Paris, 1976).

³ A full survey of the Samaritan manuscript holdings of western libraries is that by Jean-Pierre Rothschild, 'Samaritan Manuscripts: A Guide to the Collections and Catalogues,' *The Samaritans*, ed. A.D. Crown (Tübingen, 1988).

⁴ On this see V. Mosin, *Anchor Watermarks* (Amsterdam, 1973), xxxii–xxxiii, and E.J. Labarre, *Dictionary and Encyclopaedia of Paper and Paper-Making* (Oxford, 1952), 249.

reading catalogues of Samaritan manuscripts may well be confronted with the phrase 'on stout oriental paper' when nothing is further from the truth.⁵ From the middle of the seventeenth century Samaritan manuscripts are rarely on oriental rather than European, and in particular, Venetian paper. Thus, the greater number of Samaritan manuscripts are not on oriental paper at all. Not that the difference is always easy to demonstrate away from the manuscript itself, even though it may be apparent to the trained eye. It is known that western papers were imitated by Muslim manufacturers who learned to imitate the watermarks in the western papers.⁶ Without sighting, the paper watermarks alone might be misleading. Unfortunately, there are few if any specialist catalogues of oriental/Turkish papers which differentiate carefully between western watermarks and their imitations in the Near East. Moreover, even in the west, watermarks tended to be repeated with such small variation that the true differentiating factor is not the watermark itself but the countermark, and these are seldom recorded.⁷ One of the tasks yet to do for both Samaritan and Hebrew codicologists is the establishment of a specialized catalogue of watermarks and countermarks with the aid of the betagraph.

In developing the profile of Samaritan papers the author has followed the methodology of the codicologists in working from dated manuscripts. Often enough, because of the Samaritan custom of adding a tashqil noting the authorship and author's domicile, the provenance of the manuscript is known to us, in turn giving at least basic guidance in the matter of the provenance of the paper. The provenance of papers may well be a fundamental factor in accounting for the discrepancies between our findings and those of Beit-Arié. Despite the stated methodology there were times when samples from undated papers seemed to be illuminating, and their evidence has been incorporated, sparingly, with due reservations. Since it is not possible to revisit manuscripts on a regular basis, it has been necessary, for most of the examples discussed, to rely on betagraphs as the easiest demonstration of paper type. Betagraphs (i.e. beta-radiographs – a form of X-ray of

⁵ Cf. Edward Robertson, *Catalogue of the Samaritan Manuscripts in the John Rylands Library*, I (Manchester, 1939), 192 on Codex xiv, where he comments 'on stout oriental paper,' adding for good measure the equally false assertion 'with no special watermark,' and *ibid.*, II (Manchester, 1967), 370 where he asserts, 'on stout oriental paper, generally without any watermark but a few leaves show three crescents'. The three crescents are the mark of the *tré-lune* and associated mills at Venice.

⁶ See Vsevolod Nikolaev, *Watermarks of the Medieval Ottoman Documents in Bulgarian Libraries* (Sophia, 1956), for a discussion of the changes in watermarks as the oriental/Turkish manufacturers began to imitate Venetian papers and the manner in which they occasionally copied European watermarks in a cruder, but similar form. One learns from the work of M.A. Kâğıtçı, 'Beitrag zur Türkischen Papiergeschichte,' *Papiergeschichte*, 13:4 (1963), 37–44 that the common *tré-lune* mark was imitated in Turkish papers made at Bursa. See his example 15 (*ibid.*, 38).

⁷ Mosin, *Anchor Watermarks*, draws attention to the value of countermarks for the chronology of papers, in his introductory comments. The very fact that he is able to devote a whole volume to anchor watermarks shows us the degree of repetition of marks and their lack of value for chronology without the use of countermarks.

the paper structures) usually allow us to see, with some degree of clarity, the laid and chain lines created in the manufacture of paper, and these marks, and their relative position to each other, can be our first guide to a classification system. Often enough the betagraph shows us such structures where the naked eye fails to disclose any such marking and where even recent manuscript catalogues, written to codicological standards, fail to distinguish such markings.⁸

Where they are available watermarks have been noted and described, once again relying on dated manuscripts to try and set up a chronological profile. As noted above, specialized catalogues of watermarks appearing only in manuscripts of Middle Eastern origin are still lacking, and the standard works on watermarks are too large to be useful for such specialist programmes as ours.⁹ Moreover, what were clearly recognizable in later centuries as watermarks were preceded by smaller marks that tend to be difficult to see and record with anything other than the betagraph. Even these may be difficult to read. One betagraph of a folium of paper which fits all the criteria laid down for oriental paper seems to show a small European letter M, and other papers seem to have watermarks, admittedly rare, of Samaritan letters.¹⁰ Either we are seeing here fortuitous markings in paper which are misleading or we need to revise our notion of what constitutes a watermark.

The author is fortunate that he has been able to extend the range of early samples available for our database by attributing authorship, hence date, to a number of the undated manuscript fragments on paper preserved in the Bodleian Library. Most of these are the remains of older manuscripts. Identification has been possible by comparing the handwriting on these remains with the visual, photographic catalogue of Samaritan scripts in the author's *Dated Samaritan Manuscripts: Some Codicological Implications*.¹¹ Unfortunately, the Bodleian Library has 'conserved' these paper fragments rather well by mounting them on special acid-free paper or by glueing tissue over the surface, thus destroying the value of the manuscript to the codicologist, for leaves are rendered opaque and characteristics are changed.¹²

⁸ There are instances where even the excellent catalogue of J.-P. Rothschild, *Catalogue des manuscrits samaritains* (Paris, 1985) can be shown to be in error in the matter of the presence and absence of chain and laid lines.

⁹ It is understood that a survey of the watermarks in Egyptian medical manuscripts in Berlin has produced an unpublished catalogue which includes most of the marks noted in Samaritan papers. A parallel programme of classifying Middle Eastern papers and watermarks is being undertaken in Paris by a team of workers. As yet no results are available from either of these projects for comparison with the data provided here.

¹⁰ See Bodley Opp. Add.4^{vo} 99, fo.89, top left of the folio, where the cursive Samaritan *bet* appears to be present as a watermark.

¹¹ This work was prepared for a seminar at the Smithsonian Museum Library in 1986 and was published in Sydney in a limited run of fifty copies.

¹² For the most part the texts 'preserved' in this fashion have no value *per se* as texts – their real value lies in their codicological implications which are now lost.

To add value to the profile (for one may not rely on any single factor in attempting to date undated manuscripts) cross-reference is made to other codicological techniques and practices employed by Samaritan scribes. Thus, details of the content and structure of some few manuscripts are given to allow us to integrate information about the type of paper with such information as the way in which the paper was gathered for writing and the way in which ink reacted with the paper surface.

At this stage it is impossible to state what is our oldest example of Samaritan paper. Among the undated specimens or among the material in Leningrad, or even among the examples which came from the Cairo Genizah, there may well be paper of the thirteenth century or even before. Even though we do not know when the Samaritans adopted the use of paper for their sacred texts, it would be surprising if there were none such.¹³ It is evident that the Karaites adopted paper for their codices by the tenth century,¹⁴ and the Karaites were in close contact with the Samaritans. In many areas of halachah their conclusions showed parallel thinking,¹⁵ and we might expect an early development of the use of paper by the Samaritans particularly for their liturgical manuscripts.¹⁶ The majority of surviving dated and complete paper manuscripts are from the fifteenth century. However, there are some earlier specimens from the first half of the fourteenth century. Among these are Bodley Sam. b.5, fos. 10–14 which is to be dated around 1347 since the scribe who wrote these folios, which are now part of a collection of miscellaneous fragmentary remains, wrote Sassoon 716 in that year. Also extant and almost intact is Bodley Opp. Add. 4^{to} 99 which dates from 1348 AD. It is clear enough, from a general examination of the papers available to us, that most of the Samaritan manuscripts written on paper up to and including the fifteenth century were written on locally made, i.e. oriental, papers, and that very few were written on imported papers, though our oldest specimen itself may be on an imported paper. It is not impossible that the Samaritans made their own paper since they were their own binders and processed their own parchments from animals killed

¹³ Our facilities are not yet good enough to attribute names to the scribes who wrote these fragmentary texts, though that may well come as scanning techniques become more commonly used with computers and enable us to develop an integrated database of scripts and scribes.

¹⁴ See the discussion of this point in N. Allony, 'Books and Their Manufacture in Medieval Palestine,' *Shalem: Studies in the History of the Jews in Eretz-Israel*, IV, ed. J. Hacker (Jerusalem, 1984), 1–26 [in Hebrew].

¹⁵ Cf. A. Loewenstamm, 'A Karaite Manuscript in Samaritan Guise (Bodley Opp. Add. 4^o 99)' [in Hebrew] (Ph.D thesis, Jerusalem, 1962); *Idem*, 'A Karaite Commentary on Genesis in a Samaritan Pseudo-morphosis,' *Sefunot*, 8 (1963), 18–20, 167–204 [in Hebrew, with an English summary].

¹⁶ In fact, there are many extant individual folios and remains of quires from liturgies which are clearly old and which cannot be dated. It is likely that liturgies were first copied on paper, particularly during the literary revival of the eleventh century. Unfortunately, as yet, we have no indubitable proof of this.

ritually.¹⁷ However, though the paper used in Samaritan manuscripts was made in imitation of parchment, the evidence indicates that it came from Egypt or Damascus with one or two doubtful exceptions.¹⁸ The evidence also suggests that the moulds used to make the paper on which Samaritan manuscripts are written were of the type and dimension commonly in use in Syria and Egypt and were not unique.¹⁹

The evidence is not adequate to attempt a full morphological classification of these early papers, therefore we must be content with a description of each specimen from which we derive specific conclusions. Since, however, the specific observations correlate to some extent with the observations of Beit-Arié and others about oriental papers in their wider sampling of Hebrew papers, we feel justified in arguing that we can see a general pattern developing with each description. Nevertheless, there are limits to that correlation, and we must be cautious about claiming too much.

It is abundantly clear that we may not rely too heavily on single details in manuscripts and, in particular, we must be wary of attempting to place manuscripts in a linear (diachronic) chronology on the basis of features such as chain lines alone. It is true that Beit-Arié has established a diachronic profile of chain lines in Hebrew manuscripts. When we attempt to extrapolate that chronology to Samaritan manuscripts we note the general agreement of Samaritan manuscripts with the principles established by Beit-Arié, but there are some problems. For example, the betagraphs of BN Arabe 5 (a manuscript which we cannot date but which clearly belongs within the period 1300–1450 and was probably written in Egypt)²⁰ show us changes in the paper from folio to folio of the same manuscript with differing combinations of chain lines. Thus, folio 1 shows us chain lines clustered in threes (fig.1),²¹ whereas folio 29 (bottom right, fig.2) shows chains clustered in twos and fours (at intervals of 1.4 cm. per cluster).²² BN Arabe 6,²³ also Egyptian, shows its chains to be in

¹⁷ See my 'Studies in Samaritan Scribal Practices and Manuscript History, V. Samaritan Bindings: A Chronological Survey with Reference to Nag Hammadi Techniques,' *BJRULM*, 69:2 (1987), 425–91.

¹⁸ There is some evidence that paper was manufactured at Tiberias at least in the eleventh century and perhaps a little beyond. See Allony, 'Books', 3.

¹⁹ However, the measurements we suggest for these moulds tend to differ from those given by other scholars by a centimetre or so in almost every case. This variation, however, might result from the fact that the manuscripts we deal with tend to have no folium preserved in its original size, and the dimensions have to be reconstructed by comparing such things as the width of the margins and the ruled text body on several incomplete folios.

²⁰ For a description of the manuscript see Gérard Troupeau, *Catalogue des Manuscrits arabes, I: Manuscrits chrétiens* (Paris, 1972), 14.

²¹ At intervals of 1.1, 0.9, 5.0, 1.2 and 1.1 cm., set obliquely to the folio.

²² However, until the manuscript is re-examined it is not possible to say whether the variation results from the insertion of pages at a later date, unremarked by any of the cataloguers and the author.

²³ Cf. Troupeau, *Catalogue*, 14 for a brief description.

triplets, whereas a fifteenth-century Bodley manuscript, with not too great an interval separating them,²⁴ has its chains grouped in doublets and triplets. These inconsistencies incline us to be cautious.

We begin our detailed study of individual manuscripts from which we build our picture with Bodley Sam. b. 5. The 'manuscript' is not a homogeneous work but is a collation from different manuscripts, in various hands, of paper leaves of the Samaritan Pentateuch. The paper differs from leaf to leaf according to the manuscript from which it was drawn. It includes the oldest surviving specimen of Samaritan paper known to the author, on folios 10–14. These folios are in the hand of the scribe of Sassoon 716, the *Kitab al Kafi*,²⁵ namely Ab Zehuta b. Joseph b. Abi Said, also known as Abu el Sarur ibn Joseph ibn Abi el Sarur ibn Abi Sa'ad el Israeli el Samari el Ascalani.²⁶ We must date them within a decade (either side) of Sassoon 716 (1347), so our chronological range for this paper is 1337–1357.

The paper is now heavily stained; it was once near white, rather lighter in colour than most of the papers used by the Samaritans a century later. Reflected light gives the impression of broadish laid lines in the stained areas on the surface, though there are no laid lines visible through the paper which tends nearly to opacity, and there are no chain lines visible at all. The paper is thinner than, and lacks the fibrous appearance of, most other early Samaritan papers – in fact, one cannot see the construction (*pâtée*) of the paper with any degree of ease as one can with other Samaritan papers. Nor does the paper fray at the edges or corners like the fibrous papers which were in dominant use until the sixteenth century. One group of Samaritan papers, as we shall see, has a tendency to friability. One wonders then – since this paper is rather different from papers one meets in the later periods, and since this scribe was known to work in the port city of Ascalon – whether this was an imported paper either from elsewhere in the Middle East or from Europe. The paper size currently indicates a leaf size, before mounting on gutter guards, of approximately 20 × 30 cm. and, hence, a mould size for the manufacture of the sheets of approximately 40 × 30 cm.²⁷ This suggested mould size is of little help in determining the origin of the paper. It corresponds neither with the Italian standard of 42 × 30 cm.²⁸ nor with the Syrian mould sizes as

²⁴ On the date see below. Troupeau, *Catalogue*, dates the manuscript to 1433.

²⁵ For a description of the manuscript see D.S. Sassoon, *Ohel David: A Descriptive Catalogue of the Hebrew and Samaritan Manuscripts in the Sassoon Library* (London, 1932).

²⁶ The identification was made with the aid of my *Dated Samaritan Manuscripts*.

²⁷ Allony, 'Books', discusses the sizes of paper found in Palestinian manuscripts but his evidence appears to be entirely secondary and unrelated to any identifiable manuscripts. He also seems to suggest that the size of the paper depends upon the cutting of one standard sheet rather than the use of differing mould sizes, listing the size of the folio according to the number of lines written thereon. Since the number of lines appears to depend on the width of the ruling which varies from scribe to scribe and genre to genre, this method of size determination is not helpful.

²⁸ Cf. Mosin, *Anchor Watermarks*, xxx.

reported by Irrigoin. The smallest of the Syrian paper moulds was 42×29 cm. Another of the three common moulds of the Syro-Palestine littoral was 42×60 cm.²⁹ A half-sheet would have been the equivalent size of the Venetian standard. Syrian paper is reported as being not uncommon in Ascalon,³⁰ and it is not unlikely that this paper is of Syrian (Damascene) origin. In support of this view we may cite an undated single folio on similar paper but which is written in a script of the Damascus genre. This is folio 84 of Bodley Heb. d. 64³¹. This paper too is greying to off-white from an original lighter coloured paper in which laid lines are visible in reflected light, but neither chain lines nor laid lines are visible through the paper. The *pâtée* is not easily distinguished. While the truncated folio size 27.5×18 cm. indicates an original sheet of c. 20×30 cm. and a mould of 40×30 cm., as with Bodley Sam. b. 5, the paper is far more friable than that of b. 5, and it is rather softer. However, it is closer to the paper of Sam. b. 5 than any other example known to us. It is unlikely to be of local manufacture.³²

Of local manufacture is the paper of Bodley Opp. Add. 4^{to} 99, a commentary in Arabic on Genesis³³ which was written in 1348. Since the scribe is unknown we have no indubitable means of describing its provenance. However, the lemma and proof texts are cited in square character which has the characteristic backwards lean of the Damascus genre, and on the basis of this one must suggest a Damascene provenance for the manuscript and paper.³⁴ Folios 4 and 13–15 are late additions to the manuscript and are watermarked with a European mark (crescent over star over crown) of the type created for the Mediterranean market and found in the third quarter of the seventeenth century (fig. 3).³⁵ Some folios in the manuscript have chain lines in groups of twos and threes, oblique to the folios (fig. 4), and this manuscript appears to antedate by some forty years the earliest example of this grouping quoted by Beit-Arié. The paired chain lines

²⁹ Cf. J. Irrigoin, 'Les Types de Formes Utilisés dans l'orient Méditerranéen (Syrie, Egypte) du xi^e au xiv^e siècle,' *Papiergeschichte*, 13:1/2 (1963), 8–21. We find that the small mould size in use among the Samaritans was 42×30 cm.

³⁰ Cf. T.S. Weir, 'Some Notes on the History of Paper-Making in the Middle East,' *Papiergeschichte*, 7:4 (1957), 43–8.

³¹ The folio is the remains of a commentary on the Pentateuch. The text is in Arabic and Hebrew. Some of the rubrics are in red.

³² That there was paper of local manufacture is made clear from the evidence cited by Allony, 'Books', relating to the paper mill at Tiberias which functioned during the eleventh century and perhaps continued in existence for some centuries. Unfortunately, we have no paper which can be attributed with certainty to Tiberias to serve for comparison with our two specimens. Examination of Bodley Heb. c. 13, fo. 14, said by Allony to have been written in Safed (and, thus, possibly being on Tiberian paper) shows that the paper is quite dissimilar from our specimens. If the Safed folio is indeed on Tiberian paper our examples are not.

³³ See n. 15.

³⁴ On the Damascus genre, see my 'Samaritan Majuscule Palaeography, Eleventh to the Twentieth Century,' *BJRULM*, 60:2 (1978).

³⁵ Nikolaev, *Watermarks*, nos. 203, 207, 208, c. 1651–1653.

are 1.4 cm. apart, and the triplet lines are 1.0 and 1.2 cm. apart. The distance between the clusters is 4.4 – 4.7 cm. Betagraphs show well-spaced laid lines, eight per centimetre. The folio size is 21 × 25 cm. Since the corners of the manuscript are rounded at the bottom and quite frequently at the top, with a mild deckle on some foreedges, trimming for binding along the length of the sheet has been relatively light with most trimming being from the top and tail where the folios are sometimes guarded. The mould size must have been 42 × 26–29 cm., apparently the small mould of the region. The paper is thin, creamy to light brown (chamois) in colour, polished on both sides, well surfaced and coated with size, since even on the present foxed areas the ink has not spread. Though the paper has a homogeneous p^âtée, there are visible small fibres, and it has a parchment-like appearance. The homogeneity is clearly demonstrated by the lack (i.e. very moderate) of friability at the corners of the folios. On many of the folios the laid lines are not discernible without the aid of beta-radiography. As noted above there seems to be a Samaritan cursive *bet* watermark at the top left of folio 89. On some folios no chain lines are discernible, and the laid lines show some lightening and intensification, rather in the nature of chain lines.³⁶

The betagraph (fig.5) shows that the triplet chain lines of BN Sam. 62 are spaced in the same way as the triplet/doublet lines of the Bodley manuscript. Unfortunately, we have no date for this *Deftar* though, clearly, it is of considerable antiquity, the oldest part of which is dated by Rothschild to the fourteenth century.³⁷ The laid lines are virtually identical in spacing (eight per centimetre) to those in Bodley Opp. Add. 4^{to} 99. The paper itself has the same parchment-like chamois brown colour but is a softer texture than that of Opp. Add. 4^{to} 99. One may suspect that the morphological evidence of the paper confirms the date derived from palaeographical study.

This virtually exhausts our evidence from the fourteenth century. The chamois-cream coloured paper with these characteristics turns up again a little later, and we may suspect that, since it is rather different from the papers we can identify as Egyptian, it is generally of Damascene manufacture.³⁸

The first of our fifteenth-century papers is in Bodley Sam. c 1. This is a portion (eighteen folios) of the book of Leviticus (4:15–31:17)

³⁶ See Beit-Arié, *Codicology*, plate three, for a similar paper.

³⁷ Rothschild, *Catalogue*, 78–80.

³⁸ Because of the dominance of the Palestinian littoral by the Egyptian Mamluk government (the Circassian period), between 1382 and 1517, almost all, if not all, paper in Samaritan manuscripts written in Palestine (Nablus and Gaza) during this period would tend to be of Egyptian manufacture. The only Damascene paper to enter the country would be in manuscripts actually written in Damascus. See Boaz Shoshan, 'On the Relations Between Egypt and Palestine,' *Egypt and Palestine: A Millennium of Association (868–1948)*, ed. A. Cohen and Gabriel Baer (Jerusalem and New York, 1984), 94–101.

on paper. The text is clearly in the hand of Ab Nessana b. Sadaqah,³⁹ a scribe of the Munis family, who wrote at least eighteen Pentateuch manuscripts in Cairo at the end of the fifteenth century. It is impossible to say which of his eighteen known texts this is. From the neatness of the script, the careful ruling and the observance of a standard number of lines per folio of 30–31 on these pages, which compares with his customary 30–31 lines per page on his *early* parchment manuscripts (and his habitual carelessness in his later manuscripts with different multiples of lines), we must assume this to be one of his earlier experiments using paper rather than parchment. This would date the sample to the earlier period of his known twenty-year span of writing, c. 1468–1470.

The paper is difficult to describe because of the treatment received at the hands of the conservationists who have rendered all but a few folios unusable by a codicologist. It is quite thick, and is among the thicker of the papers examined. So far as can be judged it is about one third of a millimetre in thickness. It is grey to red-brown in colour, the variation apparently being the result of an age-related discolouration of a greyish paper. The paper is poorly surfaced though it has evidently been glazed, not by polishing but by some sort of coating with size, presumably with a rice starch sizing as the most readily available, as there is no trace of the ink having run. It is heavily ‘felted’ with many large visible impurities. Like other specimens of the local papers of the same period utilized in Samaritan manuscripts it has black and brown fibres up to 6 mm. long felted into the body of the paper. The thickness after conservation treatment tends to make the paper opaque so that it is impossible to see the chain and laid lines except in a couple of places. On folio 2 we can see with ease that there are chain lines, and there are faint views of laid lines. The chain lines are clustered in twos and threes, obliquely to the folio, a not uncommon circumstance in fifteenth-century papers. Chains in pairs are 1.0 – 1.1 cm. apart whereas those in threes are further apart (1.1 – 1.5 cm.) Beit-Arié reports that this is the youngest type of grouped chain line used for manuscripts of Syro-Palestine. He also suggests that this type of chain structure was restricted to Syro-Palestinian papers.⁴⁰ However, there are good reasons to suggest that this scribe worked in Egypt (*infra*). Irrigoin suggests that chain lines in groups are normally about 1.2 cm. apart.⁴¹ This does not hold good for Samaritan papers where the width of the chain lines seems to change in

³⁹ The identification was made by a comparison with a plate of CW 2484 written in 1474 in Cairo. See my *Dated Samaritan Manuscripts*. See also my ‘Studies in Samaritan Scribal Practices and Manuscript History, IV. An Index of Scribes, Witnesses, Owners and Others Mentioned in Samaritan Manuscripts, with a Key to the principal Families Therein,’ *BjRULM*, 68:2 (1986), 317–72, no. 34.

⁴⁰ Beit-Arié, *Codicology*, 32.

⁴¹ Irrigoin, ‘Types’, 20.

correlation with the age of the manuscripts. However, one must exercise caution in drawing judgements from the width of the chain lines. These have a demonstrable tendency to splay, and one must assume that, as the moulds became worn, the width between chain lines varied from batch to batch of paper.⁴²

Though our scribe may well have made the pilgrimage to Mt. Gerizim for the *haggim*, so far as we know he wrote in Cairo throughout his working life and sold his manuscripts in that city. We may assume, then, that this paper is Egyptian, and the colour and texture variation from the previously described papers is a function of provenance as well as of age.

Paper of this thick, felted type has a tendency to fray at the corners and at the edges, the fraying occurring from the surface layer downwards as though the protective coating of size has worn away and the mechanical movement of the hands across the surface at the corner or edge of the leaf, in turning the folios, has eroded the relatively uncompacted surface rapidly. The friability of this variety of paper and the resulting 'layering' of the corners may be one means of identifying this paper type. (This tendency to fray may account for the heavy-handed conservation.)

The original dimensions of the paper are difficult to judge as the folios have been heavily trimmed before restoration and binding, but one can judge that the paper was made in a medium-sized mould as each folio was originally at least 29.2×21 cm., making the bifolium, and hence the mould, about 30×42 cm., equal to the small mould in use for other Samaritan manuscripts of the period and parallel in size with the small Syrian mould. It is also the standard adopted for Venetian papers as noted above.

A manuscript which passed through the hands of Ab Nessana b. Sadaqah, and which may also have been a model for his own copies, is BN Arabe 6 which was copied in 1432/3.⁴³ The chain lines are grouped in threes at intervals of 1.0 cm. with a distance of 5.1 cm. separating the groupings. The betagraphs (fig.6) allow us to see laid lines with nine of these to the centimetre. Unfortunately a full description of the paper is not available at this time, but, on the basis of Shehadeh's detailed examination of this manuscript which shows it to be Abu Said's revised translation of the Samaritan Arabic Pen-

⁴² See folio 79 of Bodley Opp. Add.4^{to} 99 where the chain lines, in triplets, are splayed at the top of the folio and narrow considerably at the bottom. It is likely that the chain lines represent something like fibre wires rather than metal wires in the mould. This may account for the number of fine fibres in the paper. See also Weir, 'History of Paper-Making', 44. He suggests that moulds could be made of bamboo and were woven like baskets.

⁴³ See the description of the manuscript in Troupeau, *Catalogue*, 14. This description is amplified and corrected by H. Shehadeh, 'The Arabic Translation of the Samaritan Pentateuch, Prolegomena to a Critical Edition' [in Hebrew] (3 parts, Ph.D. thesis, Jerusalem, 1977), part 1, 308-9. See Shehadeh's 'The Arabic Translation of the Samaritan Pentateuch,' *The Samaritans*, ed. Crown, for a general discussion.

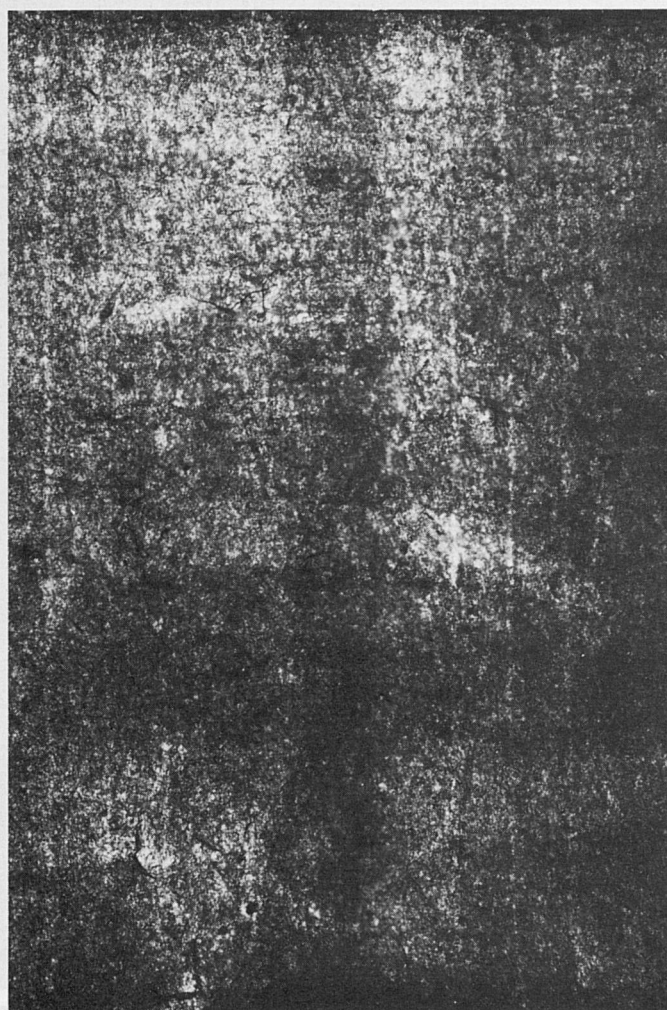


FIG. 1.
BN Arabe 5

BULLETIN JOHN RYLANDS LIBRARY



FIG. 2.
BN Arabe 5
Lower right (marked *bas dr[oite]*)

SAMARITAN MANUSCRIPTS

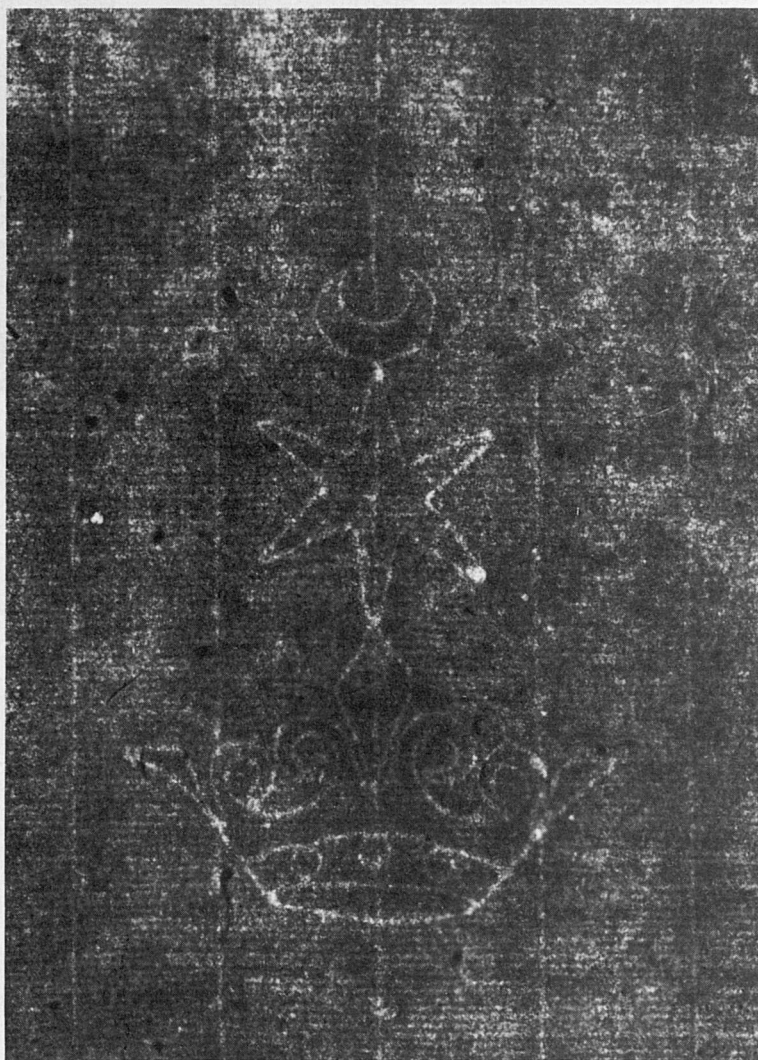


FIG. 3.
Bodley Opp. Add. 4^{to} 99
Later insertions

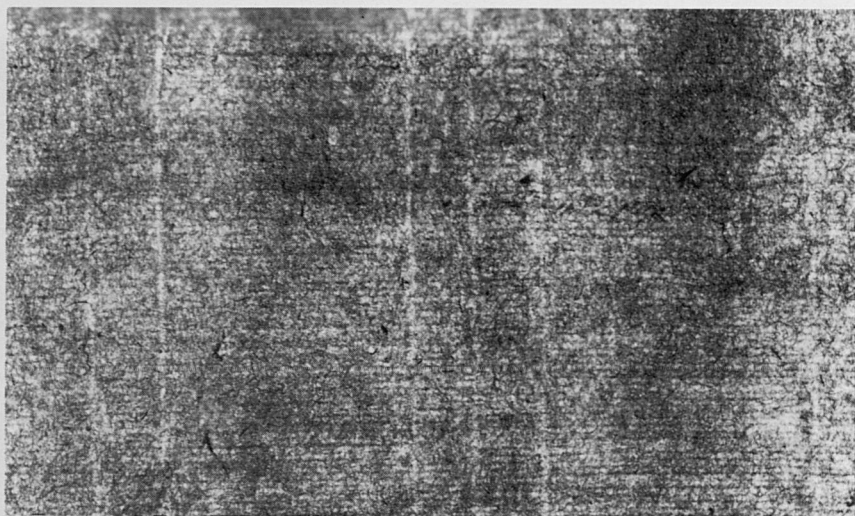


FIG. 4.
Bodley Opp. Add. 4^{to} 99
Earlier papers

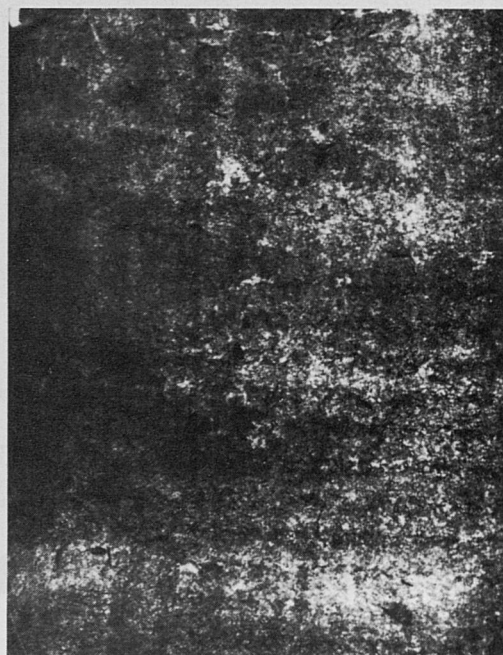


FIG. 5.
BN Arabe 62

SAMARITAN MANUSCRIPTS

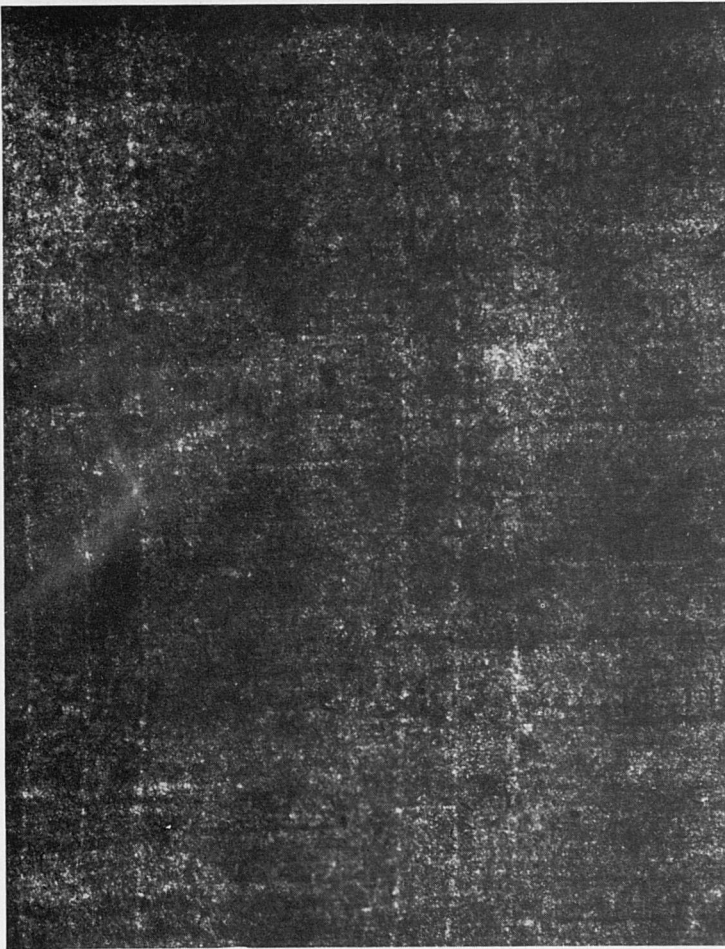


FIG. 6.
BN Arabe 6

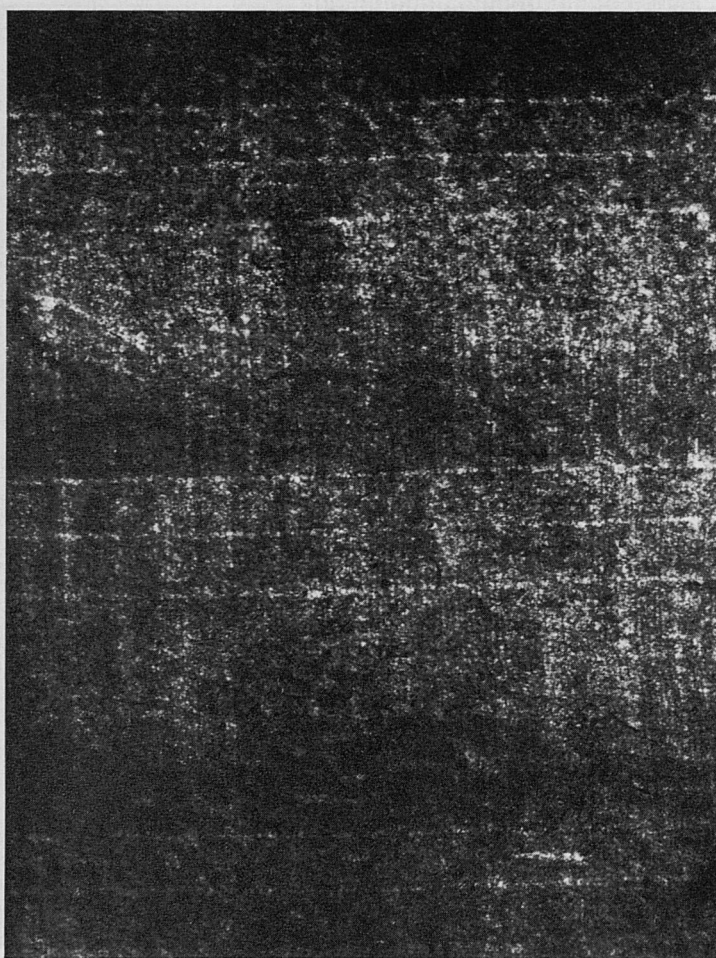


FIG. 7.
BN Sam. 9

SAMARITAN MANUSCRIPTS

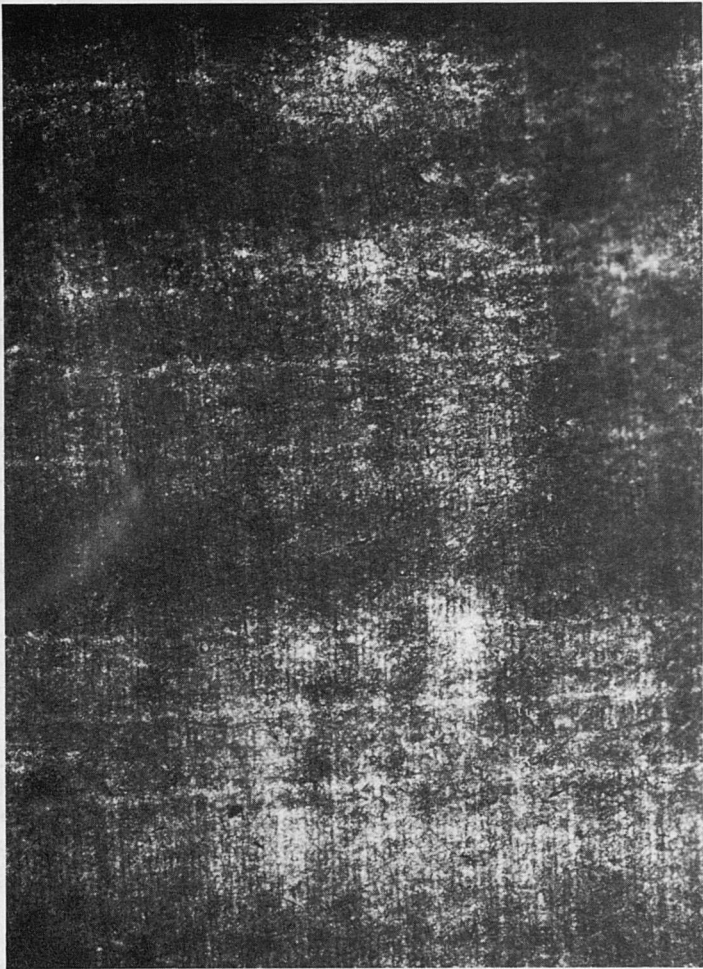


FIG. 8.
BN Sam. 10

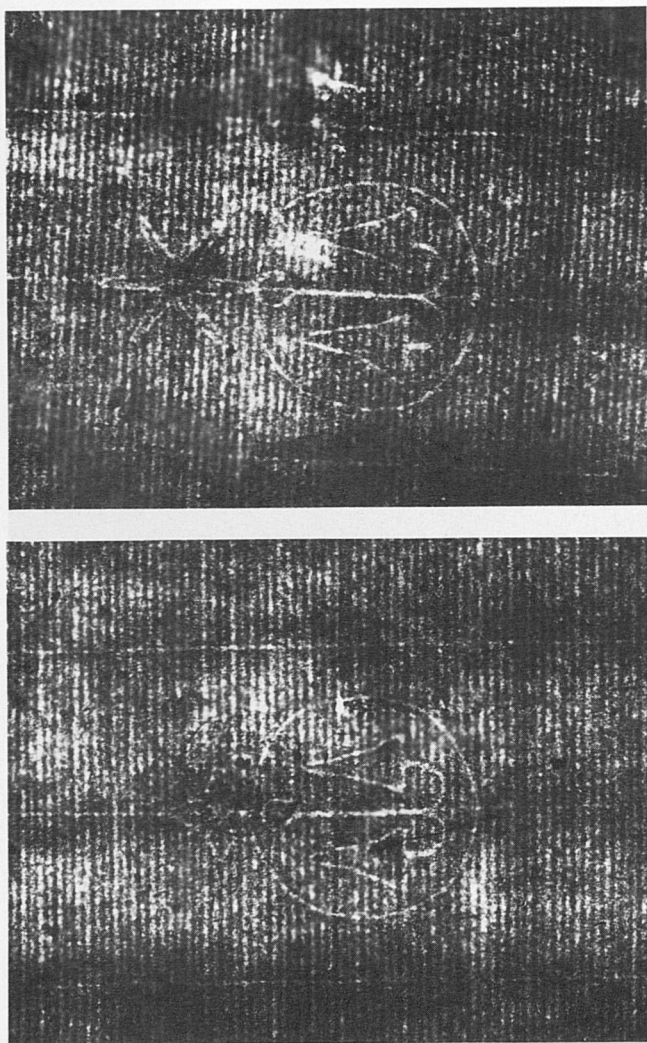


FIG. 9.
BN Sam. 11 (and 3)

tateuch,⁴⁴ and on the basis of Troupeau's palaeographical comments which point to the same conclusion,⁴⁵ it is very likely that the manuscript was written in Egypt. Thus, the triplet chain line would have remained in use in Egypt in the fifteenth century. The next example verifies the continuation of the form and may help to amplify our understanding of the provenance.

Another of our fifteenth-century manuscripts in which the chain lines run in triplets rather than in groups of two and three is BN Sam. 9. This copy of the *Melis* was written in 1476. The betagraphs (fig. 7) allow us to see triplet chain lines, curving badly down the folio. The lines are spaced at intervals of 1.15, 1.15, 4.8, 1.0 and 1.0 cm. (folio 43), 1.0, 1.2, 4.0, 1.0, 0.9, 4.4 and 1.1 cm. (folio 16), not far removed from the clustering in BN Arabe 6. The folio dimension is recorded by Rothschild as 13 × 17 cm.⁴⁶ which is difficult to relate to any mould size unless the folios have been cut in irregular threes from a paper made in the Syrian type mould of dimensions 38 × 52 cm.⁴⁷ The paper appears from his description to be well sized and smoothly polished, creamy to chamois brown in colour and generally homogeneous in texture. The betagraphs suggest that the paper is uneven in thickness and that fibres of up to 12 mm. can be seen therein. Narrowish laid lines are discernible in the betagraphs with nine to the centimetre.⁴⁸ The Samaritan majuscule script in the volume appears to be of the Damascene genre.⁴⁹

One final text which appears to be from the end of the fifteenth century is Bodley Sam. b. 5. The manuscript consists of sections of the Samaritan Pentateuch on paper in various hands. The paper differs from manuscript to manuscript. Folios 16 and 17 are in the unique hand of Jacob b. Joseph b. Jacob of the Kedmah family whose eighth Torah manuscript was BL Or. 1444, written in 1495.⁵⁰ These folios, therefore, must belong to the end of the fifteenth century.

We do not know in which town the scribe wrote. The paper is remarkably similar in colour, grey to red-brown, to that of Bodley Sam. c.1. However, the folio sizes were much larger, having been at least 39.5 × 31 cm. The bifolium and, presumably, the mould must have been 39.5 × 62 cm., one of the largest moulds in use in the region, larger than the Syrian moulds and larger than the Italian

⁴⁴ For a survey in English see Shehadeh's 'Arabic Translation'.

⁴⁵ *Catalogue*, 14.

⁴⁶ *Catalogue*, 155.

⁴⁷ Irrigoin, 'Types'.

⁴⁸ The betagraphs raise a difficulty which cannot be solved here. The betagraphs of folios 16 and 60 show that these papers were made in the same mould, and yet Rothschild (*Catalogue*, 155) describes the folios of the first part of the manuscript, up to folio 21, as occidental. This differentiation is clearly impossible in the light of the betagraphs. Presumably, some confusion is arising because of the double foliation (in green and black), but the matter can only be resolved by comparison of the plates with the manuscript.

⁴⁹ My own view. This view is shared by Rothschild, *Catalogue*, 156.

⁵⁰ See my 'Index', no. 334.

moulds.⁵¹ The two folios have an appearance and texture that is almost like a light cartonage for they have no resilience when touched or moved, with the result that the surface is a mass of creases. There are no visible chain or laid lines, but these folios are so heavily conserved as to be opaque and beyond visual examination. The paper is matt with no patina whatsoever and is very friable indeed. At the corners one can see under even low magnification that there are 'layers' where the corner is worn away, and the fibrous appearance of the structure can be seen. It is tempting to suggest from the similarity between the papers that this manuscript was written in Cairo.

A group of manuscripts and manuscript sections in Bodley can now be dated even though we still cannot name the scribe, and the paper can be described and attributed chronologically with some certainty. These are Bodley Sam. b. 5, fos. 27–33 and Bodley Sam. b. 4, fos. 3–8 which are in the hand of the scribe of Bodley Laud Or. 270. It has long been understood that Laud Or. 270 was to be dated to the fifteenth century, but the proof positive comes from the section heads to Bodley Or. 345. This manuscript, which was written in 1480,⁵² is the Arabic version of the Samaritan Pentateuch and, as is common, the section heads are supplied in the Samaritan majuscule script. Several scribes have written these heads, and one at least wrote some of the text (page 270)⁵³ itself, proving that the section heads were not added some years after the manuscript was written, as was sometimes the case, but at the same time. One of these scribes (see page 286) was the same as the writer of Laud Or. 270, so we are now able to date this manuscript within the last quarter of the fifteenth century.

The paper of Bodley Sam. b. 4 is cream to a very light brownish colour with a number of 'gritty' particles in the paper, as though the retting and pulping process had been unable to break down the fibres sufficiently small. The result is a translucent, uneven paper, that tends to be the colour of parchment and even has the uneven appearance of some parchments when viewed against the light. The paper has a light glossy patina, but the sizing may have been inadequate for there is a slight loss of definition around the edge of some letters. The paper has clearly visible chain and laid lines. The laid lines are rather wide, some seven per centimetre. There are a number of fibrous impurities in the paper, rather different in type from the felting of the grey papers, and it may well be that we are seeing the debris of a fibre mesh in the mould. The paper size is 26.5 × 37 cm. so that the mould must have

⁵¹ Irrigoin, 'Types', 19 finds that the most common of the large Syrian moulds is 42 × 60 cm.

⁵² By Abu'l Merjia ibn Abu'l Fatah ibn Yusuf ibn Sadaqah ibn Abu'l Aziz ibn Abu'l Faraj (or ibn Katara). See my 'Index', no. 220.

⁵³ At this period the Pecia system was in operation in Italy, and one wonders whether something similar was practised by Samaritan scribes in the same century as the feature of several scribes working on one Samaritan manuscript has been noted before. On the Pecia system see Graham Pollard, 'The Pecia System in the Medieval University,' *Medieval Scribes, Manuscripts and Libraries*, ed. M. Parker and A. Watson (London, 1978), 145–61.

been at least 38×53 cm., close in size to the common Syrian mould.⁵⁴ The chain lines in the paper of Sam. b. 4 are in a most unusual grouping not noted by Beit-Arié though Irrigoin appears to have found the same clustering.⁵⁵ The chains are oblique to the folio, as happens frequently in paper of this age. The chain lines are set about 1.2 or 1.3 cm. apart where they are clustered in twos. However, the actual clustering on folios 4 and 7 is in twos and fours. The fours appear to be two pairs with a narrow gutter between. This clustering in fours is to be noted also on a single paper leaf, folio 75, inserted into BN Sam.3 at some indeterminate date but before the sixteenth century and probably in the fifteenth century.⁵⁶ Here the four chain lines are 1.2 cm. apart.

The paper of folios 27–30 of Bodley Sam. b. 5 measures 21×30 cm. with a bifolium of at least 42×30 cm. and a mould of similar size, the same as we have noted previously for Samaritan papers. The paper is creamy, and one folio is nearly white-cream in colour. The surface has a light patina with clearly visible laid lines though no chain lines are apparent. The lack of chain lines may be because of the obscuring effect of the work of the conservators. Some of the laid lines are so distinct that they have the appearance of chains, and the paper was evidently made in an older mould in which the mesh was deteriorating.

The paper of Bodley Laud Or. 270 of the same period is a creamy colour with a tendency to the same patchy browning appearance of the papers of the type which appear to be in imitation of parchment. The paper has probably not browned with age, but this colouration seems to be a feature of its manufacture, and it may have been treated with saffron to give the appearance of parchment. Saffron appears to have been used to give paper an antique appearance⁵⁷ – we may assume that this treatment was also given to papers which were just taking the place of parchment. The surface glows and is clearly well sized. The folios have been heavily trimmed, but their dimensions at their present minimum are 24.5×32.5 cm. They must have been considerably larger, and we may suggest that the original dimensions were about 30×38 cm., giving a mould size of at least 60×38 cm. and, more probably, 60×42 cm. Both laid lines and chain lines are clearly visible. The chain lines are between 1.1 and 1.2 cm. apart. They are distributed in groups of two and three. Because the scribe of Bodley Or. 345 is likely to have written in Damascus (see below), and because

⁵⁴ Ibid. Irrigoin notes a common smaller mould being 38×52 cm.

⁵⁵ Ibid., 20.

⁵⁶ A sixteenth-century addition is on a European paper (fo.2), see Rothschild, *Catalogue*, 40. The watermark clearly belongs to the same period as fo.4 of BN 11 (1589) and, doubtless, is to be associated with the preparation of the manuscript for sale in 1579 (not 1520, see Rothschild, *Catalogue*, 40). There is no evidence of any sale of the manuscript in the fifteenth century, but it doubtless changed hands between the recorded sales in the fourteenth and sixteenth centuries. We may assume that the paper added to make fo.75 was inserted when the manuscript was being prepared for sale in the fifteenth century.

⁵⁷ Cf. Weir, 'History of Paper-Making,' 47.

the scribe of Laud Or. 270 was one of the copyists of the section heads in Bodley Or. 345, we must assume that Laud Or. 270 was copied in Damascus.

As noted above, Bodley Or. 345 was written in the last quarter of the fifteenth century (1479–80), perhaps in Damascus.⁵⁸ It is written on a thickish white paper that has a tendency to shine with a very high gloss patina. The thickness is less than that of the greyish papers. Some fibres are visible in the paper, but these are small and may be derived from a fibre mesh. Some folios seem to have a different feel between the two sides of the paper as though one side has been sized or polished more heavily than the other. Different treatment of the two sides of paper is recorded of Egyptian paper but appears not to have been noted for Damascene paper which this is assumed to be on the basis of the provenance of the manuscript.⁵⁹ Both laid and chain lines can be distinguished with clarity, but the grouping of the chains is quite irregular. The chain lines in the paper of folio 210 are in one pair. Those on folio 208 are in two groups of three and one pair. Paired chain lines are 1.2 cm. apart. Triple chain lines are 1.0 and 1.2 cm. apart. The paper is of a very uneven thickness, and there are some lighter patches where the laid lines are more easily visible than other places. Despite the whiteness of the paper the material has a parchment-like appearance because of the varying translucence. The manuscript is important in this study because the folios appear to be untrimmed, as the corners of the folios are rounded. However, the pages are undeckled as one finds in the paper of sixteenth-century manuscripts. The folio size is 21 × 31.5 cm., indicating a mould size of 42 × 31.5 cm.

Once we move into the sixteenth and seventeenth centuries it is more common to find paper of European origin than local paper though, demonstrably, some local paper remains in use, particularly at the beginning of the sixteenth century. The European papers tend to be exclusively Venetian at least until 1667 when alternative sources are common (see below). Where local paper is found we see that the chain lines and laid lines are rather wider spaced than those of the fifteenth century.

For example, there is extant from the beginning of the sixteenth century BN Sam. 10, the *Kitab al Tarikh* of Abu'l Fath. The two scribes who worked on the manuscript completed it in 1524.⁶⁰ The paper, which is local (i.e. oriental), shows clearly-visible chain and laid lines (parallel with the lines of writing), the chain lines appearing in triplets (fig. 8). These are much further apart than the grouped lines

⁵⁸ The scribe may have been a member of the Damascene priestly family. See my 'Index', no. 220.

⁵⁹ Weir, 'History of Paper-Making', 47.

⁶⁰ The colophons on pages 202 and 264 name one of the scribes as Muslim ibn Yusuf ibn Ibrahim.

of the fifteenth century. On folio 135, for instance, we find that the groups are 3.2–3.5 cm. apart and the triplet lines in the groups are 1.8 and 1.9 cm. apart. These figures remain constant throughout the manuscript. Laid lines are also broader than in the fifteenth century, there being seven per centimetre. The paper is whiter than that of the fifteenth century, being creamy-white in colour. The folio dimension is 13.4×17.9 cm. Even allowing for some trimming, either the mould was very small or three bifolia have been cut from a mould of 42×36 or 38 cm. The spacing of laid and chain lines is repeated in BN Sam. 8, folios 31–32, suggesting that Rothschild's sixteenth-century estimate of the date of this section of the manuscript, achieved by palaeographical examination, is to be supported⁶¹ by the morphology of the paper.

The earliest European paper noted is Bodley Huntington 350 which contains two works⁶² written in 1562 (folios 1–27^v) and 1596 (folio 28-end). The paper is gleaming white with no visible fibres showing, though there is some staining. Both the laid lines and the chain lines are clearly visible. The folio dimensions are 14.25×21 cm. All the folios are trimmed and there is no means of reconstructing the original size of the folios or of the mould. However, one might suggest that the folios are actually half of the sheet size, trimmed, and the sheet size is that found in Venice or other north Italian states, 42×30 or 31.5 cm.⁶³ The chain lines are regularly spaced at intervals of 2.8 cm. The paper is watermarked with marks found in Nikolaev's catalogue,⁶⁴ and there are a series of countermarks.⁶⁵ The countermarks are a useful guide to the way in which the watermarks may be used to verify the age of the manuscript. Those in part two of the manuscript are only found in combination for the year 1593, which correlates well with the date of 1596 for the text. The combined assemblage in the first part of the manuscript is found together only for the year 1555 which correlates well with the date of writing of 1562. However, we may not take this correlation to imply a long shelf-life for paper – it implies only that our information is inadequate.⁶⁶

Towards the end of the sixteenth century we see other examples

⁶¹ *Catalogue*, 73.

⁶² These are the *Kitab al Mubarak* by Faraj ibn Yaquub ibn Ibrahim ibn Yusuf and the *Kitab al Tarikh* of Abu'l Fath.

⁶³ Labarre, *Dictionary*, 249 notes the following mould sizes from Bologna

Imperialle	74 × 30 cm.	(Imperial)
Realle	61 × 44.5	(Royal)
Mecane	51 × 34.5	(Medium)
Recute	45 × 31	(Reduced)

On the size 42×31.5 see below where there is clear evidence of such a mould size from Venice.

⁶⁴ No.96, 42; no.131, 52. 13a, 13b, 74, 9, 10, 53. The watermark on folio 8 appears to be a rose, not otherwise attested in this series of marks.

⁶⁵ RA, JB, GA, SA.

⁶⁶ E. Heawood, *Watermarks* (Hilversum, 1950), 31, suggests that the shelf-life of paper before the nineteenth century may have been about thirty years.

of western papers with wide chain lines and regular and wide laid lines, such as are found in the letters of the Samaritans to Joseph Scaliger (BN Sam. 11, fig.9).⁶⁷

There is no hard and fast dividing line between papers of the seventeenth century and papers of the eighteenth century. Both are predominantly European with the characteristics, described in more detail below, of being white and glossy, unless artificially coloured, and thicker in the seventeenth century than in the eighteenth century. Chain and laid lines are more regularly spaced in both centuries, but the laid lines, towards the end of the seventeenth century or early in the eighteenth, are narrower than those subsequent to the first decade of the eighteenth century. However, one cannot establish firm chronological parameters based on the reduction in width of laid lines as a substantial percentage of the mid-seventeenth-century papers have wider laid lines than those of the end of the seventeenth century, though the chain lines tend to be slightly narrower. It may well be that the vogue in paper-making at the end of the seventeenth century changed in favour of narrow laid lines and reverted back to the wider lines in the early eighteenth century or, more likely, that the Venetian papers commonly supplied to the Middle Eastern market were replaced by Fabriane papers which had similar watermarks between the years 1667 and 1750.⁶⁸ Chain lines in seventeenth-century paper tend not to have achieved the consistent regularity that they achieved in the eighteenth century, but again firm chronological parameters are deceptive as there are exceptions to the general tendency. One must also be cautious about measuring chains at the point where they are tied to the watermarks, as the wires for the marks interact with the chain wires and create a greater variation than is normal in the rest of the paper sheet.⁶⁹ From the late seventeenth century we find that there is an influx of Austrian papers into the Turkish empire. Some of these papers are to be noted in Samaritan manuscripts where we find the Austrian eagle in a variety of forms linked with Italian countermarks.⁷⁰

A mid-seventeenth-century paper is found in Bodley Huntington 24, a copy of the *Kitab al Tabakh* whose scribe was Mufarrij b. Jacob

⁶⁷ Our betagraph of folio 4 of BN 11 shows a watermark not recorded in Rothschild's catalogue.

⁶⁸ On this see Mosin, *Anchor Watermarks*, introduction.

⁶⁹ However, one does not necessarily find that the same mark affects the chains in a consistent way. For example, betagraphs of marks in Rylands Sam. 10 (folios 11 and 36) show that the *tré-lune* mark relates to the lines in the same proportion, but since the size of the wire crescents is different in each case the chain wires vary in their spacing. For example, the large crescent overlaps the chain wires by 2 mm. Since the large crescent on the two folios differs in size, the chain wires differ in their spacing, being 2.6 and 2.8 cm. apart. Likewise, the millimetre difference in the size of the central crescent is reflected in the spacing of the associated chain wires. Chain wire spacings should be measured away from the associated watermarks.

⁷⁰ Cf. George Eineder, *The Ancient Paper Mills of the Former Austro-Hungarian Empire and Their Watermarks* (Hilversum, 1960), and Nikolaev, *Watermarks*, 124.

b. Joseph whose scribal activity is known from 1663 to 1672.⁷¹ This European paper is quite distinct from any of the oriental papers seen so far. It is glossy, white, well polished and surfaced, close to the thickness of a modern 100 gsm. paper. The chain lines are regularly spaced at 2.4 cm., and the laid lines are eight to the centimetre. The pages are watermarked with the *tré-lune* mark of the Venetian mills⁷² (fig.10). The paper is important because it is uncut with a mild deckle around the edges, showing us the European mould size of papers imported to Nablus. The folio size is 21 × 31.5 cm., showing that the dimensions of the mould were 42 × 31.5 cm. The evidence of this paper is supported by BN Sam. 21 which is dated to 1672.⁷³ The same scribe was responsible for Rylands Sam. 27, a liturgy, one year later, and this paper has a chain line which ranges through the narrower lines of the seventeenth century towards the wider line of the eighteenth, viz., from 2.0 to 2.8 cm. The laid lines also vary in width, there being either six or seven per centimetre. The watermarks are either the *tré-lune* of Venice or a form of crown (fig.11a & 11b).

Rylands Sam. 24 of 1699 has the same 'narrow' chain line of 2.3–2.4 cm. with a very narrow laid line indeed (some fourteen to the centimetre). Watermarks include a crown over a circled cross over the letter M in a circle over a bull's head. However, this paper is almost certainly not Venetian but from one of the other Italian states (fig.12). Rylands Sam. 19 of the first decade of the eighteenth century (1703) has a chain line of 2.4 cm., regularly spaced, but the narrow laid line of fourteen to the centimetre. By contrast, Rylands Sam. 9 of the same year is more like the eighteenth-century papers with broad chain lines, slightly variable, between 2.7 and 3.0 cm. with six laid lines per inch and a selection of *tré-lune* and clover-leaf watermarks, both Venetian, with different countermarks. Rylands Sam. 20 of 1705, just two years later, is also clearly well within the parameters of the eighteenth-century papers with the wider laid and chain lines. It has six laid lines per centimetre, and chain lines that are a regular 2.8 cm. apart. The watermarks are the large *tré-lune* surmounted by the clover or *fleur de lys*⁷⁴ with countermarkings of G and M (fig.13).

One of the more interesting manuscripts of the period is Rylands

⁷¹ See my 'Index', entry, Marhib.

⁷² Cf. Eineder, *The Ancient Paper Mills*. He indicates that the *tré-lune* is a Venetian paper. Nikolaev (*Watermarks*, 123) also would regard the *tré-lune* mark in European paper as proof of Venetian provenance.

⁷³ Rothschild, *Catalogue*, 120–1, argues that despite the colophon one must date the manuscript to the nineteenth century on the basis of its appearance. He is surely wrong. The laid and chain lines are in the identical proportions to those of Huntington 24, and the watermark is the same as that of JNUL 8^o 69 (Jaffa, 1679). In view of the coincidence of the codicological evidence one must accept the scribe's words at face value. However, while the page size is consonant with the 42 cm. standard length (cut three times), the width cannot be accounted for on present evidence.

⁷⁴ Nikolaev, *Watermarks*, 123, argues that the *fleur de lys* does not replace the clover-leaf in Venice until c.1760.

Sam. 22 which was completed over at least a twenty-five-year period, possibly longer, between 1689 and 1714.⁷⁵ Its folios show a variety of watermarks, and the chain and laid lines show the chronological developments of the period rather well. The earlier folios are watermarked with a crown surmounted by a star surmounted by a crescent.⁷⁶ The paper is a European paper manufactured for the Muslim market, with the cross, often found on a similar watermark, removed and replaced by a crescent. Chain lines are the wider variety, almost regular at 2.7 – 2.8 cm. apart. Laid lines are wide, with six per centimetre. The second part of the manuscript, from early in the eighteenth century, is on what appears to be an Italian (Fabrianese) paper, but one which is unusual in its marking among Samaritan papers. Watermarks are a rose over the inscription A1 AROSA (folio 55, with the variation A1 AROEA on folio 54, fig.14), a heraldic shield similar to the type found on Lombard papers (fig.15), and what we assume to be an imitation of the Venetian clover-leaf over the letters JA and VC. Chain lines are highly variable, 2.6–2.8 cm., but the laid lines are narrow, ten to the centimetre.⁷⁷ The last part of the manuscript is on paper watermarked with the *tré-lune*. Chain lines are the broad eighteenth-century marks, 2.8–3.0 cm., and laid lines are broad, between five and six per centimetre (fig.16).

Papers of the eighteenth and nineteenth century are numerous, and most manuscripts of the period are dated. However, it is worthwhile describing the morphology of this paper to prevent elementary errors being made from lack of codicological data. Most eighteenth- and nineteenth-century papers continue to come from Europe, especially from Italy, either from the paper mills of Lombardy or of Venice and perhaps from Florence.⁷⁸ (However, there may be some papers which were manufactured in Turkey in imitation of the European papers, using similar watermarks with the Christian symbols removed and replaced with Muslim ones.) It is fortunate that many of the papers seem to come from the same mill or group of mills so that we are able to use regular changes between papers of the same source for describing the chronological profile of papers. In every European paper that the author has seen the papers have regular chain

⁷⁵ Robertson's description, *Catalogue*, i.370 contains the manifestly erroneous statement, 'On stout oriental paper generally written without any watermark but a few leaves show the crescents . . .' His description is not easy to follow, but part 1 of the manuscript, as far as folio 14b, was written by Murjan who died in 1697. Part 2 was written by Murjan's son, Muslim, and apparently was completed in 1705. Part 3, written by a second son, Abdullah, appears to have been complete by 1713. Some of the reader's marks from years up to 1760 are on a paper which looks to be mid-eighteenth-century in type.

⁷⁶ See folios 24, 26, 27, 28.

⁷⁷ The betagraphs show a second set of lines behind the chain lines, lighter than the chain lines, but placed at regular 2.0 cm. intervals (see folios 55, 58 and 62) as if the mould had a double form with a set of wires behind the mesh to hold it in place. However, these are not visible on every folio (see folio 54).

⁷⁸ See below, the discussion of the 'beehive' mark.

YRA SAMARITAN MANUSCRIPTS

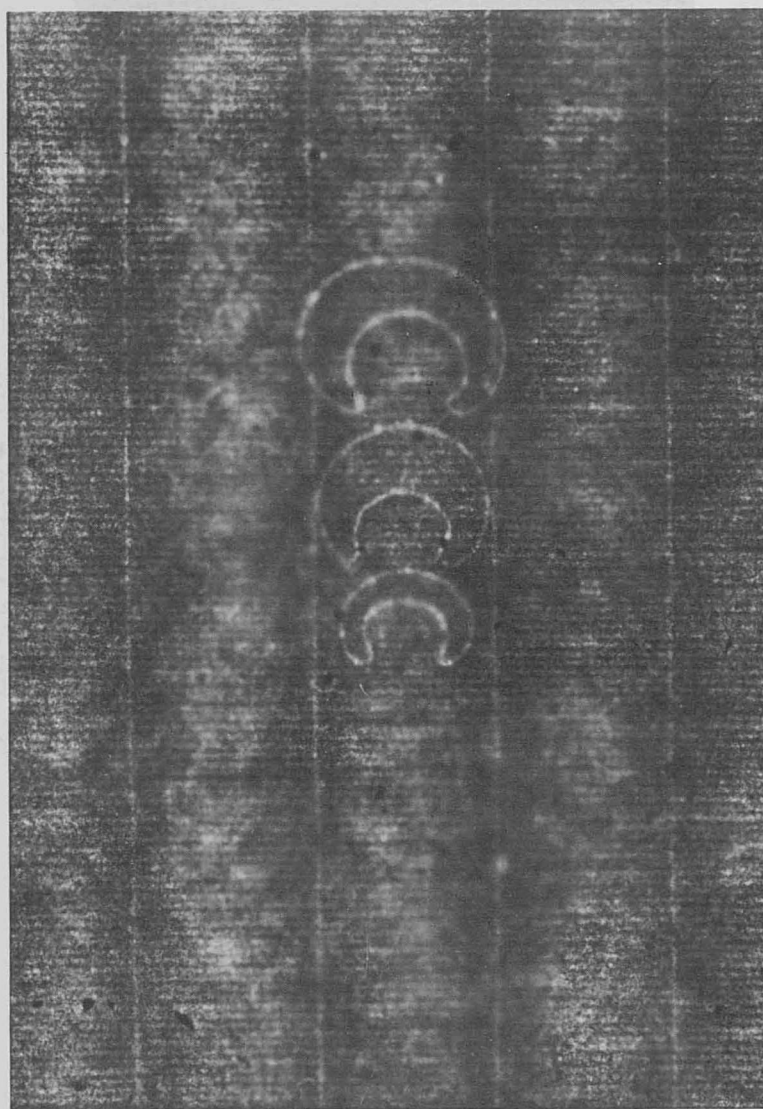
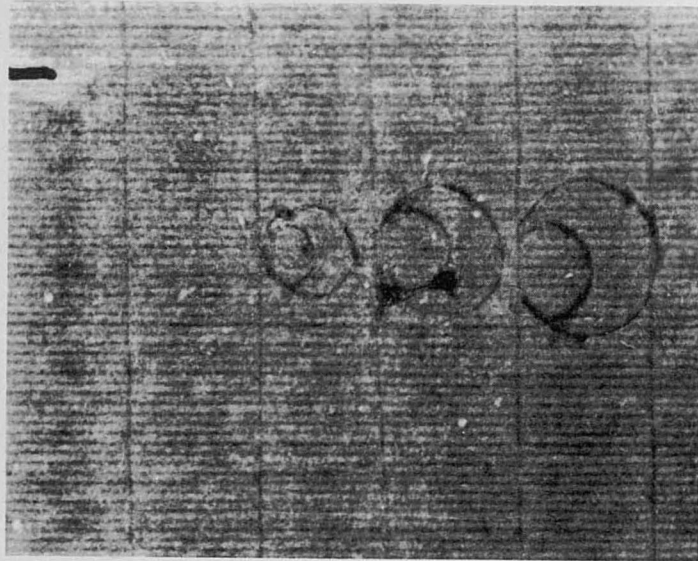
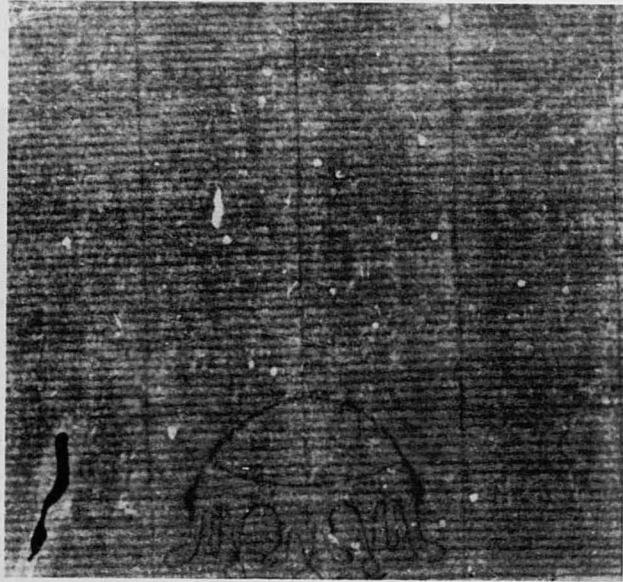


FIG. 10.
Huntington 24

BULLETIN JOHN RYLANDS LIBRARY



FIGS. 11a & b
Rylands Sam. 27

SAMARITAN MANUSCRIPTS



FIG. 12.
Rylands Sam. 24.

BULLETIN JOHN RYLANDS LIBRARY

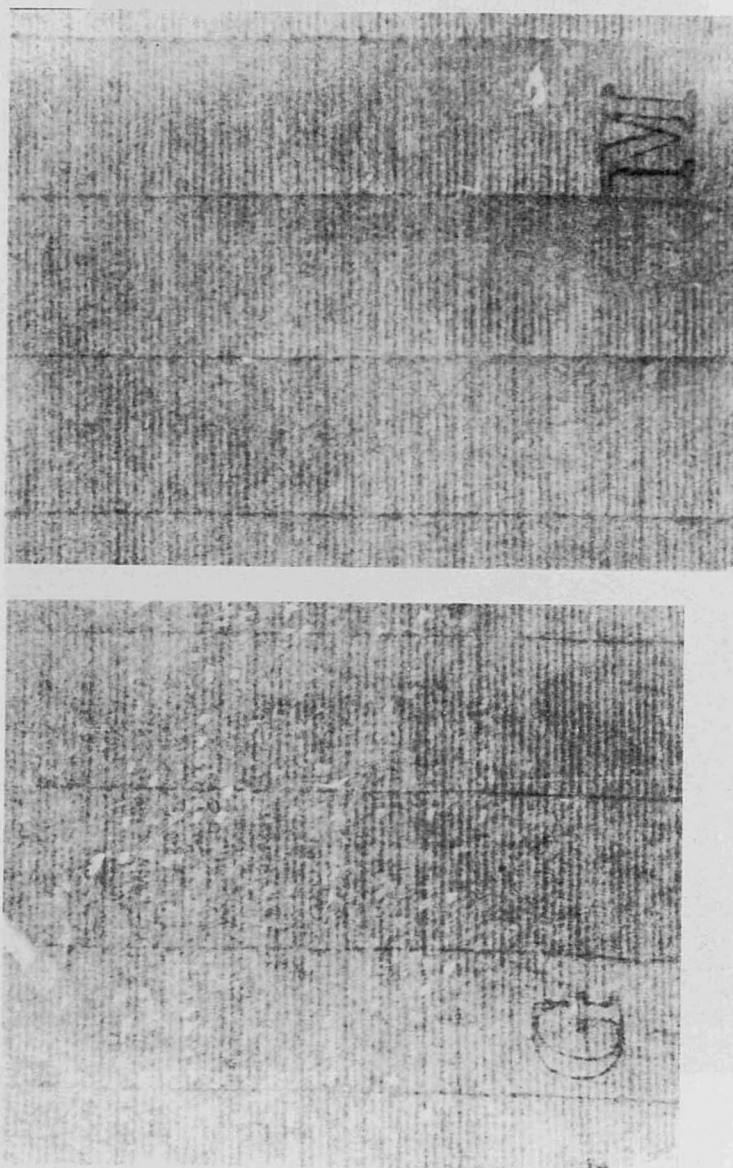


FIG. 13.
P. 1. 1. 6. 8.

SAMARITAN MANUSCRIPTS

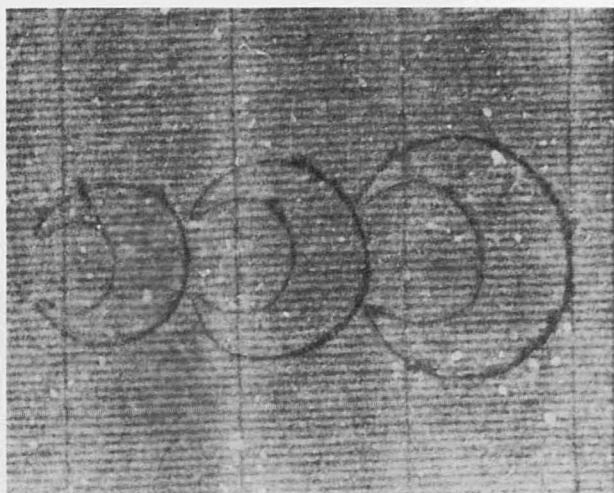


FIG. 16.
Rylands Sam. 22
fo. 152

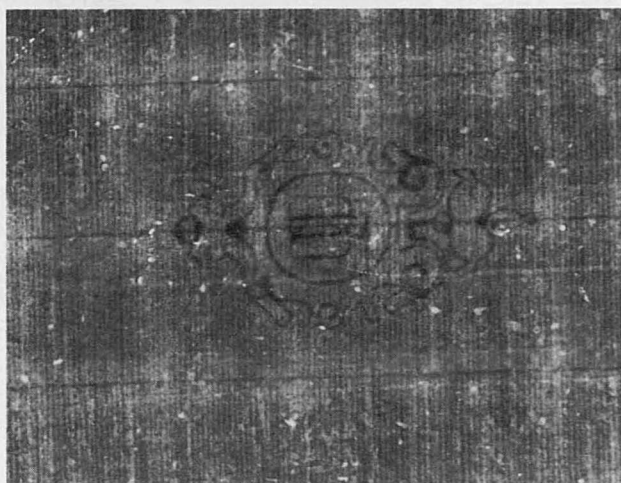


FIG. 15.
Rylands Sam. 22
fo. 58



FIG. 14.
Rylands Sam. 22
fo. 54

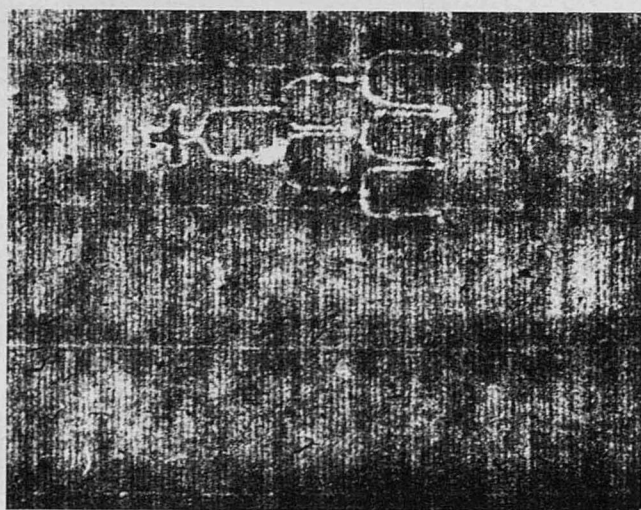
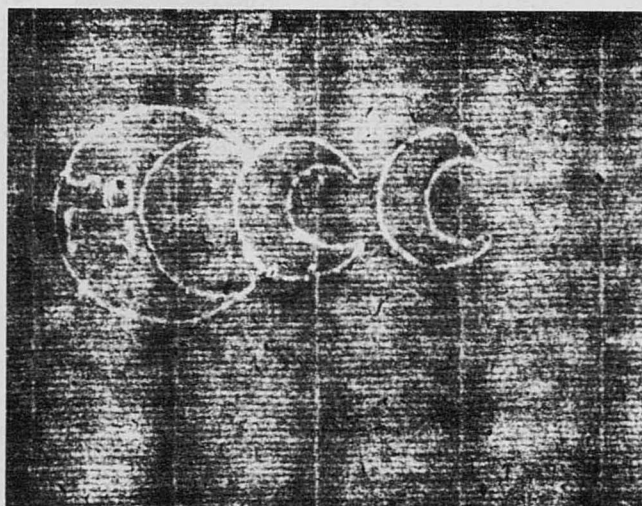


FIG. 17.
BN Arabe 4521

SAMARITAN MANUSCRIPTS



FIG. 18.
Rylands Sam. 12

BULLETIN JOHN RYLANDS LIBRARY

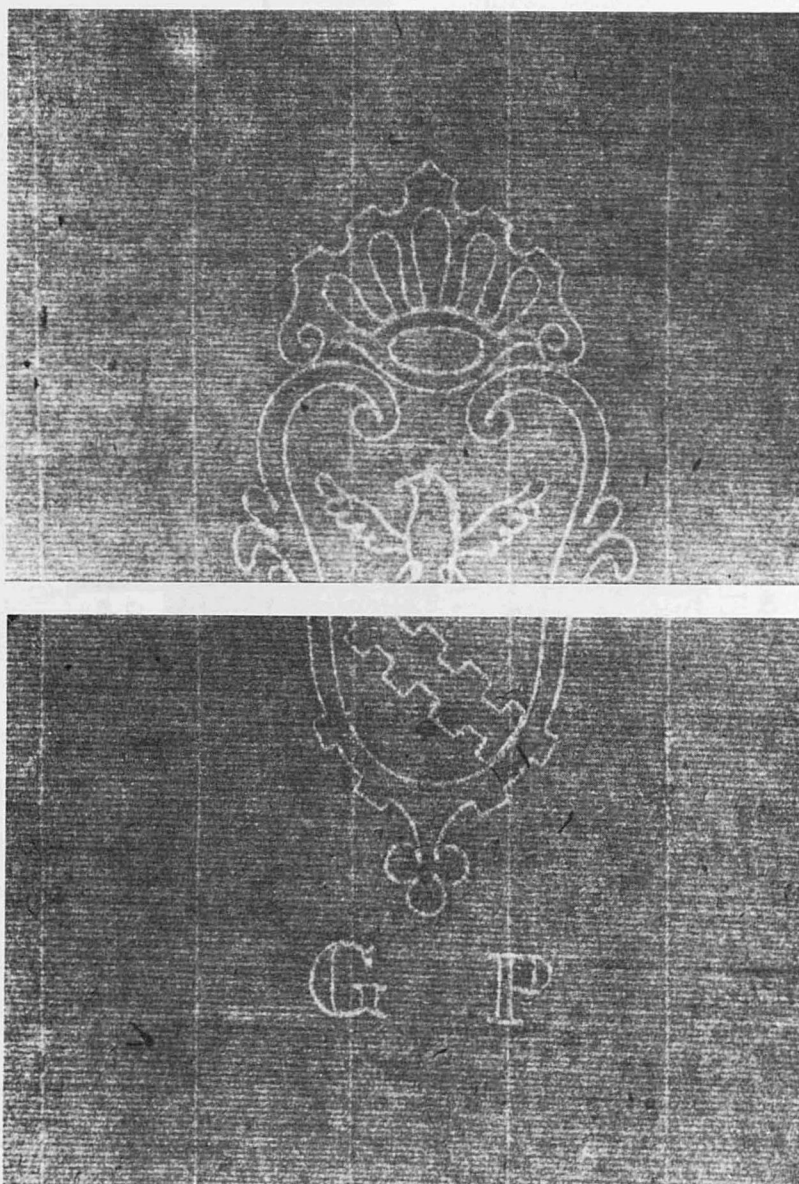


FIG. 19.
Bodley Sam. e.5
fos. 5/6 across the gutter

and laid lines and are watermarked though the marks are not necessarily easily identified. We also note that many manuscripts carry several different watermarks with differing countermarks. We can show (below) that some of these manuscripts were put together over a period of writing from several batches of paper, but that would not account for all the watermark variation within a single manuscript, and we must assume that Samaritan scribes kept stocks from which they drew, often mixing batches of paper. (As noted previously, the shelf-life of paper for the period was up to thirty years.) At the beginning of the period, particularly at the end of the seventeenth century, there are attempts to colour some papers artificially with various dyes.⁷⁹ However, this is not so much to be seen as an attempt at archaizing as an attempt to lift the appearance of manuscripts used on joyous occasions, particularly the liturgies for *Hatunah veledah*. We must assume that eighteenth- and nineteenth-century papers are part of the beginnings of the mass-production of paper for, after the first decade, there are no special symbols for the export market to Muslim countries, unless one counts the mixture of cross and crescent or the addition of a face to the crescent as being executed especially for the Muslim world.⁸⁰

The eighteenth-century papers tend to be thicker than the nineteenth-century papers. Moreover, the early eighteenth-century papers tend to have wider laid lines with a smaller number to the centimetre. A survey of the folio sizes of eighteenth-century manuscripts suggests that there were three moulds in common use in the European mills which supplied paper to the Samaritans. The smaller folios fall within the range of $10\text{--}10.41 \times 14.73\text{--}15.49$ cm. We may assume an untrimmed folio of 11×16.5 cm. and a mould size of 22×16.5 cm. The second size of folio falls within the range of the smaller of the nineteenth-century moulds noted below, namely 22×33 cm., i.e. twice the length of the small mould. The third size of folio is more rare than the previous two, the range we note is between $19.0\text{--}20.32 \times 27\text{--}29.4$ cm. This indicates a mould size of c. $42 \times 30\text{--}33$ cm., double the size of the smallest paper. We note one Rylands manuscript with a folio size of 19.7×14 cm. This would appear to be paper from the second mould presented in two bifolia.

The specifications are exemplified by Rylands Sam. 30, dated to 1737, with very broad chain lines but some variation between them, ranging from 2.8 to 3.0 cm., with seven laid lines to the inch, rather narrow by eighteenth-century standards, and watermarks of the *tré-lune* variety. BN Arabe 4521 of 1740 (*Kitab at Tabakh*),⁸¹ a thickish

⁷⁹ Cf. JNUL Sam. 8° 69.

⁸⁰ Nikolaev, in his introduction to the watermarks of the eighteenth century, has several interesting comments on this development. However, see below on Bodley Sam. f.3, where the face on the *tré-lune* would appear to be of Turkish manufacture.

⁸¹ Written in Nablus.

highly glossed paper, off-white, in which the watermarks are a cross atop a structure which looks like a cupola or a beehive⁸² (fig. 17) and the same surmounted by what Rothschild describes as a 'fleur de lys?'⁸³ but which might also be a clover-leaf. Several folios carry a *tré-lune* mark which is countermarked with the letters L R. Chain lines are 2.35–2.55 cm. apart, and there are between eight and nine laid lines per centimetre.⁸⁴ From a decade and a half later (1756) we find Rylands Sam. 17 with chain lines ranging between 2.6 and 2.8 cm. and five laid lines to the centimetre. The watermarks are variant forms of the *tré-lune* with a number of differing countermarks, ranging through R, HR and A. Rylands Sam. 10 of the same period is marked with either a cross over VC or the *tré-lune* marking. Laid lines are the same width, but chain lines show a slightly broader range, 2.6–2.9 cm.

Papers of the nineteenth century are numerous. In this century they are readily identified by their watermarks and, often enough, by the maker's name which appears in combination with the watermarks. The most common of these are the names F.F. Palazzuoli (see Rylands Sam. 12, fo. 5, fig. 18) and Andrea Galvani – clearly Italian. Chain lines tend to be regular and wide, 2.8–3.2 cm. (see Rylands Sam. 11 of 1794 and Rylands Sam. 12 of 1860), and laid lines are also regular and broad, usually about six per centimetre. This is the era in which many of the Lombard papers with their Austrian motifs are to be found. Because we have so many manuscripts of this century it is possible to establish the most common mould size. Folios of a representative sample of nineteenth-century manuscripts from the John Rylands University Library, Library of Congress and the Jewish Theological Seminary range in size from 20.32–22 × 15.3–16.5 cm. This range is so constant for nineteenth-century manuscripts (with the single exception of a manuscript from the Chamberlain Warren collection) that it indicates that we are looking at one standard mould size for papers supplied to the Samaritans. If we assume that the largest size is closest to the mould size then that mould had dimensions of 22 × 33 cm. This would be supported by the testimony of manuscript CW 2481, the folios of which are 31.6 × 21.5 cm. We must assume that there was a second mould size available of just twice the size of the papers normally in use, perhaps 33 × 44 cm.

One most interesting paper is that in Bodley Sam. f. 3, a nineteenth-century manuscript copied by Amram b. Salamah in 1869. The paper is watermarked with the *tré-lune* marking (among other

⁸² Could this be a Florentine paper with a cross atop the Duomo?

⁸³ *Catalogue*, 146.

⁸⁴ Rylands Sam. 21 is on identical papers, except that the *tré-lune* mark there is countermarked with ER. The 'beehive' of this MS has the countermark INM. Since the shelf-life of any paper batch was relatively small one must date the Rylands MS to within five years of the BN MS, thus it was written between 1738 and 1743.

marks), but the paper is manifestly not a European paper. The paper is matt and at first sight appears to be unglazed, but on some blank folios a light patina can be seen from the surface coating. On some folios striae (folio 136) can be detected where the paper has been hand-polished by rubbing with some abrasive instrument, and the polishing has left scuff marks on the surface. The paper is creased in places where it has been badly pressed in manufacture. Some of the folios are almost transparent and have the appearance of wave-like ripples in the mixture. The paper is as fibrous as any of the pre-sixteenth-century papers, though it is pure white, and the *pâtée* is full of heavy long fibres and solid particles. The laid lines are narrower than those of European papers of the period, being more than ten to the centimetre, and the chain lines are spaced regularly at intervals of 3.0 cm. There are a number of different *tré-lune* markings some of which have the comic face noted above which was attributed to European papers manufactured for the Turkish market. In addition, there are a number of markings which have not been noted in Nikolaev's catalogue or in any other manuscript. The combination produces a crude paper in imitation of an Italian paper, and one must conclude that this is a local, Middle Eastern paper, of provenance unknown.

Let us conclude this survey of Samaritan paper with a codicological examination of one nineteenth-century manuscript since it throws considerable light on the Samaritan techniques of paper-handling and manuscript-construction in this century and perhaps even for previous centuries. The manuscript is Bodley Sam. e. 5. The manuscript, a liturgy, is small octavo in size, 15.0 × 20.5 cm. (text body 10.2 × 15.0 cm.), margins equally spaced head and tail but with a narrower gutter that is 2.0 cm. wide in a western binding, presumably applied when the manuscript was acquired by the Bodleian Library. Quires are regularly grouped in fives with the last quire being of five plus four, indicating the loss of one folio in the binding process. The scribe was Joshua b. Joseph b. Joshua b. Marhiv, the Marhivi who wrote the work over three years from 1260 H. to 1262 H.,⁸⁵ i.e. 1844–1846. So far as is known this is the scribe's only manuscript, and he clearly worked at it at intervals over the two-year period indicated by the colophons. The writing style changes within the parameters allowed by a change of writing instrument over a period. We note that the ink formula changes from section to section and so do the ink colours. The paper also changes from place to place. The inks used were unlikely to have been supplied commercially as some of them have run and interacted with the paper. The change in the ink and the reaction with the paper starts on folio 36 and concludes on folio 45^r and is not

⁸⁵ There are colophons and a *tashqil* – unusual in a liturgy. The *tashqil* – is picked out in red on folios 44–55. Other dates are supplied on folios 43r, 46r, 63v and 108.

coincident with changes in the paper batches, proving that it was the change in ink which caused the interaction. The inks of the first part of the manuscript are in a translucent orange and black, up to the end of folio 63^v. The rest of the manuscript which begins with the rubric *יום כפור* *צלוח* is written in a rather more careless manner.

The description is important because it shows that there are several liturgical works in the book, and the long period of time over which it was written might lead us to suppose that the manuscript was compiled at the end of the period of writing before the binding was supplied by the union of several disparate works. The truth of the matter is probably that the manuscript was put together as one piece before binding, but that the first section was written and completed and then additional blank sections were grafted on well in advance of the writing of the remaining texts in the manuscript. This can be demonstrated from the nature of the different batches of paper in the manuscript. The first part of the manuscript included the first liturgical section from folios 1 to 65. Almost certainly the whole of folios 1–63 were set up at one go. Folios 64–65 consist of a bifolium, and folio 62 (a highly glazed paper, well surfaced with no watermark) is tipped in and glued on to a stub. This first batch, described more fully below, has the watermark GP with a crown and eagle. The second part of the text from folio 66 to the end of the manuscript, the Yom Kippur liturgy, is on mixed paper. The majority is on paper watermarked with the *tré-lune* sign with the countermark VD, but there was clearly a shortfall, and the folios from 104 to 107 were sewn in using paper with the ‘Austrian’ watermark which is also to be noted on folio 97. The Crown GP watermark appears again towards the end of the manuscript in a couple of isolated folios leading us to the belief that all the manuscript was sewn at the same time. It is difficult to see the sewing to confirm this judgement as the European binding is on tightly, but where the centre of any quire can be seen there is only one set of sewing holes and threads,⁸⁶ supporting the argument that the manuscript was sewn at one time with the inclusion of three different types of paper.

The three different papers are unglossed. Some folios are rough, all have a slightly greasy feel. Scanning-electron-microscope examination of parallel papers taken as samples from a variety of Samaritan manuscripts and compared with scanning-electron-microscope samplings of raw materials from the Federal Police Laboratory in Sydney, Australia, suggests that the papers were chalk-coated and flax-fibre based with long fibres. The watermark of the first paper type which is repeated occasionally throughout the manuscript is shown in the betagraph of folios 5 and 6. The watermark lies across the gutter.

⁸⁶ This would mean that the European binding is case-bound on the Samaritan core. See my ‘Studies in Samaritan Scribal Practices and Manuscript History, V.’

Some details are so obscured with text that they are invisible except on the betagraph (fig.19). The watermark is not yet attributed to a particular mill but clearly is Italian.⁸⁷ The chain lines are tolerably regular, as one expects on a paper of this young age, some 2.75–2.8 cm. apart, in one or two cases slightly splayed by up to half a millimetre. There are ten laid lines per centimetre. The chain lines throughout the text are parallel with the lines of writing, running horizontally across the page rather than vertically.⁸⁸ The ruling of the pages also supports the notion that they were put together from different batches of paper at one time. The paper is ruled frame only,⁸⁹ but the centre of each page is marked. In the first part of the volume the scribe used this marking to write his text in two columns. In the second part of the volume the centre line is ignored, ergo it was supplied well before the scribe began to write the second part of the manuscript because it does not relate at all to the manner of the writing. Moreover, this central ruling was not a ruling scored into the paper with something like a bone-folder as was used for the frame only marking lines. It was made by folding each quire roughly in half. One can establish with ease the routine for folding by examining each folio and quire. The folding was done with the quire closed, thus the outer pages show the sharper folds and the inner pages show the broader, less intense folding, since they were buffered by the quire thickness. The gutter and fold lay to the right and the outer edge to the left. The outer edge was then folded to the right and the centre of the pages rubbed down slightly. One can also demonstrate that this rough and ready folding, which was to indicate the centre of the folio, was done while the quires were gathered but unsewn.⁹⁰ The proof lies in the fact that the centre fold is not the centre of each folio as it stands today in the bound manuscript but as it was in the unfinished state. The centre fold lies 6.8 cm. from the gutter but 7.6 cm. from the foreedge; thus it was folded in the unbound, not the bound state. The concatenation of circumstances would be reasonable proof that the volume was put together from a mixture of papers at one time by the scribe, well in advance of completing the work. If one considers other Samaritan manuscripts which have parts of texts written in manuscripts with substantial numbers of blank pages one can see that the scribal practice described here had a long tradition.

⁸⁷ For a paper that is virtually identical cf. BN Sam. 48 and the marks on folios 41, 95.

⁸⁸ Which means that the paper is folded across the grain and will wear out more readily.

⁸⁹ I.e. no lines to carry the writing are used, but the frame which defined the area of the text is ruled instead.

⁹⁰ This situation is to be seen in some of the Uppsala manuscripts, series *O Nova*.

