

N° 46

1977- II

BULLETIN DE LIAISON

DU

**CENTRE INTERNATIONAL D'ÉTUDE
DES TEXTILES ANCIENS**



34, rue de la Charité — 69002 LYON

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INFORMATIONS

INFORMATIONS GENERALES

Assemblée Générale du CIETA

Monsieur Donald KING, Président du CIETA, a soumis à l'approbation des Membres du Conseil de Direction la proposition suivante : Serait-il souhaitable de réunir l'Assemblée Générale tous les deux ans, en admettant qu'une réunion sur deux soit tenue à Lyon ?

Devant l'accord unanime du Conseil de Direction, Monsieur King propose de tenir la prochaine Assemblée Générale à Lyon, les 25, 26 et 27 septembre 1979, la journée du 24 septembre étant réservée aux Membres du Conseil de Direction.

- Mardi 25 septembre : Accueil des Congressistes, Assemblée Générale, premières conférences.
- Mercredi 26 septembre : Conférences, suite et fin.
- Jeudi 27 septembre : visite organisée dans les environs de Lyon.

Le programme détaillé de ces journées sera communiqué dans le Bulletin de Liaison n° 48, 1978 - II, qui sera édité dans le courant du premier trimestre 1979.

Toutefois devant l'importance des frais occasionnés par l'organisation des Assemblées Générales, une participation minime devra être demandée à chaque congressiste.

Bibliographie

En raison du très grand travail de recherche et de vérification effectué par le Victoria and Albert Museum, la bibliographie sera publiée dans les deux prochains Bulletins de Liaison : n° 47, 1978 - I, et n° 48, 1978 - II.

Conférences

La conférence de Messieurs D. de Jonghe et M. Tavernier, fort appréciée des participants du Congrès, a fait l'objet d'une étude plus détaillée des idées exposées à Londres. Cet article paraîtra dans le Bulletin de Liaison n° 47, 1978-I.

Les communications de Ruth Grönwoldt, de John E. Vollmer, de Naomi E.A. Tarrant, de Mildred B. Lanier, de Christa C.M. Thurman et l'article de J. Lafontaine-Dosogne seront également rapportés dans le Bulletin de Liaison n° 47, 1978 - I.

Assistance Technique

Devant l'importance des travaux entrepris et projetés par le Secrétariat Technique du CIETA, la Chambre de Commerce et d'Industrie de Lyon a bien voulu engager une Assistante Technique pour seconder Monsieur Gabriel Vial.

Mademoiselle Odile Valansot, ancienne élève de Monsieur Vial à l'Ecole des Industries Textiles de Lyon, a pris ses fonctions au début du mois de mai 1978.

GENERAL INFORMATION

General Assembly 1979

The President, Mr. Donald King, has submitted to the members of the Council of Direction a proposal that the General Assembly of CIETA should take place every two years, these meetings to be held alternatively in Lyon and in other places of interest for CIETA members.

The proposal has been unanimously approved by the Council of Direction and the next meeting of the General Assembly will therefore take place in Lyon in September 1979.

Provisional arrangements are as follows :

Monday 24 September : meeting of the Council of Direction

Tuesday 25 and Wednesday 26 September : General Assembly and

communications from members.

Thursday 27 September : optional tour in the Lyon neighbourhood.

In order to defray some of the expenses of the meeting, it will be necessary on this occasion to request a modest conference fee from all participants.

Bibliography

In view of the length of the latest Bibliography prepared by the Victoria and Albert Museum, it has not been possible to include it in the present issue of the CIETA Bulletin, but it will appear in the next two issues, n° 47, 1978 - I and n° 48, 1978 - II.

Proceedings of the London meeting

Further papers from the London meeting will be published in the Bulletin n° 47, 1978 - I, including a considerably extended and revised version of the interesting paper on early weaving given by Mr. de Jonghe et M. Tavernier.

Members who would like their paper to be published, but who have not yet submitted a text, are asked to do so as soon as possible.

Technical Assistance

In view of the importance of the work undertaken and proposed by the Technical Secretariat of CIETA, the Chamber of Commerce and Industry of Lyon, has been kind enough to appoint a Technical Assistant to help Mr. Gabriel Vial.

Miss Odile Valansot a former pupil of Mr. Vial at the School of Textile Industries at Lyon, took up her duties at the beginning of May 1978.

Expositions.

- "William Morris : Designs for Printed Textiles"
Textiles Department - Victoria and Albert Museum, London, Great Britain,
through July 16, 1978.
- "Exposicio Antologica del Macramé"
Antic Hospital de la Santa Creu, Barcelona, Espana,
del 14 de Febrer al 12 de Marc,
Museu de Granollers, Espana,
del 6 de maig al 16 de Juliol del 1978.
- "Tissus et Broderies dans l'ornement religieux en Haute-Loire"
Baptistère Saint Jean, Le Puy en Velay, France,
du 15 juin au 30 juillet 1978.
- "Vanity Fair : a Treasure Trove of the Costume Institute"
The Metropolitan Museum of Art, New York, U.S.A.,
through september 3, 1978.
- "Tissu et Création : 2. La Texture"
Espace Lyonnais d'Art Contemporain, Lyon, France,
du 15 juin au 15 septembre 1978.
- "Treasures of French Historical Silk Exhibition"
collections du Musée Historique des Tissus de Lyon et du Musée du Costume
de Paris, France,
Grands Magasins Hankyu, Osaka, Japon,
du 22 au 27 septembre 1978.
- "Broderies et Dentelles Contemporaines"
Musée Chateau d'Annecy, France,
du 16 juin au 30 septembre 1978.
- "Splendeur des Costumes du Monde"
Musée de l'Homme - Palais de Chaillot, Paris, France,
du 28 juin 1978 au 31 janvier 1979.
- "Techniques and Evolution of Printing Textiles"
Provinciaal Museum voor Kunstambachten Het Sterckshof, Deurne, Belgique,
du 24 juin au 1er octobre 1978.
- "Jules Romain - L'Histoire de Scipion" tapisseries et dessins,
Grand Palais, Paris, France,
du 27 mai au 2 octobre 1978.
- exposition consacrée à "La Broderie", organisée en 1977 par le Musée des Arts
Décoratifs de Paris, actuellement présentée par le
Cooper-Hewitt Museum of Design, New York, U.S.A.,
du 5 juin au 3 septembre 1978
Rice University, Houston, U.S.A.
du 1er octobre 1978 au 15 janvier 1979.

Le Professeur Gabriella Guandalini, Direttore Del Museo Civico Di Storia e Arte Medioevale e Moderna, de Modène, n'ayant pu se déplacer à Londres, a demandé au Président du CIETA de faire publier dans le Bulletin de Liaison l'exposé qu'elle souhaitait présenter.

PROBLEMES DE CONSERVATION ET DE PRESENTATIONDE LA COLLECTION D'ETOFFES ET DE BRODERIES ANCIENNES, L.A. Gandini

du Museo Civico, de Modène

... C'est d'abord mon désir de signaler l'existence de cette collection de tissus et de broderies anciennes de notre Musée, qui est même un document de l'histoire du "collezionismo" de la fin du dix-neuvième siècle, qui s'est intéressé à cet argument particulier.

La collection, qui peut être considérée complète des étoffes européennes de toutes les époques et de tous les types, à partir du VI^e siècle après J.C. jusqu'au XIX^e siècle, et qui contient plus de 2.000 échantillons, a été donnée à notre Musée en 1885 par le Comte Luigi Alberto Gandini.

On avait apprêté alors une salle convenable qui secondait le principe historique animant le collectionneur : en effet, on a placé les échantillons dans des vitrines créées exprès et dans l'ordre chronologique nécessaire.

La collection a été jugée, alors, d'une grande importance. Elle a obtenu, en effet, la médaille d'or à l'exposition des Tissus et Broderies de Rome en 1887 où pourtant elle n'était pas complète.

D'ailleurs, Monsieur Gandini nous a laissé un catalogue manuscrit qui l'a décrit.

D'autres échantillons, parmi lesquels certains ont une importance remarquable, ont été acquis par la suite.

Carlo Lodovico Raghianti a soigné une mise en fiche des échantillons pendant son séjour à Modène en 1930-40.

Depuis ce temps-là, si ce n'est une intervention pour le nettoyage de quelques échantillons, il n'est arrivé rien d'autre d'important, sauf, peut-être, ma participation à une session technique du CIETA à Lyon, pour l'étude et l'analyse des tissus.

L'opinion publique, de même que la direction du Musée de Modène, ont toujours beaucoup apprécié cette collection ; on a obtenu, en effet, l'équipement d'un cabinet pour pouvoir cataloguer de nouveau, selon les principes modernes et scientifiques du CIETA, les échantillons, après les avoir retirés graduellement des vitrines.

Mais on n'a pas encore pris cette décision. Toutefois, il y a un élément nouveau, d'une grande importance : "l'Istituto dei Beni artistici e culturali della Regione Emilia-Romagna" a pris à coeur ce secteur des étoffes.

On porte à témoignage de cela le titre de la Section A. n. 3 de l'épreuve du programme qui concerne le travail de l'Institut, mentionné ci-dessus, pour 1976, qui a le titre : Recherche et identification des centres de conservation de tissus dans le domaine des propriétés des Musées locaux des églises du domaine de l'Etat, des Pouvoirs Locaux.

On cite aussi le passage suivant de ce programme : Au delà de l'indifférence, désormais historique, à l'égard de ce secteur de l'histoire du travail et de la capacité créatrice, il faut mettre en évidence que le tissu, comme, du reste, quelques studieux l'ont déjà affirmé, représente, dans sa dimension esthétique et dans sa dimension de concrète production économique, un domaine de potentialités pas encore sondées, qualitatives historiques et informatives : de façon à se proposer, peut-être, comme la plus vaste, mais aussi la plus inconnue des grandes apparitions de l'histoire des arts figuratifs, pas encore sondée.

Cette conscience permet de prévoir proche une intervention en faveur de notre collection. Je désire, pour cela, soumettre aux spécialistes présents dans cette Assemblée, mon point de vue sur le genre d'intervention qu'on pourra effectuer. J'espère recevoir des conseils et des critiques que je considérerai comme une contribution nécessaire.

Le contrôle des conditions de conservation actuelles des échantillons dans les vitrines du dix-neuvième siècle (cf. fig.) m'a révélé que les échantillons n'ont pas été assez protégés contre la poussière, surtout ceux qui étaient placés sur des rayons à peine inclinés. Les échantillons qui sont placés verticalement, soutenus par des épingles, se trouvent en meilleures conditions. Une première intervention de nettoyage sur quelques pièces a permis de recouvrer la splendeur primitive des couleurs.

Après avoir étudié les critères pour l'exposition de collections, même étrangères, qui parfois se sont révélés fidèles à une disposition du dix-neuvième siècle et parfois, au contraire, ils se sont montrés absolument modernes et rationnels, je ne pense pas préférer une "révolution" en sens moderne, mais il me semble que le respect pour le genre dix-neuvième siècle, doit l'emporter, parce que ce genre est, du moins "histoire".

Pour éviter l'infiltration de la poussière, on pourra étudier des interventions et des moyens techniques sur les mêmes vitrines traditionnelles. Après une mise en fiche, renouvelée selon les principes du CIETA, au besoin, on pourra déplacer des échantillons, tout en respectant le critère de succession chronologique que Monsieur Gandini a choisi.

On mettra aux archives des échantillons s'ils se révèlent faux ou peu intéressants. On pourra utiliser des vitrines modernes seulement pour des expositions partielles, à tour de rôle, en réponse aux demandes qu'on proposera.



Museo Civico di Modena - Sala "L.A. GANDINI"

Summary

A collection of over 2000 European textiles and embroideries of all types, from the 6th to the 19th century, was given to the Museo Civico, Modena, by Count L.A. Gandini in 1885.

Other important examples have been acquired subsequently.

The textiles, especially those lying horizontally in their 19th century display cases, have not been sufficiently protected against dust. The Institute for Artistic and Cultural Property in the Emilia-Romagna region will assist in improving the conditions of display. The Director of the Museum thinks it may be best to dust-proof the existing cases and to retain most of the 19th century display, which is of historical interest, but she would welcome advice from C.I.E.T.A. members on the treatment of this collection.

TRANSVERSE SELVAGES ON CLASSICAL SCULPTURE

by Dorothy K. BURNHAM

Sometimes a field of research is so closely associated with one person that anyone else hesitates to trespass. I feel quite diffident writing, even briefly, on an aspect of research connected with the warp-weighted loom, for to me that field belongs so uniquely to Dr. Marta Hoffmann. This small contribution should be viewed simply as a footnote to her great book The Warp-weighted Loom. (The Warp-weighted Loom. Studies in the History and Technology of an Ancient Implement. Universitetsforlaget Oslo. 1964).

Some years ago the Royal Ontario Museum acquired a modern Lapp warp-weighted loom from northern Norway with its complete warping equipment and one of the heavy handspun woollen blankets that the Lapps have been weaving in recent years on this simple and ancient form of loom. It occurred to me to wonder if the very definite starting edge or transverse selvage that occurs at the top of these blankets might be detected on the garments depicted in classical art. A visit to the British Museum produced visible evidence on many pieces of Greek sculpture for the use of similar starting borders. We already know that textiles in this context originated on this type of loom but it is one more visual link between us and the technology of antiquity and it is conceivable that this link could open up knowledge in a less well documented area.

Figure 1 shows the starting border of the modern Lapp blanket that started me on this enquiry. The method of warping is fully described in Dr. Hoffmann's book (Chapter III p. 151ff.) so a very brief description will suffice here. A narrow band is woven, in this case with the aid of a rigid heddle. The weft of this band is extended out from one side of the weaving to the required length of the warp of the blanket that is to be woven. Thus the stretching and even spacing of the blanket warp is controlled by the making of a starting band or transverse selvage. The great frieze of the Parthenon which dates from about 440 B.C. proved to be a very rich hunting ground for starting borders. Figure 2 shows a detail from one of the figures (Slab XLII - 122) with a border startlingly like the modern Lapp one and on figure after figure similar ridged edgings representing woven starting borders can be seen.

From archaeological evidence and from surviving 19th century looms and their products we know that not all starting borders were made in the same way. There are examples where the band weaving was done with tablets producing the characteristic twisting of the threads that results from this method of making a shed. There are also starting edges made using only a cord to space and hold the threads, but no matter how the starting edge was made ends of the yarns used to make it would have to be finished in some way and most simply would be tied off into a knot with the ends forming a small tassel. Depictions of full starting borders as on the Parthenon frieze are uncommon but tassels finishing off the corner of a drapery are frequently shown from the 6th century B.C. until well into this era. They occur on Greek and Roman sculpture, in vase paintings, on



Fig. 1 - Starting border of a modern Lapp Blanket.



Fig. 2 - Detail from Parthenon frieze.

bronze statuettes, even quite tiny ones, and occasionally on ivory carvings, silver and in mosaics.

Until now these tassels have not been recognized as an integral part of the weaving rather than a surface decoration. It is important to stress that they are evidence for the use of a certain type of loom, the classical warp-weighted loom, even though caution should be used when viewing late examples as they may be careful copying from earlier models.

Résumé Français

La lisière transversale d'une couverture Lapone moderne tissée sur un métier à poids ressemble, de façon frappante, aux lisières représentées sur la frise du Parthenon datant environ de l'an 440 avant J.C., sur des étoffes qui furent également tissées sur des métiers à poids. (Fig. 1 et 2).

Bien que de telles représentations picturales de lisières transversales totalement terminées soient rares dans l'art antique, on peut voir souvent de petits glands aux angles du tissu, sur des sculptures, des décorations ornant des vases, des bronzes, des ivoires, des objets en argent et des mosaïques allant du 6ème siècle avant J.C. jusqu'à une époque avancée de l'ère chrétienne.

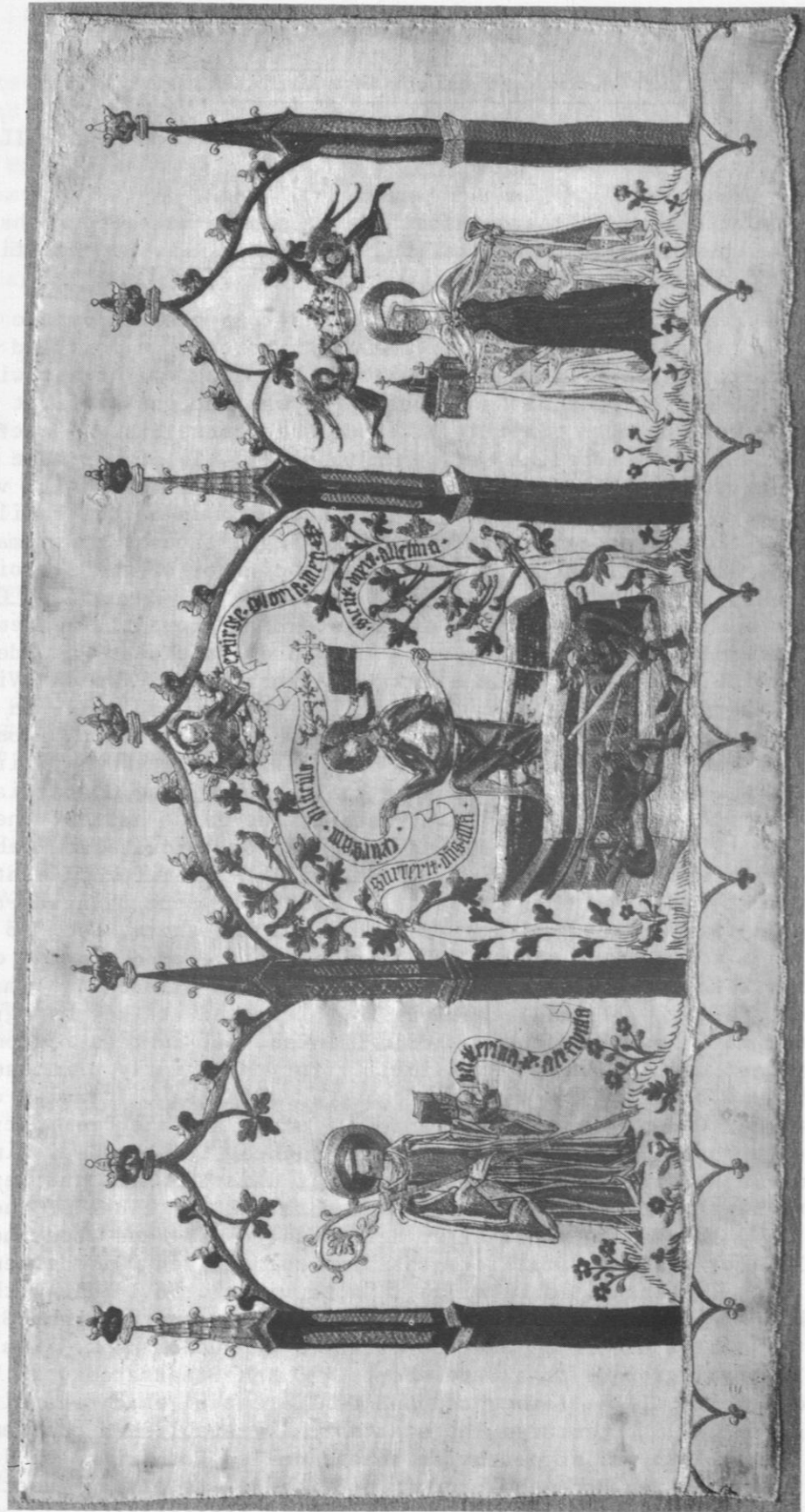
Ces glands étaient faits des extrémités des fils utilisés dans la fabrication des lisières transversales ; ils témoignent également de l'utilisation du métier à poids.

A MIDDLE RHENISH EMBROIDERY ABOUT 1430

by Leonie von WILCKENS

Four years ago a colleague from Belgium showed me photographs of a hanging embroidered with coloured silks on fine white linen. At that time the piece belonged to a private collection.

In the centre, Christ is rising from the tomb guarded by two sleeping soldiers. On the left is a male saint in the brown robes of a monk and with a book and a crozier, therefore probably an abbot. But from one of his wide sleeves emerges a woman, a nun or possibly an abbess. She was thought at first to be an attribute of the holy monk. But a scroll beside the abbess has an inscription: *katterina de alta villa* (Catherine of/from *alta villa*). Is it her name? Many family names were translated into Latin during the Middle Ages. "*Alta villa*" could be *Hohaus*, *Höchstadt* or *Hochdorf* in German, possible names of the family or the place from where the abbess came. From the beginning I thought this small female figure could not be an attribute but represents the donor of the embroidery, protected by the holy abbot. As she is a nun he should be St. Bernard of Clairvaux and therefore she should be the abbess of a Cistercian convent. The female saint on the right offered similar problems. Like a princess she wears a wide cloak trimmed with ermine. Two angels hold a crown over her head. Like the Virgin of Mercy she opens her cloak to protect two kneeling and adoring nuns. In her right hand she carries the model of the church of a (probably Cistercian) convent, with a small tower on the roof. Considering all her attributes I thought first she might be St. Hedwig of Silesia, the founder and patron of the Cistercian convent of Trebnitz. Stylistically I arrived at a date in the first half of the 15th century. But during this period I could find no abbess or prioress at Trebnitz whose name could be combined with "*katterina de alta villa*". Therefore I went on to the Cistercian convent of Seligenthal in Bavaria, founded by the Bavarian dukes, where their kinswoman, St. Hedwig, was much adored also. But there, too, no possibility was given to combine the name of any abbess with that recorded on the embroidery. In the meantime I found that "*alta villa*" was the Latin name of the small town of Eltville in the Rhinegau. Indeed, the more that I looked at the photographs of the embroidery, the more it seemed to be Middle Rhenish. But in this region St. Hedwig of Silesia was not adored. Another possibility for the saintly princess might be St. Elizabeth, yet normally she was not connected with the Cistercian order, but with the *Deutscher Orden*, the female Franciscan order and the *Premonstratensian order*, as her daughter Gertrud was abbess at Altenberg for decades. Finally I found that in the Rhinegau one Cistercian convent existed which had very strong links with St. Elizabeth: Tiefenthal. It had obtained the cloak of the saint as a relic in 1237, only a few years after her death in 1231 and after her canonisation in 1235. For a short time Tiefenthal was even called *Elisabethenthal*. Not far away from Tiefenthal is Eltville: "*alta villa*". So I knew without any doubt that the male saint is St. Bernard and the female on the right St. Elizabeth. He protects the abbess Catherine and she protects two other nuns. Finally I arrived on stylistical grounds to a date about 1430. The *Staatsarchiv* in Wiesbaden preserves the records of the former convent of Tiefenthal which was dissolved at the beginning of the 19th century. The *staatsarchiv* established that an inventory of Tiefenthal from 1426 was signed by an abbess called Catharina. In 1420 the abbess was still Else von Hohenthal and in 1437 there was already another called *Stille*. Therefore the stylistic date was absolutely confirmed.



Germanisches Nationalmuseum, Nürnberg.
Silk embroidery on linen, Middle Rhenish, about 1430.

Characteristic for the Middle Rhenish region are its gentleness, its amiability, the touch of a country with a rather mild and sunny climate and with good wine.

Three years before I published an article which dealt among others with a linen embroidery of about 1260 in the collections of the Leningrad Hermitage (cf. "Zwei hessische Leinenstickereien der zweiten Hälfte des 13 Jahrhunderts". In : Festschrift für Peter Wilhelm Meister. Hamburg 1975, pp.121-26). It shows several scenes from the life of St. Elizabeth in two rows. I was able to localize it to Hesse (the Rheingau is its southern part). In 1975 I supposed that the Leningrad embroidery was executed at the convent of Altenberg, where Gertrud, daughter of St. Elizabeth, was abbess for many years. Indeed an important group of linen embroideries, mainly large altar-covers were worked in Altenberg from the end of the 13th to the middle of the 14th century ; they belong now to the museums of Cleveland, Frankfurt/m. and New York and to the collections of the Wartburg. The last scene of the Leningrad embroidery depicts St. Elizabeth in a similar, but apparently much earlier conceived, position as on the Tiefenthal hanging : sitting on a throne she is spreading out her cloak as Mercy - Misericordia - ; below kneel two adorers, possibly nuns. This uncommon and unique representation now seems to me also to be connected with the convent of Tiefenthal and its adored relic of St. Elizabeth's penitential cloak.

In the meantime the Germanisches Nationalmuseum, Nürnberg, was able to purchase the embroidery from Tiefenthal with the help of special contributions from private donors to commemorate the 125th jubilee of the museum.

Résumé Français

Le Germanisches Nationalmuseum de Nuremberg a récemment acquis une tenture de 1430 environ.

Cette tenture représente la scène de la Résurrection avec un saint et une sainte. La sainte peut être identifiée à Sainte Elisabeth protégeant deux religieuses sous son manteau ; le saint est Saint Bernard de Clairvaux protégeant une abbesse identifiée par cette inscription : "katterina de alta villa". La broderie a du être faite pour le couvent cistercien de Tiefenthal, dans le Rheingau, qui possède le manteau de Sainte Elisabeth ; Alta Villa est l'ancien nom de la ville d'Eltville située dans la même région. On sait que le couvent de Tiefenthal avait, en 1426, une abbesse nommée Catherine, sans aucun doute le personnage ici représenté.



Fig. 1 - Warner & Sons weaving mills at Braintree.



Fig. 3 - Selby, silk handwoven tissue woven by Warner & Sons from 1895.

THE ARCHIVE OF WARNER & SONS LTD. AT BRAINTREE, ESSEX

by Hester BURY

The collection of textiles owned by Warner & Sons Ltd. consists of over 8,000 samples of woven furnishing fabrics and about as many printed samples. There are also over 3,000 designs and tracings on paper, point papers, record books, weavers books, various pattern books and boxes of cuttings. The collection as a whole represents a remarkably complete record of the production of a prominent silk weaving and furnishing textile firm from 1870 - 1970. Even though some of the designs and a set of production books with samples dating from 1870 - 1930 were sold at Christies in 1972, the year by year production of the firm can still be traced from the vast amount that remains. Also sold at Christies were a number of 18th century samples and pattern books, which had been bought by the firm as source material for designs. Several of these pattern books and the set of production books were acquired by the Textile Department of the Victoria and Albert Museum.

I was employed by the firm in August 1976 to catalogue and rearrange this collection for use by the firm's designers and ultimately hopefully for the use of all textile students and historians. The collection is stored on the top floor of one of the old weaving mills, where the majority of the woven textiles were produced. The collection will soon be housed in a new warehouse, still in Braintree. This article will concentrate on the woven textiles of the collection as the prints, except for a short period from 1927 - 1939, were produced by other firms for Warners.

The silk weaving firm of Warner & Sons was founded in 1870 by Benjamin Warner, a Jacquard loom harness maker and designer in Spitalfields, East London. Warner was in partnership with various furnishers before taking his two sons into the business in 1891. The firm rapidly established a reputation for high class furnishing silks, exhibiting at major British and international exhibitions. At the Paris International Exhibition of 1878 Warner & Ramm were praised for manufacturing "...silks of the highest possible quality, whose merits are recognised by the best houses in the cabinet and upholstery trade".

In 1895 the firm moved from Spitalfields and took over the business and premises of Daniel Walters & Sons at New Mills, Braintree. Walters had been silk weavers in this area since the 1850s and, due to a technically advanced mechanic, had introduced power looms into their mills about 1870. After a while the firm could no longer support the technical innovations of this mechanic and had to close. Walters had supplied fabrics to the Royal Households from New Mills for nearly 50 years and this tradition was continued by Warners. Indeed the reputation of Warners was noticed by the Royal Household before the move to Braintree. In 1886 the firm supplied velvet borders and chair seats to Windsor Castle. This was one year after they had bought up the firm of Norris & Co., who had also been suppliers to the Royal Household. It may be that Warners took over Norris's commitments in this field as there are samples of the same designs



Fig. 2 - The visit of the Duchess of Teck and Princess May to Warner & Sons at Hollybush Gardens, Spitalfields on march 7th 1893.

woven by both firms and used in royal palaces.

In March 1893 the factory at Hollybush Gardens, Spitalfields had been visited by the Duchess of Teck and her daughter, later to become Queen Mary, and as a result the Princess's wedding dress and much of her trousseau was made from silk woven at Warners. The firm's connections with royalty continued and silks and velvets for the past four Coronations were woven at Braintree. These included silk brocades for Queen Mary's dresses, velvets for robes, woven borders and silk linings as well as furnishing textiles.

Until 1919 all Warner fabrics were handwoven, the firm having disposed of the power looms at New Mills. However in 1919 the firm introduced power looms which gradually took over the bulk of production, although hand weaving was retained for increasingly exclusive furnishings. From 1927 - 1939 Warners owned their own print works in Dartford, Kent, although before and after this period they did trade, and indeed still do, in the supply of printed fabrics. In 1971, the year after the firm celebrated its centenary with an exhibition at the Victoria and Albert Museum, the weaving mills at Braintree closed. The firm continues to trade in furnishing fabrics.

The textile collection was previously stored in brown paper or plastic bags and the samples have survived many moves around the mills remarkably well. Because they are nearly all sample pieces which were put away almost immediately they had been woven and not used much since, they are in almost perfect condition, not worn or faded. They are now being stored with acid free tissue paper in cardboard boxes stacked on racks; this system makes them more accessible and protects them from dust and light.

The arrangement of the samples is under styles. The majority of Warners designs were reproduction styles, largely of 18th century designs. They did commission original designs from leading 19th and 20th century designers, but these represented only a very small part of their production. A greater number of modern designs were introduced from about 1930 onwards and ran concurrently with the traditional styles. The samples are therefore arranged according to their style irrespective of the date they were woven. The details of each individual textile, i.e. when it was woven, colour, size, origin of design, designer if known etc..., are to be found on the cards which form the card index and can be easily referred to. They are indexed under the names of the textiles, which often give clues to their origin or use.

The styles begin with reproductions of 14th century Italian designs. Italy was at that time of course the centre of decorative textiles. The Louis XIV and XV styles were particularly popular for furnishings as they are usually fairly large motifs which go well on a large expanse of wall or fit the whole seat or back of a chair. There are also more delicate floral stripes and brocades of the later 18th century and designs in the neoclassical and Empire styles. There are some Gothic Revival designs and samples in mid-Victorian styles. More delicate original floral designs were produced for dresses for royalty in the late 19th and early 20th century. Chinoiserie designs were reproduced at times when fashion demanded them, as were Oriental styles. Many of the sources of these designs came from the Victoria and Albert Museum, where

the designers would go to study historic textiles. The firm also bought pieces of old textiles and pattern books as sources for designs. In 1932 on the appointment of Alec Hunter as a designer the number of modern designs increased noticeably. By the survival of some of the signed paper designs for these fabrics one can often put the name of a designer to the fabric. After the last war the modern designers tended to concentrate more on exploring the varieties of weave and texture possible with the new range of materials, than on flat patterns.

When the firm began in 1870 the variety of techniques in weaving was very wide. These included damasks, brocatelles, tissues, brocades, plain and figured velvets. Warners were often commissioned to reproduce fabrics for renewal of wall or seat furnishings for country houses.

The exact future of this collection is as yet undecided. It could prove a valuable source of material for research on furnishings of historic houses and for changes in furnishing styles over the past century. By comparing samples with photographs of country house interiors one can find the exact type and colour of material that was used at a certain time in a certain room. This can be applied to all the places in which Warner fabrics have been used, which include not only historic houses but modern buildings and ships.

The variety of uses to which this remarkable collection could be put are almost unlimited. The first step towards using the collection to its fullest use has already been taken by employing someone to catalogue and arrange it as a usable archive.

Résumé Français

Warner and Sons est une fabrique de soierie établie dans la région londonienne depuis 1870, et spécialisée dans les tissus de luxe pour l'ameublement, la robe, ainsi que dans les tissus imprimés. Un grand nombre de ses dessins ont reproduit des styles historiques, mais quelques dessins modernes ont été produits.

Les archives de l'Entreprise, conservée à Braintree en Essex, constituent un historique remarquablement complet de sa production, de 1870 à 1970 : plus de 8000 tissus d'ameublement, environ 8000 tissus imprimés et plus de 3000 dessins, mises en carte, etc...

Cette collection a actuellement été cataloguée et réorganisée à l'usage des dessinateurs de l'Entreprise ; on peut espérer qu'elle sera aussi accessible aux spécialistes de l'histoire des tissus.

LE FEUTRE DANS L'AFGHANISTAN MODERNE

par Bernard DUPAIGNE

Le feutre est un élément essentiel de la culture des pasteurs turcs et iraniens d'Asie Centrale. Les plus anciennes étoffes de feutre connues dans le monde ont été retrouvées dans le Haut Altaï, en Sibérie actuelle, datant du VI^e et du Ve siècle avant notre ère, avec déjà toutes les techniques de fabrication que l'on connaît de nos jours.

Le feutre, fait de poils de moutons agglomérés entre eux par mouillage et pressage, garde de nos jours une grande importance dans les Pays d'Europe Orientale et d'Asie Occidentale : Turquie, Nord de la Syrie, Iran, Afghanistan, Pakistan, Mongolie, et dans plusieurs républiques d'U.R.S.S. (Kazakhstan, Uzbekistan, Turkménistan, Kirghizie, Tadjikistan, Azerbaïdjan, Arménie et au Caucase).

L'Afghanistan, qui a accueilli au cours de son histoire des ethnies très variées, est certainement le pays où l'on peut rencontrer actuellement la plus grande variété de feutres.

La technique et les motifs de ces étoffes de feutre varient considérablement selon les régions. Ainsi dans l'Afghanistan moderne, trouve-t-on des feutres fabriqués par des ethnies aussi différentes que les Pachtounes, les Beloutches, les Tadjikes, les Uzbeks, les Turkmènes, les Kirghizes, les Kazakhs, les Arabes, les Turkcins, les Aymaqs. Encore, chacun de ces groupes ethniques comporte-t-il des subdivisions qui possèdent des traditions décoratives différentes. De plus, dans certaines villes de commerce et d'artisanat, comme Hérat et Tash-Qurghân, s'est créé un style de feutres urbains, fabriqués en ville qui ont des caractéristiques propres, et ne peuvent plus être attribués à une ethnie spécifique.

L'auteur a présenté, durant cet exposé, trente-six diapositives montrant la fabrication de feutres en Afghanistan, et un choix de photos parmi les quelques cinquante étoffes de feutre conservées au Laboratoire d'Ethnologie du Musée de l'Homme à Paris. Ont été illustrées les différentes techniques actuelles de fabrication et d'utilisation du feutre, et les différents styles décoratifs :

- 1) De petits motifs de feutres découpés peuvent être cousus sur des bandes de coton, pour en faire des éléments décoratifs à l'intérieur des yourtes (habitations circulaires transportables).
- 2) Sur un fond de feutre, peut au contraire être cousu un tissu de taille identique, découpé en certaines places, pour laisser apparaître le feutre selon les dessins désirés (sacs de yourte).
- 3) Les feutres peuvent être appliqués de pièces de tissus de couleur, cousues et qui forment les motifs (Kazakh, Kirghize, Uzbek).



Fig. 1 - Feutre au décor dans la masse. Arabe persanophone, Kalteshar, près de Aqcha, 1967.
Collection Musée de L'Homme, Paris.

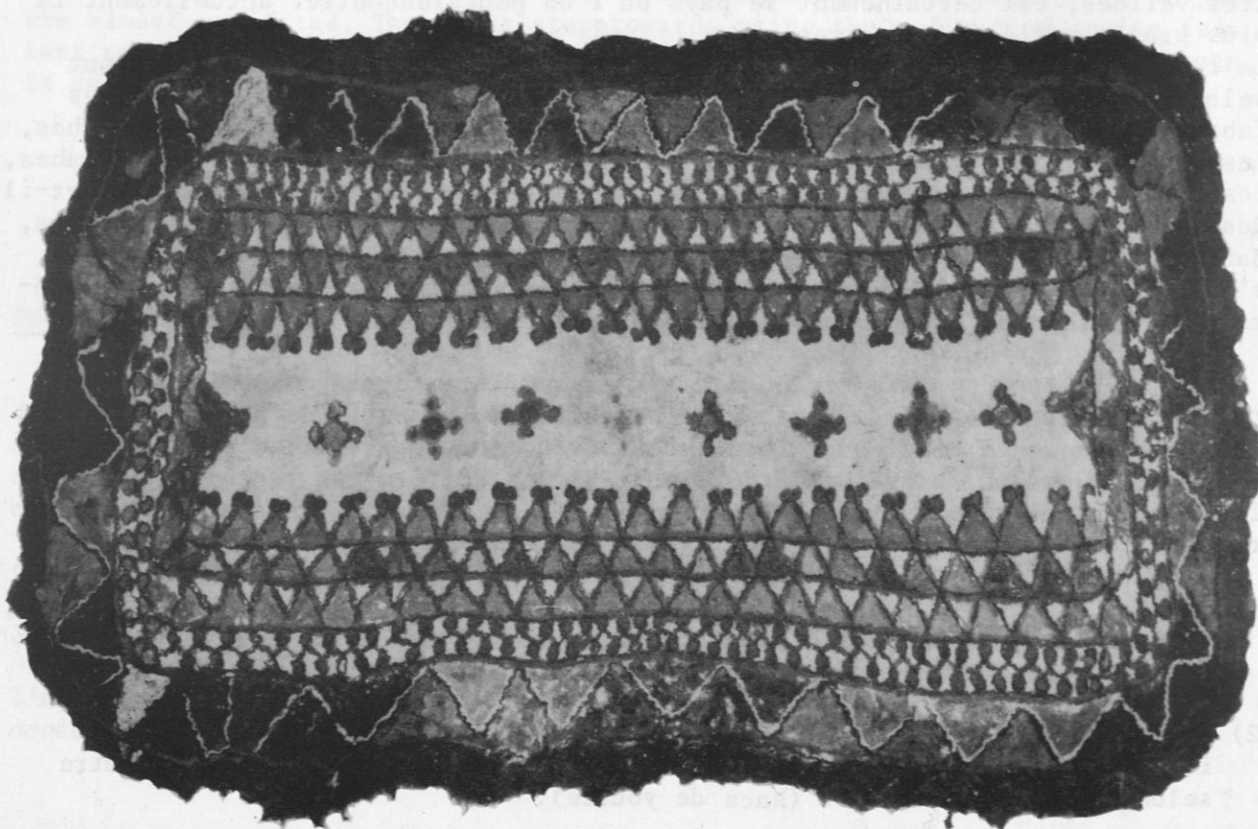


Fig. 2 - Feutre au décor dans la masse. Beloutch raqshani. Firuzabad, près de Hérat, 1973.
Collection Musée de l'Homme, Paris.

- 4) Une étoffe de feutre peut être appliquée de pièces de feutres de couleur, découpées suivant le motif avant la couture (Kazakh, Uzbek). Pour ces étoffes appliquées de tissus ou de feutres, le fond est généralement blanc.
- 5) Le feutre peut être brodé de laine ; comme par exemple pour des sacs de yourte, ou des ornements de perche de saule (Uzbek, Kazakh, Kirghizes, Arabes).
- 6) Des pièces de feutre brodé, de différentes formes et de différentes couleurs, peuvent être assemblées en un patchwork, pour confectionner une étoffe destinée à couvrir le sol de la yourte (Uzbek, Kungurat, Lakay).
- 7) Des pièces de feutre uni, non brodé, peuvent aussi être assemblées en patchwork (Kazakh, Kirghize, couvertures de selle uzbeks et aymaqs).
- 8) Enfin, la dernière technique, et la plus répandue de nos jours est celle du feutre au décor intégré dans la masse. Des touffes de poils teintés de couleur sont disposées, selon le motif désiré, sur la couche de poils monochrome qui formera le fond de l'étoffe (quelquefois les touffes colorées sont placées avant le fond uni). Le tout est roulé dans une natte, et pressé environ deux ou trois heures, aux pieds, puis aux avant-bras.

Tous les groupes d'Afghanistan connaissant le feutre pratiquent cette technique, pour produire surtout des étoffes décorées, destinées à couvrir le sol de la yourte, ou à placer par terre dans les maisons, sous les tapis s'il y en a (Kazakhs, Kirghizes, Uzbeks, Lakays, Kungurats, Uzbeks émigrés d'U.R.S.S., Turkmènes yomoutes, tekkès et ersaris, Arabes, Aymaqs, Beloutches, nomades pachtounes, sédentaires pachtounes, Tadjikes, Turkicin).

Les Turkmènes occidentaux, yomoutes et tekkès, sont les seuls à produire, comme en Iran, les feutres double-face, au décor dans la masse, où chaque face de l'étoffe comporte une composition picturale différente. Les sédentaires pachtounes de Jelâlâbâd produisent un feutre au décor intégré dans la masse, mais travaillé de façon à ce que certaines bordures apparaissent en relief, se détachant du fond de l'étoffe (comme on peut en trouver aussi au Guilân en Iran). Ces sédentaires sont les seuls à, quelquefois, signer du nom de la fabricante, au dos du feutre.

Pour la plupart de ces feutres, ce sont les femmes qui préparent les dessins ; tandis que le foulonnage est exécuté tantôt par les femmes seules, tantôt par les femmes aidées des hommes.

Le plus souvent, les feutres ne sont fabriqués que pour l'usage familial, et forment une part importante du trousseau apporté par la jeune fille à son mariage.

Les motifs des feutres sont très variés. Cependant, les feutres des peuples d'ethnies turques sont, le plus souvent, marqués par une composition en médaillons, qui n'apparaît que rarement chez les ethnies iraniennes.

Summary.

Making of felt in modern Afghanistan was illustrated by color slides, as well as a selection of pictures from the fifty pieces of felts from Afghanistan in the collection of the Musée de l'Homme, Paris.

The author has classified the felts according to the different techniques still used in Afghanistan : application of felt on cotton, felt appearing under cotton weaving, application of cotton weavings on felt, application of felts on felt, embroidered felt, patchwork of embroidered felts, patchwork of plain felts, colored felts.

ON ENGLISH INFLUENCE IN ICELANDIC EMBROIDERY

IN THE SEVENTEENTH CENTURY *

by Elsa E. Gudjónsson

In 1867 the National Museum of Iceland acquired an altar cloth with frontlet (figure 1)¹ and an altar frontal² from the parish church at Laufás in northern Iceland. Both carry the date 1694 and inscriptions telling that they were presented to the church in payment for the burial place of Hólmfríour Sigurdardóttir, a minister's widow, the altar frontal by her daughter Ragnheidur Jónsdóttir, the cloth with frontlet by her son Ari Jónsson.

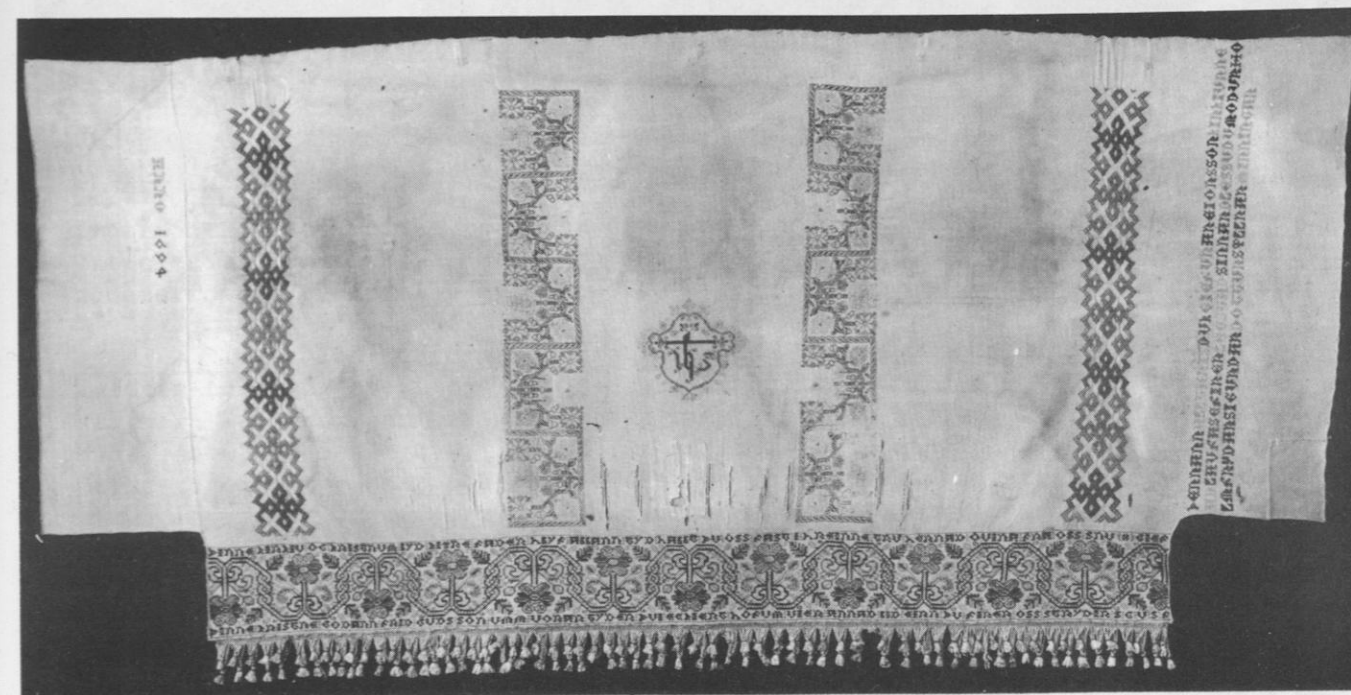


Fig. 1 - Altar cloth with frontlet from Laufás church in northern Iceland. 1694. National Museum of Iceland, Inv. No. 405. Photo : Gísli Gestsson.

The frontal as well as the cloth with frontlet are made of white linen, embroidered with polychrome woollen yarns. The frontal is worked predominantly in pattern darning, with the lettering executed in straight darning and Florentine stitch. The inscriptions on the altar cloth, at each end, are worked in long-legged cross stitch with the adjoining geometrically patterned bands worked in pattern darning. In the centre of the cloth is a rather ornate sacred monogram, I H S, worked in long-legged cross and Holbein stitch, the floral bands on either side being executed in Holbein stitch³ with a few minor details in satin stitch⁴. The frontlet part, worked in long-legged cross and Holbein stitch, also carries a floral band motif, with inscriptions - parts of two Icelandic hymns - above and below.



Fig. 2 - Detail of frontlet on altar cloth from Laufás church.
National Museum of Iceland, Inv. No. 405.
Photo : Gísli Gestsson.

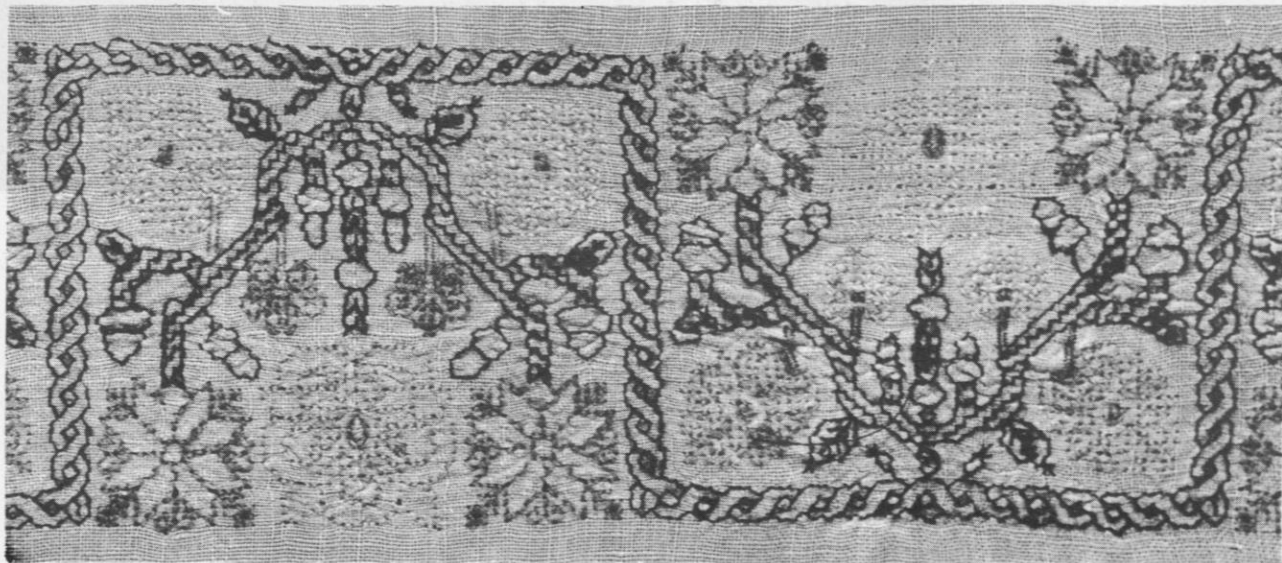


Fig. 3 - Detail of altar cloth from Laufás church.
National Museum of Iceland, Inv. No. 405.
Photo : Gísli Gestsson.

For the purpose of this paper, the author is primarily concerned with the two last mentioned designs which make the altar cloth with frontlet unique among Icelandic embroideries. Besides, neither of these designs is to be found in needlework from any neighboring country with the exception of England, and in English embroidery only on samplers, dating mostly from the seventeenth century. The band motif with pansies on the frontlet (figure 2) is especially common on English samplers, occurring first, it seems, on a sampler dated 1629,⁵ but remaining popular throughout the seventeenth century.⁶ It still occurred on samplers at the close of the eighteenth century.⁷ The band motif on the altar cloth (figure 3), with roses, pansies, and acorns, does not appear to have been quite so common. A closely related design is seen on the oldest dated English sampler, from 1598,⁸ while almost identical designs, executed in various techniques, appear as late as the eighth decade of the seventeenth century.⁹ The design most closely matching the one on the altar cloth was found on a sampler dated 1672.¹⁰

The question arises : how did these patterns come to be used in Iceland in 1694 ? It would have been possible for them to have reached the country through some embroidery imported from England, or through some printed pattern book. The difficulty remains, however, that the designs are not known from any of the printed pattern books, nor, as stated earlier, from any embroidery other than samplers, which in the seventeenth century had become an important factor in the training of young girls in needlecraft, but were not articles of trade. Apparently, these designs were handed down in England from generation to generation by teachers, without the benefit of printed patterns.¹¹

In an Icelandic manuscript from the late eighteenth century,¹² the tale is told, however, of Thorlákur Skúlason, bishop to the see of Hólar in northern Iceland, and his wife, that they sent for a teacher from England, probably about 1645 to 1650, in order that their only daughter, Elín, born 1638, might receive the best possible education in the feminine arts. An embroidered portrait of Thorlákur (figure 4), said in the above mentioned manuscript to have been embroidered by Elín and her English schoolmistress, would seem to substantiate this tale, the portrait being unique in Iceland and apparently a great rarity in the Nordic countries, while a number of embroidered portraits are known from England from the seventeenth century and later.¹³ The bishop's portrait is believed to have been worked prior to his death in 1656. It is executed predominantly in polychrome wool on white linen, the techniques used being laid and couched work, and Roumanian couching, together with stem stitch, split stitch, and chain stitch.¹⁴

It has been put forward that in England, if a needlework teacher at that time lived in, she would no doubt assist in the task of needlework which were required in the household.¹⁵ There exists a riddel from the cathedral church at Hólar, with two panels worked in *sprang*, i. e. lacis (darned netting),¹⁶ in typical Icelandic designs, which among other inscriptions carry the initials of the bishop Thorlákur and his wife, and the dates 1650 and 1651. The panels were donated to the church by the bishop's heirs in 1657, replacing older, worn out ones. On each panel is embroidered at the bottom right hand side, an unidentified mark, slightly different on each, but both looking somewhat like the letter A,¹⁷ perhaps the mark of the embroiderer, who then just possibly might be the English schoolmistress.



Fig. 4 - Embroidered portrait of bishop Thorlákur Skulason.
 Ca. 1650. National Museum of Iceland, Inv. No. 3110.
 Photo : Gísli Gestsson.

Also from the cathedral church at Hólar comes an English looking frontlet¹⁸ executed in wool and a little silk upon linen canvas in closely worked as well as in ordinary long-legged cross stitch,¹⁹ and carrying a floral band motif. Its exact date is not known and it is not with certainty found listed in the church inventories until 1746.²⁰

In style and execution it appears to compare best with a border from a table carpet and a cushion cover from the late sixteenth century, and another cushion cover dated 1601, all of English origin.²¹ Whether the frontlet from Hólar is in way connected with the English schoolmistress there, can only be conjectured ; it might also be an imported piece, even ordered, from England.

However, the presence of the two band patterns from English samplers on the altar cloth with frontlet from Laufás church may be explained in the following manner : Ragnheidur Jónsdóttir (b. 1646, d. 1715) third wife (1674-1684) of Elín's brother, Gísli Thorláksson, who became bishop to Hólar upon his father's death, was a renowned needlewoman and teacher of embroidery. No doubt it was she who planned and supervised the production of the altar cloth and frontal, if not actually doing some of the needlework herself.²² Nothing is known of the education she received ; a manuscript pattern book which belonged to her still exists²³ containing, however, no design showing particular English influence. It seems logical, though, to surmise, that, apart from the training usually given girls of well-to-do families, she may have received additional knowledge on the subject of embroidery, even tutoring from her sister-in-law, Elín, as well as borrowed or copied her patterns or samplers.

NOTES

- * In the main this paper is a talk delivered -accompanied with twenty two slides- at the General Assembly of CIETA in London in September 1977. It is a condensation of an article written in Icelandic, with an English summary, for the Festschrift to the President of Iceland, dr. Kristján Eldjárn, former director of the National Museum of Iceland, the original title of the article being : Elsa E. Gudjónsson, "Altarisdúkur Ara á Sökku. Ensk áhrif í íslenskum útsaumi á 17. öld, "Minjar og menntir. Afmaelisrit helgað Kristjáni Eldjárn (Reykjavík, 1976), pp. 130-144.

- 1 - Inv. No. 405. Length of cloth ca. 158 cm, of frontlet ca. 115 cm. Width of cloth with frontlet and fringe ca. 73 cm. Width of embroidered band on frontlet ca. 10 cm, of embroidered floral band on cloth ca. 9 cm.
- 2 - Inv. No. 404. See Gudjónsson, "Altarisdúkur ...," op. cit., p. 131, lower Figure. (Or Elsa E. Gudjónsson, "Traditional Icelandic Embroidery," The Bulletin of the Needle and Bobbin Club, 47 : 1 & 2 : 5-31, 1963, Plate VII).
- 3 - For diagrams of stitches mentioned see Elsa E. Gudjónsson, "Icelandic Mediaeval Embroidery Terms and Techniques," Studies in Textile History. In Memory of Harold B. Burnham (Toronto, 1977), pp. 133-143. (Or _____, "Íslensk útsaumsheiti og útsaumsgerdir á miðöldum," Árbók hins íslenska fornleifafélags 1972 (Reykjavík, 1973), pp. 131-150 (151 in off-print) ; and/or _____, Saumakver. Íslenskar útsaumsgerdir (Reykjavík, 1975), 25 pp. Also _____, Icelandic Embroidery. Domestic Embroideries in the National Museum of Iceland (Reykjavík, 1973), p. 10.
- 4 - For diagram of stitch see Mary Thomas, Dictionary of Embroidery Stitches (New York, 1935), p. 179, Figure 258.
- 5 - Averil Colby, Samplers Yesterday and Today (London, 1964), Figure 56.
- 6 - Donald King, Samplers (London, 1960), Figures 9, 11, 13, 16 and 26. Colby, op. cit., Figure 99.
- 7 - Katharine B. Brett, English Embroidery (Toronto, 1972), Figure 19 (1797).
- 8 - Colby, op. cit., Figure 53.
- 9 - Marcus B. Huish, Samplers & Tapestry Embroideries (second edition ; New York, 1970), Figures 5, 6 and 43. Leigh Ashton, Samplers (London, 1926), Figure 27 (1677).
- 10 - Brett, op. cit., Figure 8
- 11 - King, op. cit., pp. 5-7.
- 12 - National Library of Iceland, 1298 4to, Halldór Hjálmarsson, "Adversaria", pp. 225-226. The tale is mentioned in Páll Eggert Ólason, Saga Íslendinga, V (Reykjavík, 1942), p. 107.
- 13 - A.F. Kendrick, English Needlework (second edition ; London, 1967), p. 134. John L. Nevinson, Catalogue of English Domestic Embroidery of the Sixteenth & Seventeenth Centuries (second edition; London, 1950), pp. 45-46, and Plates XXXI, b, and XXXII. Preston Remington, English Domestic Needlework of the XVI, XVII and XVIII Centuries (New York, 1945), p. 7, and Figures 50, 51, 53 and 54. Pamela Clabburn, The Needleworker's Dictionary (London, 1976), illustration on p. 214.
- 14 - For stitch diagram of Roumanian couching see Barbara Snook, Embroidery Stitches (London, 1975), p.50. For diagrams of the other stitches see references listed in note 3. The bishop's portrait measures ca. 58 by 47.5 cm.

- 15 - Kendrick, op. cit., p. 119.
- 16 - The riddel is in the National Museum of Iceland, Inv. No. 10951. It might be emphasized here, that open work, such as drawn work and lacis (darned netting), was designated in Icelandic as sprang, lacis occasionally as ridsprang, literally netted sprang. No remains or traditions of the plait-work now called sprang in other countries, are known in Iceland.
- 17 - See Gudjónsson, "Altarisdúkur...", op. cit., p. 137, Figure 8.
- 18 - In the National Museum of Iceland, Inv. No. 10952. See ibid., p. 140, Figure 12. The width of the frontlet without fringe measures ca. 13.5 cm.
- 19 - The closely worked long-legged cross stitch is executed in the manner of the plait stitch (Spanish stitch) in Thomas, op. cit., p. 164.
- 20 - Catalogue of the National Museum of Iceland (manuscript).
- 21 - Nevinson, op. cit., pp. 10 and 37, and Plates X, and XXVII, b. Remington, op. cit., pp. 5-6, and Plate 29.
- 22 - Gudjónsson, "Traditional Icelandic Embroidery", op. cit., pp. 15 and 29. _____, Icelandic Embroidery., op. cit., p. 8.
- 23 - In the National Museum of Iceland, Inv. N). 1105. Two pages are shown in ibid., p. 1, Figure 1.

Résumé français

Le Musée National d'Islande possède une nappe d'autel (Fig. 1) munie d'un parement ainsi qu'un devant d'autel, originaires de l'église de Laufas au nord de l'Islande.

Tous deux sont en lin blanc et sont ornés de broderies de fils de laine polychrome ; tous deux portent également la date 1694 ainsi que des inscriptions signifiant qu'ils furent offerts à l'église en règlement d'un droit de sépulture accordé à la veuve d'un pasteur ; l'un - la nappe d'autel et son parement - par son fils, l'autre - le devant d'autel - par sa fille, Ragnheidur Jonsdottir.

La nappe d'autel munie du parement, exécutée au point de croix allongé, au point de reprise et au point de Holbein avec quelques détails en plumetis, est unique en son genre parmi les broderies islandaises, parce que l'on y trouve deux bandes ornées de motifs (Fig. 2 et 3) rencontrés nulle part ailleurs dans la tapisserie islandaise, ni même dans celle d'aucun autre pays avoisinant, à l'exception de l'Angleterre. En outre, dans la broderie anglaise, on ne trouve ce genre de motifs que sur des modèles de broderies datant principalement du 17^{ème} siècle. Aucun des livres consacrés à l'impression du dessin ne montrent ces dessins. Manifestement, ils furent transmis de génération en génération en Angleterre, par des professeurs, sans un recours aux modèles imprimés.

Une légende court, selon laquelle Thorlakur Skulason, évêque de l'évêché de Holar situé au nord de l'Islande (mort en 1656) et sa femme firent venir un professeur d'Angleterre afin que leur fille unique, Elin, (née en 1638) puisse recevoir le meilleur enseignement possible dans le domaine des arts féminins. Un portrait brodé représentant l'évêque (Fig. 4) que l'on dit être l'oeuvre d'Elin et de son professeur anglais, semblerait justifier cette légende ; cet ouvrage est en effet unique en Islande et manifestement d'une grande rareté dans les pays nordiques, alors qu'un grand nombre de portraits brodés sont reconnus comme étant originaires de l'Angleterre du 17^{ème} siècle. Il se peut que le professeur ait laissé son empreinte sur deux panneaux de lacis datant des années 1650, 1651, insérés dans un rideau d'autel qui existe toujours dans la cathédrale de Holar. De l'église de Holar nous vient également un parement dont le motif et l'exécution se rapprochent étroitement de la broderie anglaise des années 1650. Cependant, ce parement pourrait être une pièce d'importation.

On peut ainsi expliquer la présence des deux bandes ornées de motifs d'origine anglaise sur la nappe d'autel islandaise munie du parement : Ragnheidur Jonsdottir (1646-1715), dont nous avons parlé plus haut, femme du frère d'Elin, Gisli Thorlaksson, évêque de Holar, était à la fois une célèbre brodeuse et un professeur de broderie non moins réputé. Selon toutes probabilités, c'est elle qui organisa et supervisa l'exécution et la production des broderies de Laufas ; peut-être même, fit-elle, elle-même, une partie de l'ouvrage. Bien que le fait ne soit pas officiel, il se peut qu'elle ait reçu de sa belle-soeur, Elin, des notions sur la broderie et qu'elle ait utilisé ses dessins ou ses modèles de points.

SONIA DELAUNAY : MODE ET COULEUR

par J.M. TUCHSCHERER

L'étoffe, surface décorée plane, a toujours été intimement liée à l'évolution et aux variations des courants de l'art, ceci dès les temps les plus reculés. Ces rapports ont été, et sont encore, de natures diverses : rapports de forme, donc de décor, de couleurs ; rapports de conception : aristocratique, bourgeois, ou populaire... Selon la valeur, l'intensité, ou la compréhension mutuelle de ces rapports, l'étoffe a un caractère de qualité variable. Une étude de ces rapports dans le courant de l'histoire nous entraînerait trop loin, mais serait néanmoins très intéressante à entreprendre un jour.

L'un des mariages le plus original, et aussi le plus intime, entre l'étoffe et l'art fut réalisé au début de ce siècle. En effet, l'intérêt profond de Sonia Delaunay pour la mode et l'étoffe allait révolutionner ce domaine. Les répercussions en sont encore très nettement sensibles de nos jours.

Dans la constellation variée des peintres de ce début de siècle, Sonia Delaunay, épouse de Robert Delaunay, se situe dans la lignée de l'art abstrait cubiste. Cependant, se sentant limitée par les rigueurs des structures inventées par les cubistes ou les constructivistes, elle essaiera de les dépasser en donnant plus d'âme et de poésie à cet art géométrique et mécanique. La couleur, une nouvelle conception de la couleur sera justement la base de ce souffle nouveau qui se répandra sur toutes ses étoffes.

En fait, avec Sonia Delaunay, nous nous trouvons une fois de plus en face de l'éternel problème en Art : la dualité entre dessin-forme et couleur-fond, problème qui fut déjà celui des primitifs et qui se reposera dans chaque nouvelle courbe de l'art. Dans ce cas précis, l'étoffe est intimement associée à cette renaissance puisque pour Sonia Delaunay l'étoffe n'est pas simplement un support textile quelconque, mais surtout un support artistique permettant d'introduire l'art aux échelons divers de la vie quotidienne.

A ce propos, signalons aussi la conception ontologique de l'art toute différente et nouvelle de Sonia Delaunay. Elle se range parmi les artistes du début de ce siècle pour qui l'art a un rôle social. Il doit être présent partout et toujours. Elle s'oppose au luxe, frange trop étroite, pour être pratique, moderne et omniprésente à tous les niveaux de la vie de tous les jours. Or, cette vie sera en pleine mutation, particulièrement pour la femme, lorsqu'elle se consacrera dès 1921 à l'étoffe et à la couture. Son génie sera justement de transcrire cette mutation et de s'y adapter.

Dès la guerre de 1914-1918, l'évolution économique et sociale influe sur le domaine de l'habillement et par contre-coup sur tous les autres. La femme ne sera plus cet objet de grand luxe cher aux couturiers de l'ancienne génération et pour laquelle on créa les plus somptueux lamés et brochés. De plus en plus la femme accède à toutes les fonctions masculines et à l'égalité

des droits civiques. Son habillement s'adoptera à ces nouvelles formes de son existence journalière. Instinctivement, Sonia Delaunay inscrira ses étoffes et ses créations de couture dans ces changements. Le costume perdant de sa richesse et de sa complexité, ses recherches s'orientaient d'autant plus vers le tissu. Elle abandonne d'abord les lourds façonnés, symbole d'une ostentation dépassée, pour se consacrer presque exclusivement aux imprimés qui permettaient d'autre part une transcription plus souple et fidèle de ses conceptions coloristiques nouvelles. Quant aux supports textiles, elle mettra en honneur le tricot, le jersey, les satins mats et brillants, les crêpes georgette légers, la mousseline, les toiles de lin et de coton, ... Déjà à ce niveau le changement fut radical, mais adapté au nouveau genre de vie.

Ce changement sera encore plus radical dans la conception même du décor : transcription nouvelle de la couleur et introduction du dessin géométrique et abstrait dans l'étoffe, dès 1921.

Déjà les fauves avaient donné une nouvelle dimension à la couleur par l'emploi des tons violents, en la maintenant cependant dans un rapport très étroit avec le dessin qui reste toujours une interprétation de la réalité visible. Cela vaut aussi pour les tissus de cette tendance. Les Delaunay par contre affranchiront totalement la couleur qui, pour eux comme pour tous les artistes de leur tendance, deviendra un langage indépendant. Le dessin ne sera plus là pour contraindre la couleur, pour mettre sa forme en évidence mais pour la faire chanter, pour lui donner sa propre force d'expression, le dessin sera presque au service de la couleur.

Sonia Delaunay ainsi que Robert, son mari, se situe ainsi dans le courant artistique inauguré par le post-impressionnisme, de Signac à Matisse, qui avaient été sensibilisés par les recherches scientifiques de Chevreul sur les effets des couleurs entre elles.

Chevreul eut une influence considérable sur la peinture et les arts appliqués du XXe siècle. Directeur du Laboratoire des Gobelins au XIXe siècle, il publie en 1839 son traité "De la loi du contraste simultané des couleurs et de l'assortiment des objets colorés considéré d'après cette loi". Devant le succès qu'il rencontra, cet ouvrage fut réédité en 1889. Cependant, ce ne sera pas l'aspect aride des applications techniques qui retiendra l'attention des peintres entre autres - car, pour ceux qui ne connaissent pas l'étude de Chevreul, il faut mentionner que celle-ci accorde des chapitres importants aux applications de cette loi à la peinture bien sûr, aux tapisseries des Gobelins et de Beauvais, aux tapis, à la mosaïque, aux vitraux colorés, à l'impression des étoffes, à l'imprimerie, l'enluminure, la décoration des édifices... Ce seront surtout les préliminaires de cette étude, c'est-à-dire les observations sur l'action des couleurs entre elles, sur le contraste simultané et ses résultantes qui inspireront les artistes.

Certains impressionnistes et les post-impressionnistes utiliseront surtout le mélange optique des couleurs pour rendre des effets de lumière. Les nabis et les fauves emploieront les couleurs pures et violentes afin de donner une certaine expression à leurs oeuvres. Pour Robert et Sonia Delaunay, la couleur est un langage en soi qui se suffit à lui-même et dont les lois découvertes par Chevreul sont comme une syntaxe que l'on peut et qu'il faudra transcender. Ce langage, mieux qu'aucun autre, est directement applicable à l'étoffe car pour Sonia Delaunay, l'étoffe -et non seulement le tableau de chevalet- est un support coloré par excellence. L'étoffe l'a d'ailleurs toujours été, mais jusqu'à présent l'historien de l'art ou le technicien ont toujours sousentendu cet aspect pourtant fondamental. Tous ceux qui ont eu à composer des coloris dans l'industrie savent à quel point ce chapitre est délicat et essentiel pour la réussite d'un produit textile. L'originalité des Delaunay est d'avoir libéré la couleur et de l'avoir considérée comme possibilité d'une expression artistique pure et valable. Le résultat le prouvera. Dans le domaine textile, Sonia Delaunay est le premier créateur dans toute l'histoire de l'art du tissu à baser le décor d'une étoffe uniquement sur les rapports des tons des couleurs.

Mais avant de nous lancer dans une étude plus approfondie des étoffes de Delaunay, essayons de comprendre ce qu'est cette fameuse loi du contraste simultané des couleurs qui n'est cependant pas la source exclusive d'inspiration de l'artiste. Cette loi a été le catalyseur ayant permis de découvrir l'interaction des couleurs. Précisons aussi que Delaunay a très vite adopté cette simultanéité des couleurs et qu'en réalité ce fut surtout le contraste tout court qui l'intéressait. Si elle emploie néanmoins le terme de "simultané" sur le chef de pièce de ses étoffes, il faut le considérer bien plus comme un label que comme une application purement scientifique de la loi, ainsi que nous le démontrerons tout à l'heure.

Il y a contraste simultané lorsque pour une couleur précise notre oeil exige en même temps, c'est-à-dire simultanément, la complémentaire et le produit lui-même si elle ne lui est pas donnée. La couleur complémentaire engendrée simultanément dans notre oeil est une impression colorée et n'existe pas en réalité. On ne peut pas la photographier. Voilà succinctement énoncée la loi qui fut le résultat d'une multitude d'expériences de Chevreul, expériences renouvelées depuis par beaucoup d'artistes qui devaient en tirer chacun leur leçon propre. En fait, ces expériences permirent de découvrir les rapports physiques et optiques des couleurs entre elles et de les utiliser ainsi avec une nouvelle méthode. L'intérêt, dans notre cas, est renforcé par le fait que cette théorie eut des prolongements directs sur l'étoffe où les problèmes de couleurs, donc de teinture, eurent toujours une importance considérable.

Dans son traité détaillé, Chevreul étudiera non seulement les rapports entre couleurs primaires et complémentaires, mais démontrera les interactions de toutes les couleurs entre elles.

Ainsi, un orangé et un vert mis côte à côte auront l'effet suivant : la complémentaire de l'orangé, le bleu s'ajoute au vert qui tire ainsi sur le bleu ou devient moins jaune - la complémentaire du vert, le rouge s'ajoute à l'orangé et le fait tirer sur le rouge ou le rend moins jaune.

Ou encore, un rouge et un jaune mis côte à côte : le vert qui est la complémentaire du rouge, s'ajoute au jaune et le fait tirer sur le vert - l'indigo-violet qui est la complémentaire du jaune, s'ajoute au rouge et le fait tirer sur le violet.

Ensuite, il opposera toutes les couleurs avec le blanc, le noir, les gris neutres et colorés et en notera les effets. Son analyse portera aussi sur le contraste successif et contraste mixte qui sont des résultantes du contraste simultané.

L'intérêt de cette gymnastique prodigieuse de l'oeil, que Chevreul n'est pas le premier à avoir connue mais qu'il est le premier à avoir transcrit avec une telle rigueur est justement la découverte des propriétés optiques des couleurs. Dès que ces résultats seront un peu plus répandus dans les milieux artistiques, l'artiste -et les peintres en premier- joueront avec ces effets afin de donner plus de vie et plus de luminosité à leurs tableaux. Cependant, aucun d'entre eux n'aura l'idée, ni le courage, d'utiliser la couleur exclusivement comme un propre langage esthétique ni même comme un décor, si ce n'est les Delaunay. L'originalité de Sonia est de s'être servi du tissu pour répandre une trouvaille qui devait donner de nouvelles perspectives à l'art du XXe siècle. "Ces lois, écrivait-elle en 1926, scientifiquement découvertes par Chevreul et vérifiées par lui sur l'expérience de couleurs pratiques, furent observées par mon mari et moi-même dans la nature, en Espagne et au Portugal où l'irradiation de la lumière et plus pure, moins brumeuse qu'ici. La qualité même de cette lumière nous permit d'aller plus loin que Chevreul et de trouver, en plus des accords fondés sur des contrastes, des dissonances, c'est-à-dire des vibrations rapides qui provoquent une exaltation plus grande de la couleur par le voisinage de certaines couleurs chaudes et froides".

Cette constatation fut aussi celle d'un certain nombre d'artistes de leur génération, entre autres Klee, Itten, les Albers, Kandinski, ... qui furent les théoriciens et les maîtres du Bauhaus avec qui les Delaunay eurent depuis toujours les meilleurs rapports.

Historiquement, l'oeuvre de création textile de Sonia Delaunay se situe en pleine période dite Art-Déco. En effet, dès le retour d'Espagne et du Portugal en 1920, l'artiste se lança dans ses créations de tissus. Ce furent des contingences extérieures qui l'y contraignirent, puisque la Révolution russe de 1917 fit perdre au couple Delaunay ses revenus. En 1922, plusieurs maisons de soieries de Lyon, dont la fameuse manufacture "Velours et Peluche, lui commandaient cinquante dessins pour des tissus. Pour Sonia, ce fut une chance inespérée de poursuivre ses études de couleurs qu'elle a entreprises dans sa peinture, en même temps que de gagner la vie du foyer. Ainsi, le dessin géométrique et abstrait, accompagné d'une conception toute nouvelle de la couleur, sera introduit dans le tissu dès cette date. Dans le monde de la mode parisienne, ce fut un événement accueilli avec une certaine réserve, sans parler de l'hostilité presque ouverte d'un Paul Poiret. Cependant, à l'étranger -en Allemagne, en Hollande et aux Etats-Unis- le succès fut sans précédent. Les adeptes du Bauhaus ainsi que plusieurs artistes de cinéma furent les premiers supporters de l'art textile de Sonia Delaunay, ce qui ne l'empêcha pas malgré tout de se démarquer vis-à-vis de certaines de leurs théories.

Ce rajeunissement de la mode des années 20 fut applaudi par les poètes, les journalistes et aussi par les peintres dont certains s'associèrent au mouvement avec enthousiasme.

Il est aussi intéressant de noter la démarche intellectuelle et artistique de l'artiste. Avant de s'être consacrée à l'étoffe, et dès 1911, Sonia Delaunay était profondément préoccupée par la couleur. Sur la base des lois de Chevreul d'un côté, grâce à ses propres conceptions ensuite -et il faut signaler qu'elle est russe d'origine, donc slave avec un sens violent et baroque de la couleur- elle se livra à d'infinis exercices de rapports de couleurs dont elle consigna méthodiquement les résultats ainsi que ses impressions personnelles dans d'épais cahiers qui sont au nombre de 19. Ces cahiers, que l'artiste conserve avec une jalousie sans borne et que j'ai pu consulter, n'ont hélas jamais pu être publiés alors qu'ils sont le manifeste de la conception coloristique du XXe siècle. L'on y remarque constamment des allusions aux rythmes de la poésie et aux harmonies de la musique contemporaine. Remarquons en passant que Sonia Delaunay était très liée avec Apollinaire, Tzara, René Crevel, Diaghilev originaire de St. Pétersbourg comme elle, ainsi qu'avec Prokofiev et Strawinsky. En parcourant ces volumes, l'on dénote une culture très vaste et surtout un besoin vital de recherches.

Dans un deuxième temps, l'artiste inscrit certains rapports de couleurs choisis dans des formes géométriques dont elle varie le dessin afin d'obtenir un nouveau jeu de rythmes. Enfin, quant à l'étoffe, elle extrait certains de ces rythmes colorés et en étudie la mise au rapport. Tous ces préliminaires une fois mis au point, elle transcrit son dessin à la dimension et aux couleurs définitives. Cette oeuvre, car c'est en effet une oeuvre, est le résultat théorique, presque absolu, de sa démarche dont elle se servira ensuite comme point de départ à des variations multiples toujours destinées à l'étoffe, variations adaptées selon le support textile.

Dans la pratique, cela se présente de la manière suivante : le résultat théorique du dessin est transposé dans l'angle supérieur droit d'une carte destinée à l'atelier d'impression. Sur cette même carte sont consignées les différentes variations coloristiques possibles, chaque couleur et nuance ayant son numéro, ou tout au moins son ordre.

La recherche de ces couleurs et de leurs variations se faisait avec une précision quasi mathématique : à un rouge précis correspond infailliblement la complémentaire précise, le vert. Le vert, s'il est remplacé, doit l'être par ses deux couleurs ternaires du cercle chromatique, le bleu-vert et le jaune-vert. Il peut aussi être remplacé par sa valeur, le gris correspondant. Souvent, le point de départ est un simple contraste de deux primaires, ou d'une primaire et d'une complémentaire, ou simplement d'un noir et blanc. Quant aux variations, qui sont à l'infini, elles peuvent être basées sur le camaïeu ou sur des contrastes très délicats entre complémentaires et ternaires ou entre valeurs et tons. A ce travail purement théorique, correspond en dernier lieu le choix définitif, fonction du support à décorer, et purement subjectif.

Dans la pratique, l'artiste donne toujours un carton grandeur nature à l'usine afin que le graveur des planches en relief -pratiquement tous ces dessins furent imprimés à la planche à l'origine, et repris par la suite au cadre main- puisse disposer des coordonnées exactes. Tous les tissus dont Sonia Delaunay assumait elle-même l'édition, avaient été imprimés dans l'ancienne manufacture Ferret, l'imprimeur des exclusivités de la couture parisienne de l'entre-deux guerres. Cette manufacture, dont il ne reste plus trace, se trouvait derrière la basilique de Saint-Denis, près de Paris.

De nos jours, la fonction du dessinateur se limite presque exclusivement à la production du dessin sur papier, le fabricant intervenant ensuite seul à son niveau. C'est d'ailleurs aussi là la raison de la qualité si déplorable de nos tissus actuels, le fabricant n'ayant en général que très peu de goût et souvent aucune formation de coloriste. Cela ne se passa pas ainsi chez Sonia Delaunay qui tenait à rester maître de l'oeuvre du début à la fin. D'ailleurs, le vieux père Ferret que j'avais encore connu, m'avouait qu'il attrapait une secrète colère à chaque fois qu'il voyait arriver Sonia Delaunay dans son usine. Elle y restait des semaines sinon des mois entiers, surveillant la qualité des supports employés, la précision des tons des couleurs et de l'impression, la manière dont on mélangeait les couleurs entre elles, des lois très précises existant encore dans ce domaine. Pour elle, la création est un tout dont l'artiste doit assumer tous les détails et toutes les phases. En cela, elle s'identifiait aux conceptions de ses collègues du Bauhaus pour qui l'idée et sa réalisation ne formaient qu'un.

Robert Delaunay devait donner une synthèse remarquable ainsi qu'une excellente définition du rôle de créateur de mode de sa femme : "... C'est la couleur seule qui, par son organisation, sa dimension, ses rapports distribués sur la surface de la toile ou des tissus ou des meubles -en général de l'espace- détermine les rythmes des formes ; et ces formes sont comme des architectures de couleur qui jouent à la manière de la fugue. Ces recherches qui touchent la mode elle-même, ont toujours intéressé Sonia Delaunay qui a inventé une mode complètement nouvelle. Ces recherches naissent pour elle du moment où elle créait cette forme de figuration qui appartient à sa peinture dans laquelle elle cherchait depuis longtemps une expression neuve des volumes.

Une robe, un manteau, pour elle, est une portion de l'espace ordonnée et conçue et, par la matière et les dimensions, formant un tout organisé d'après des lois qui deviennent une standardisation de son art.

Sonia Delaunay, par conséquent, n'a pas recours à ces éléments décoratifs surannés et aux modes de représentation de ces artistes imitant la nature ou les styles !

La forme et la couleur ne font qu'un et par conséquent, le choix de la matière dépend uniquement de cette forme voulue et créée par l'artiste.

Le tissu devient donc un auxiliaire de grande valeur en ce qu'il sert la composition de son modèle et ce qui fait la valeur de ses tissus, c'est qu'elle les conçoit avec la double finalité d'en faire un modèle déterminé.

Les dessinateurs spécialistes qui créent d'ordinaire les dessins de tissus, font ce que l'on appelle vulgairement de la décoration, mais souvent ils ne savent pas le but ou à quoi servira tel modèle de tissu. Ils ne savent donc pas les directives de la mode en général. Même si leur composition est heureuse et si la décoration du tissu en tant que tissu est réussie, on ne trouve pas toujours, ou difficilement, un but pratique d'emploi facile.

Sonia Delaunay ne fait une composition d'étoffe qu'en pensant à son utilité pratique, c'est-à-dire un modèle de robe du soir, ou de robe de sport ou de manteau d'étoffe pour été. Et elle apporte à toutes ses compositions les connaissances approfondies de la technique même du traitement du tissu, depuis le coloriage, la teinture, jusqu'au tissage et jusqu'à la coupe... Ce n'est plus de la décoration de tissus ; c'est une science beaucoup plus étendue où il faut beaucoup plus de responsabilité que dans le cas ordinaire des tissus traités dans le monde en général.

Jusqu'à ce jour, on traitait les tissus comme on faisait du papier peint, au kilomètre, sans en savoir bien l'utilité ou tout au moins au hasard. Au modéliste le soin de s'en tirer. Dans beaucoup de cas, nécessité de couper beaucoup de tissus, beaucoup de perte s'en suivant pour raccorder les motifs de fleurs sur la robe ou le manteau.

C'est donc la première fois qu'une nouvelle préoccupation de structure fonctionnelle de la matière, de l'étoffe, entre en jeu dans l'élaboration, dans la fabrication, dans la mode.

Sonia est simultanée ; elle est, et à la fabrique de soierie ou de tissage de laine ou de velours, et à l'atelier du modéliste à la fois. Elle pousse sa conception à une parfaite harmonie créative en pensant à l'ensemble de ces passages du tissu préfaçonné et à sa confection définitive. Elle surveille toutes les étapes fonctionnelles de la technique. Quelquefois un tissu lui inspire par sa matière une forme de couleur adéquate ; une autre fois la forme purement abstraite et plastique d'un manteau lui suggère la création correspondante d'un tissu -et j'entends par tissu tout ce qui concerne la technique de la couleur et de la matière à la fois. C'est un travail de grande conscience, de grande connaissance, qui est inné dans son cas particulier et qui résulte de la haute valeur de son esprit inventif. Sonia Delaunay possède le secret de son art : le simultané pour elle, c'est son brevet, la marque de son esprit. Elle a poussé si loin son invention qu'à l'heure actuelle elle triomphe partout. Ses tissus ont été acceptés par les plus grandes firmes de modèles de Paris. L'on voit triompher sa conception partout où l'on est à l'affût du nouveau. La mode est synonyme de nouveauté et Sonia est la grande nouveauté qui féconde à cette heure l'art de notre époque. On attendait depuis dix ans une réelle nouveauté. La voilà !" (Delaunay, Robert : Du cubisme à l'art abstrait, publié par Pierre Francastel, Paris 1957).

Une autre étude, tout aussi passionnante, serait de situer l'oeuvre textile de Sonia Delaunay dans tout le contexte de l'art abstrait en Europe au début de ce siècle et enfin d'en analyser les prolongements. En effet, la Hollande avec l'influence de Teo van Doesburj, l'Allemagne avec le Werkbund et le Bauhaus, la Russie avec le constructivisme ainsi que bien d'autres mouvements renouvelèrent la conception même de l'étoffe au début de ce siècle. Vasarely, Larsen, David Hicks et bien d'autres essaient de conserver et de transmettre cette nouvelle leçon dont la plupart de nos contemporains ignorent jusqu'aux rudiments. C'est là un nouveau chapitre à ajouter aux recherches du CIETA, puisque les tissus d'aujourd'hui seront ceux d'hier, demain.

Summary

Ever since prehistoric times material has always been closely linked with the evolution and the changes of trends in art.

One of the most original as well as close union between material and art was achieved by Sonia Delaunay at the beginning of this century.

Sonia Delaunay, Robert Delaunay's wife, ranks among the offsprings of cubist abstract art. To her mind art has a social part to play ; it must be present always and everywhere. Material is not only a mere textile support, it is also an artistic support that make art available at the different stages of daily life.

Together with the economic and social evolution following World War One, Sonia Delaunay adjusts her materials and her couture models to woman's new way of life. She promoted knitted wear, jersey, light georgettes crepes and muslin... As early as 1921 she introduces abstract and geometrical patterns into material and gives colour total freedom. The pattern is there to set colour asinging and to give it its own meaning. To Sonia Delaunay's mind, colour is a sort of self-sufficing sort of language for which the laws of simultaneous contrast in colouring as discovered by Chevreul are a syntax that one can and one must sublime.

Sonia Delaunay is the first creator in the history of fabric to base the pattern of a material upon the connections between changes in colours.

Her theory is a revolutionary event in the world of fashion which receives mixed support from the world of Parisian fashion and an enthusiastic one from abroad and more especially from the Bauhaus disciples.

To Sonia Delaunay, the working out of a composition and its making are closely united ; the choice of the material only depends on the shape created by the artist. When she makes up a material composition, it is only in relation to the practical use of it, ie : a model for an evening dress, a sports-dress, a summer-coat.

Besides, to all her compositions, there should be added her thorough knowledge of the technics dealing with the processing of material from colouring, dying, to weaving and cutting-out.

Paying tribute to her role as an innovator in fashion, her husband, Robert Delaunay, speaks as follows : "It is colour alone which -through its organization, its dimensions, its proportions laid out on the surface either of the canvass or the fabrics or the furniture, or of space in general- determines the rythmic arrangement of shapes ; these investigations which affect fashion itself have always aroused a keen interest in Sonia Delaunay who invented a totally new fashion. To her these investigations are born from the moment when she creates this form of figuration which belongs to her painting where she had been looking for a new expression of volumes for a long time..."

THE TECHNIQUES AND THE METHODS OF BRAIDING
 A TECHNOLOGICAL RESEARCH IN PROGRESS

by Noémi SPEISER

This is a general outlook over the entire extent of my research into a special compartment of textile technology. My account inevitably is reduced to its very essentials. Neither the descriptions nor the diagrams are meant to be "how-to-do-it" instructions. They give an abstract which tries to light up as concisely as possible the principles behind all details.

My subject is defined thus : Textile structures with oblique interlacings or occasionally twinings. In other words, structures with threads or twinings taking a zigzag or helical course in relation to the longitudinal axis, reversing their course when touching the selvages (for flat braids) or when touching certain parts of the surface (for round braids or cords). Those fabrics invariably appear as long and narrow.

Following Bühler's definition this would be called "Diagonalgeflecht", following Emery's definition it is "braiding". (Emery distinguishes "plaiting" as a structure in which elements interlink from "braiding" in which elements interlace.)

I have to add to this context certain warp-twined structures with a differentiated weft (warp running parallel to the selvages). In spite of the fact that they fit into a completely different compartment of technology the working-process may bring them into close relation.

This narrow section of technology is hardly discussed at all by the two mentioned authors. Especially where it comes to "round" or "three-dimensional" braids (or "braided cords"), they pass over them in silence, obviously fearing a close inspection would lead too far. I can prove this indeed : I was groping in darkness for a long time until I managed to light up that maze.

My research considers the structures in relation to the working-process. This working-process differs widely all over the world. That means : similar structures can be obtained by completely different methods, either by the help of most elaborate tools and even machines, or by applying curious and ingenious tricks whilst working only with fingers and maybe toes, or cooperating with one or more fellow-workers.

A minute dissimilarity in seemingly identical structures may suggest to the initiated a certain process of manufacturing. Sometimes a chance mistake (a lucky incident for the student, an unlucky one for the crafts-man !), sometimes the disposition of the beginning, the peculiarity of the ending, sometimes merely the quality of the threads may propose one method or exclude some other.

Since this research is purely technological, any period, any country and any cultural level may come into consideration.

Never would I have expected, when I started this research six years ago, that it would reveal so many surprises and take on such proportions. And now, if specialists read this survey, I hope I will get some more hints and clues. Even the slightest detail, which an outsider may deem utterly irrelevant, may help to solve a hitherto puzzling problem, fill in a gap or light up a completely new track to a person thoroughly involved in such an esoteric field.

All the solid facts, the dissociated discoveries and the stray bits of information I have to sum up under a common heading and gather into a net of mutual relations. In order to do so, I venture to establish an appropriate classification, to open up subdivisions and invent a suitable nomenclature. This inevitably necessitates awkward compound terms, since they have to denote A) the type of structure, B) the method of production and C) the tool.

For this purpose the CIETA-Vocabulary, alas, was of little help, since so far it is only centered on weaving ; especially frustrating for me, since woven and braided structures are closely related and designations therefore are interdependent. Let us hope that soon the primary textile techniques will be treated adequately !

I - Japanese braiding

An unbroken tradition of braiding survives in Japan. The craft is called Kumi-Himo, which means : the building-up of bands. Doubtlessly it has been imported from China.

It was preserved throughout the centuries by a small secretive guild of perfect craftsmen. Whereas outside Japan it degenerated, the Japanese have developed it to a summit of perfection.

Japanese armour consisted of innumerable small oblong tablets of metal or lacquered wood, arranged in overlapping rows and joined by silken braids. The helmet was tied and adorned by thick round braided cords, and lengths of elaborate braids were attached to the swords.

This abundance of braids occupied a big corporation of Kumi-Himomen. When armour went out of use and, later on, even swords were done away with, the corporation would have been doomed, had not braids been propagated for ladies' Kimono-wear, in order to secure the tradition.

Therefore the craft did survive. And moreover, catering now for the demand of fashion, it is obliged to bring out novelties every season. Whereas in armour we find throughout the centuries basically the same few patterns, nowadays innumerable playful intricacies are teased out of the venerable prototypes.

Six years ago, when I started my studies in Japan, Kumi-Himo was an esoteric matter known exclusively to the members of the guild and their traders. I was allowed only by the introduction of powerful men to enter the workshops and get glimpses of the manufacturing. Nothing but oral tradition existed.

With the aid of the notebooks and sketches of my field-research by painstaking analyses of the braids I brought home from my trip, I found out by and by all the characteristics of this technique.

When I returned to Japan in 1977, I found a head-over-heels process of spreading Kumi-Himo had started. Several private schools for amateurs are established now. The appropriate tools are available and Hobby-books in Japanese of excellent quality are published.

The Japanese Tools

Whatever tool is applied, all threads involved in the project are wound on lead-weighted wooden bobbins.

A. Taka-Dai or High tool

This is a frame or loom which spreads the threads in fan-shape to right and to left of the worker over two lateral beams. Thereby an order is established and preserved ; fairly wide braids can be carried out on Taka-Dai.

The considerable counterweight of so many bobbins allows hard beating with a sword. The resulting structures are more dense and solid than any could be if worked without a tool.

The threads are spread out on one, or on two planes. Using the latter arrangement patterns with threads floating on the surface, with two separate layers either joined only along the selvages or penetrating each other along the vertical axis or in any ornament analogous to double-weave are carried out. In this case bobbins are constantly exchanged between the two planes, an action which requires considerable skill.

Japanese traders recently met with a deteriorated tradition of Taka-Dai in the Kantón-area of China. I wonder if further evidence could be traced for a similar tool outside Japan ?

B. Maru-Dai or round tool

This is a circular table with a hole in the center. The working threads are spread out radially round the table, with the bobbins hanging down over the edge on all sides. The ends of the warp threads, which have been knotted together, are drawn down through the central hole by a counterweight and the braid "grows" upwards.



Fig. 1 - Japanese braids produced on Maru-Dai.



Fig. 2 - Japanese braids produced on Kaku-Dai.

Maru-Dai offers itself to innumerable variations of round, square, rectangular octagonal cords, hollow tubes, oblique twined and intertwined braids and also to warp-twined bands.

This most simple of tools proves to be the most adaptable. Similar devices are known outside Japan.

C. Kakku-Dai or square tool

On Kakku-Dai fabrics with fewer and heavier threads are executed : square cords with four or eight elements and hollow braids with or without cores, etc. Usually they are pulled off upwards. Since then the counterweight is eccentric, several elaborate contraptions are added to Kakku-Dai.

D. Aya-Take-Dai or Twining-tool made of Bamboo

This is a small stand furnished with a curious device for warp-twining, the like of which, as far as I know, does not exist anywhere else.

Certain braids of Japanese origin labelled tablet-weaves must have been produced on this tool, since tablet-weaving is NOT recorded among Japanese traditions ; a fact which is indeed surprising.

The remarkable tool called Aya-Take-Ashi-Fumi (Twisting tool operated by leg) is mentioned in Chapter V.

And a witty hybrid of industrial braiding-machine and power-loom has been developed for producing warp-twined bands ; Kumi-Himo trade of course adopted the European machines long ago.

The tools described as A,B,C and D are the most important. But my research uncovered several others, notably that wooden semi-machine called NAIK-DAI. Many variations of hollow braids are produced on this peculiar tool which works on a quite unique and never heard-of principle.

These tools are described somewhat more detailed in my article published by Ciba-Geigy, Review 1974/4.

II - The Industrial braiding-machine

In analysing the Japanese braids and looking out for a way to understand and schematize those structures and the corresponding working-processes I got acquainted with the braiding-machine, an European invention the origins of which date back to mid-eighteenth century.

Whereas in hand-braiding only certain threads are moved at a time whilst all the others rest, the braiding-machine sets in motion all threads simultaneously. This reminds one of Maypole-dancers, holding ribbons which are attached to the wreath on top.

Each of the two principles : upwards-braiding and downwards-braiding on Maru-Dai and on Kakku-Dai offer certain possibilities and impose certain limits ; the braiding-machine is subjected to none of them.

The groves in which the bobbins run make explicit the intrinsic structure of the cord, - you could almost say their bowels ! This gave me the idea for a diagrammatic representation of the thread-movements. I developed a system which proved solid and reliable throughout all the unforeseen discoveries of my research. I can fit it to every kind of working-process and it proves perfectly useful also for the analysis of completed cords. -Of course this is not the place to explain the system.

When my Japanese material was thoroughly explored, I would have been ready to publish an exhaustive monograph. But I could find no publisher willing to venture into such a specialised topic. Therefore I went on with my research and I was looking out for analogues in other countries.

III - Braiding with backwards-bent, finger-supported threads

To begin with I hit upon the Peruvians, as every textile student is bound to do. The Peruvian slings show a variety of cords in many different techniques.

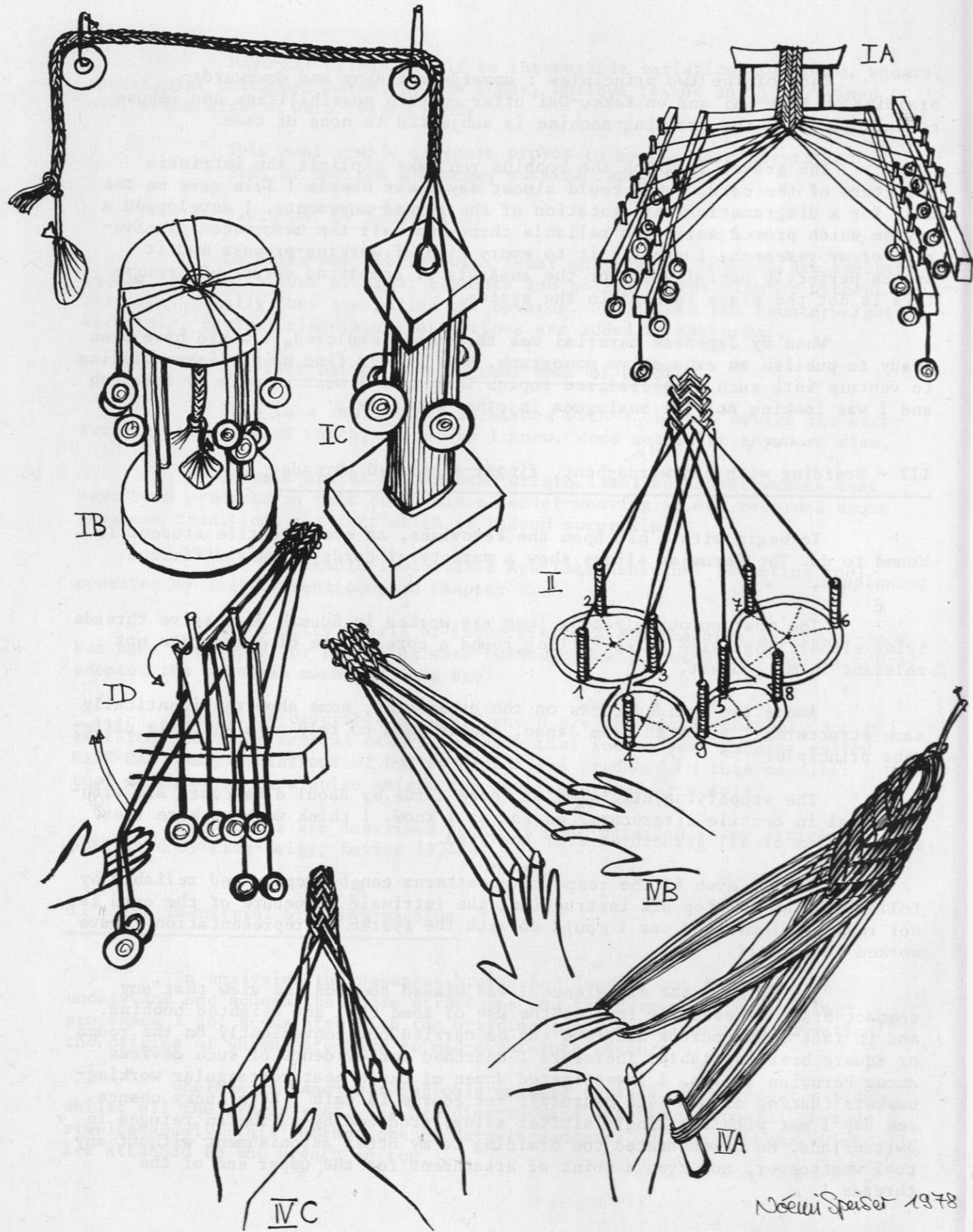
The most colourful among them are worked in Soumak on passive threads lying either lengthwise or spiralling round a core. Those of course are not relevant in my context.

Among the braided cords on the other hand, some show the identically same structures I reported from Japan, others seem to rely on a slightly different principle.

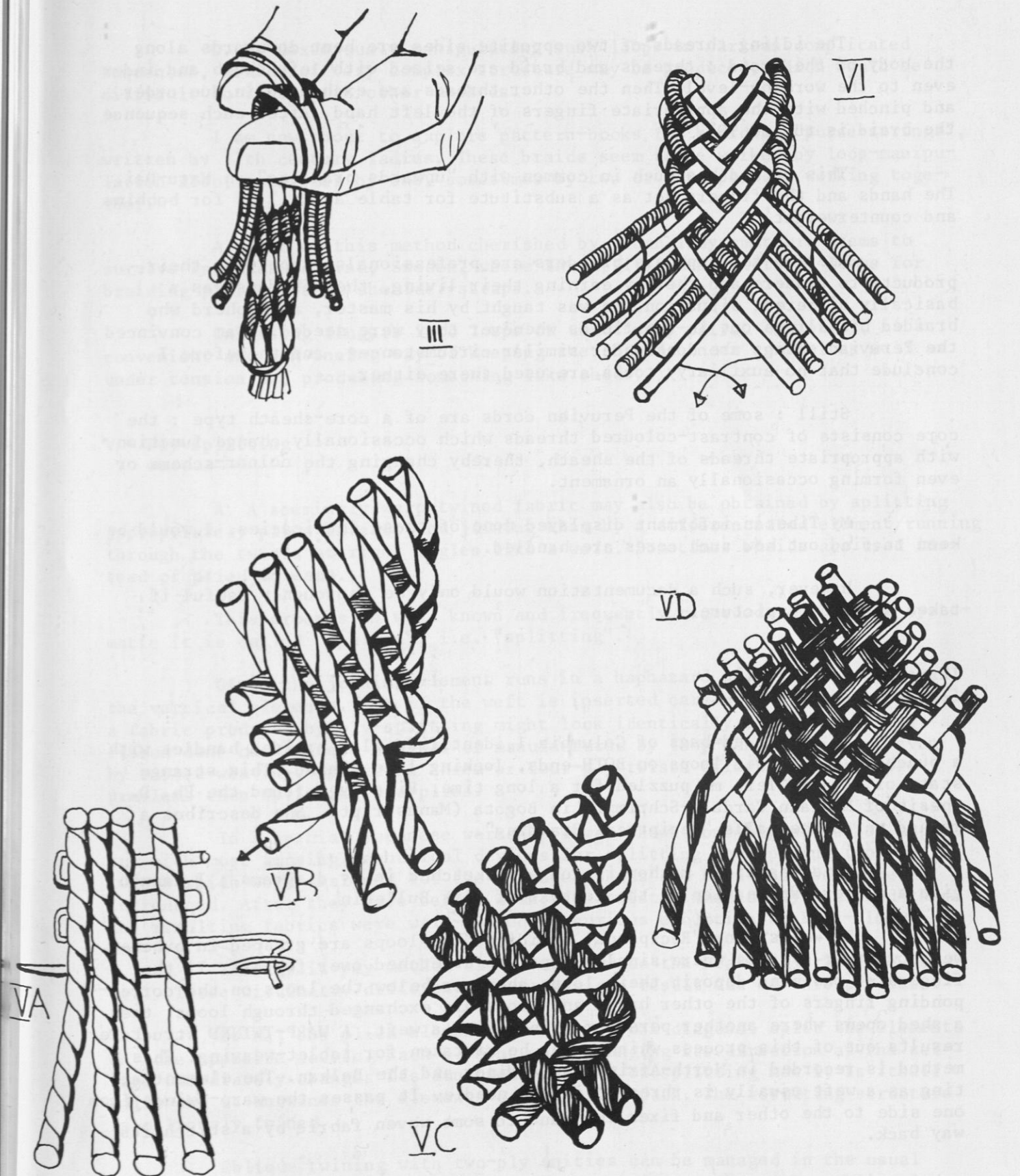
The stupefying diagrams of those cords by Raoul d'Harcourt are without equal in textile literature, as far as I know. I think we have here the most complex of all structures ever analysed.

Still, even if the respective patterns can be reproduced reliably by following step by step his instruction, the intrinsic structure of the cord is not really illuminated, as I could do with the system of representation I have worked out myself.

By my Japanese experience I was biased towards the view that any compact braid necessarily implies the use of some tool and weighted bobbins. And in fact d'Harcourt's diagrams can be carried out conveniently on the round or square braiding-table. Therefore I searched for evidence of such devices among Peruvian relics. I investigated dozen of those neat rectangular working-baskets (dating around 14th century), -of course in vain ! By a lucky chance one day I met with strikingly similar sling, produced by a Tibetan refugee in Switzerland. He demonstrated the braiding to my utter astonishment without any tool whatsoever, not even a point of attachment for the upper end of the threads !



Noëmi Speiser 1978



Noëmi Speiser 1978

The idling threads of two opposite sides are bent downwards along the body of the braid ; threads and braid are seized with left thumb and index even to the working-level. Then the other threads are exchanged in due order and pinched with the appropriate fingers of the left hand. After each sequence the braid is turned 90°.

This method has much in common with "upwards braiding" on Maru-Dai. The hands and the fingers act as a substitute for table as well as for bobbins and counterweight.

Whereas the Japanese braiders are professionals, supplying their products to traders and thereby earning their living, the Tibetans' was a basically different situation. He was taught by his master, a shepherd who braided his slings out in the fields whenever they were needed. I am convinced the Peruvian slings are done under similar circumstances, and therefore I conclude that no auxiliary tools are used there either.

Still : some of the Peruvian cords are of a core-sheath type : the core consists of contrast-coloured threads which occasionally change function with appropriate threads of the sheath, thereby changing the colour-scheme or even forming occasionally an ornament.

My Tibetan informant displayed none of those intricacies. I would be keen to find out how such cores are handled.

However, such a documentation would only be thoroughly useful if taken as a movie-picture.

IV - Loop-manipulation

A. On coiled bags of Columbia I identified flat braided handles with a bunch of concentric loops on BOTH ends, looking like a hand. This strange state of affairs left me puzzled for a long time. Finally I found the Ph. D. thesis of Mariann Cardale-Schrimpff in Bogota (Manuscript). She describes a method which she calls "Reciprocal Braiding".

This ingenious method is roughly sketched in my diagrams ; I cannot give a closer explanation in the context of this Bulletin.

B. Whilst for "Reciprocal Braiding" the loops are grasped in bunches, we know other systems where single loops are stretched over fingers. If the fingers of one hand deposit their loops above or below the loops on the corresponding fingers of the other hand, and loops are exchanged through loops, then a shed opens where another person may introduce a weft. A WARP-TWINED structure results out of this process which might be mistaken for tablet-weaving. This method is recorded in North-Africa, Asia Minor and the Balkan. The element acting as a weft usually is threaded into a needle. It passes the warp-twines from one side to the other and fixes the band to some woven fabric by a stitch its way back.

C. By dexterously manipulating such loops in various complicated sequences, braids of very complex structure may be produced, which would be difficult to imitate in other methods.

I am now about to explore pattern-books for braiding "purse-strings", written by 17th century ladies. These braids seem to be worked by loop-manipulation also, sometimes by one, sometimes by two or more persons working together.

A relic of this method cherished by urban lady-amateurs seems to survive in rural Dalarna, Sweden, where three girls manipulate 15 loops for braiding plain-pattern shoulder-straps.

Inserting fingers into loops of uncut warp-pairs, obviously, is a convenient and convincing way of keeping the threads under control as well as under tension and producing something like sheds.

V - Ply-splitting

A. A seemingly warp-twined fabric may also be obtained by splitting appropriately plied threads and joining them by a differentiated element running through the twists at right angles like a weft. Sometimes braids are used instead of plied threads.

This process is well known and frequently recorded. In Bühlers systematic it is called "spalten", i.e. "splitting".

Often the joining element runs in a haphazard zigzag course through the vertical elements. But if the weft is inserted carefully and systematically, a fabric produced by ply-splitting might look identically the same as, say, a ribbon done on Japanese Aya-Dai or manufactured by loop-manipulation or even by tablet-weaving. Splitting three-or four-ply twists offers not much more problems than splitting two-plies.

In a special Japanese workshop I was shown some big pieces of apparatus with most amusing mechanical devices for splitting and spacing two-ply twists which were designed for the purpose. Sheds did open and wefts were introduced. After they were beaten down, the twists immediately enclosed them. The resulting fabrics were warp-twined. A curious evolution of Kumi-Himo !

This split-ply method can be adapted to the braiding principle as well. Three distinctly different structures can result out of this process :

B. All the plied elements running on ONE diagonal split the elements on the opposite course. Each element when changing its direction at the sel-vage immediately changes its function. Instead of splitting now it is itself split and it entwines the elements crossing its path. The resulting structure is obliquely twined.

Oblique twining with two-ply unities can be managed in the usual braiding-method with loose threads quite as easily as the common obliquely

interlaced rep-structure. Twining unities of three or four threads would be almost impossible to handle.

C. If the splitting is mutual, i.e. if every plied element alternately now splits, now entwines one by one the plied elements running on the opposite course, which, in their turn, do the same, then a perfectly balanced structure results which is a type of oblique intertwining, or "double-twining" as it is called by Emery.

D. If plied elements consisting of two colours each are mutually handled in the same way as in C, but if the twists above each penetration are carefully eliminated, then a braid in two layers, each in plain interlacing, remains, bearing not the faintest trace of the method applied.

By appropriate manipulation the layers may penetrate each other in every chosen ornament with hardly any additional trouble.

To produce a similar structure on Japanese Taka-Dai certainly is a great deal more cumbersome and requires immense skill and concentration.

Twisting the corresponding threads of both layers is the amazingly simple arrangement for keeping them paired. Thereby, since two interlacings result out of one splitting, both layers are formed simultaneously.

"Split-ply-twining" is a technique which first came to light only a few years ago. It has never been documented before. It is described in a Monograph by Virginia Harvey (California 1976). Judith Stein has studied the technique in India and she will publish her Master's thesis from the University of California at Berkeley: "The camel-Girths of western India: Technical Analysis and Classification."

VI - Complementary braiding

A certain type of braid of various origins, showing a flat, but definitely two-layered structure, the layers interpenetrating twice or more times vertically did confuse me whenever I came upon some such specimen. My careful analyses brought out very odd shapes of diagrams. I could not imagine how anybody may have designed them on purpose. Moreover I deemed it impossible to produce them without the support of some frame and weighted bobbins.

Finally I discovered a method which might be called "Complementary Braiding".

The threads are arranged in ONE plane, alternately one of the first and one of the second layer one beside the other. Of course it is easier if two colours are chosen.

Now each braiding-sequence (i.e. the active thread interworking with the passives), as far as possible identical from both sides, is immediately followed by a complementary sequence equally from both sides.

The structures resulting out of such a simple rule are of surprising

complexity. Setting up a controlled design would be difficult for anyone not thoroughly initiated, but any arbitrary recipe turns out to make a satisfactory structure.

VII - Miscellaneous odds and ends

Braids and cords and warp-twinings fitting into the limits I circumscribed for my research may be found besides many other varieties of primary techniques as well as of weaving among the charming European PASSEMENTERY-products; also among the trade of STRAW-PLAITING, which caused the well-deserved fame of a certain part of Switzerland in the world of fashion for about three centuries.

But the most exciting of my recent discoveries is HAIR-JEWELLRY: bracelets, rings, broches and frequently watch-chains for men are braided with human hair and provided with metal clasps.

This sentimental byway of passementery lasted from about 1850 until the first decades of our century: a short period in consideration of the fantastic perfection it displays.

Nowhere except in Japan did I meet with such a wealth and variety of different designs under one common heading and among a secluded group of specialists. The correspondence of the techniques with the products of Japanese Kumi-Himo is striking, and in fact a tool similar to Maru-Dai has been used. All patterns invariably fit into my definition.

The short-lived but dazzling craft of hair-braiding ought to find a congenial chronicler. I think the Scandinavian scholar Karen Andersen, who has published several essays already, has a monograph in preparation.

CONCLUSION

May I kindly ask the members of CIETA to notify me of any details which might fit into the hereby established classification.

I wonder if further research will disclose some more basically different methods, and if the hitherto introduced groups, of whose extent the above summary is only the tightest condensation, will be furnished with more details.

Résumé

Cet article traite des techniques du tressage en relation avec leurs procédés de fabrication.

Mes recherches ont révélé que des structures identiques ou présentant des différences imperceptibles peuvent résulter de procédés de fabrication complètement dissemblables.

Voici la définition des tresses : Structures textiles longues et étroites, constituées de fils travaillant en zigzag ou en hélice dans des directions opposées, ne formant ni des noeuds ni des entrelacements mais uniquement des croisements. Les fils sont parfois doubles ou quadruples et s'enroulent autour des unités de sens opposé.

J'associe à ceci des structures à chaîne enroulée autour d'une trame transversale, donc à deux systèmes séparés car, malgré le fait qu'ils se rangent dans un compartiment technologique tout à fait différent, le processus de fabrication les rapproche souvent de certaines formes de tressage.

J'ai commencé mes recherches au Japon où j'ai trouvé un matériel complexe et, élargissant mes recherches, j'ai rencontré par la suite d'autres méthodes qui sont sommairement décrites sous les six têtes de chapitre de cet article et qui sont représentées sur les deux planches des pages 48 et 49.

Ma recherche n'est pas encore achevée et je serais très reconnaissante à toutes les personnes qui pourraient me communiquer quelque informations'y rapportant.

THE GARDEN OF LOVE

by William WELLS

In 1973 I published an article in the Scottish Art Review (vol. XIV, no. 2) identifying an early 16th century tapestry which Sir William Burrell had acquired in 1945 (fig. 1) as forming part of a set of (originally) four hangings (two very incomplete) depicting pastoral and hunting scenes in the W.A. Clark Collection of the Corcoran Gallery of Art, Washington (fig. 2 and 3).

I showed that two of these hangings were not in fact the pleasant scenes of hunting and sheeptending they had been hitherto supposed to represent but a disguised allegory of events which had culminated amid much rejoicing on the 22nd May 1506 with the signing of the Marriage Contract between Louis XII's daughter Claude (aged seven) and the king's cousin and successor, the young duc de Valois, Comte d'Angoulême (aged twelve) who came to the throne as Francis I when Louis XII died in January 1515.

In this historical context the open air meal in the Burrell Collection I suggested should be interpreted as a depiction of the nuptial celebrations of Louis XII and Anne of Brittany which had taken place in the Castle of Nantes on 6th January 1499 when Louis having obtained the annulment of his marriage with the childless and unfortunate Jeanne de France was finally able to marry Anne of Brittany, widow of Charles VIII, who thus became queen of France for the second time.

The tapestry shows us the royal bridegroom and bride toasting one another across the table on the far side of which a man (perhaps Imbert de Batarnay, Sieur du Bouchage a leading Breton) and two ladies (the one wearing the cross moline sprinkled with droplets probably being the queen's gouvernante Mlle de Laval) give them their undivided attention.

The court jester with the shaved head who looks at Anne of Brittany and points towards Louis XII probably represents the Breton soldier statesman, Pierre de Rohan Ghemenee, Maréchal de Gié, who we shall meet again as both jester and shepherd in one of the Corcoran tapestries and the two lovers should probably be regarded as a flash-back to a period before Anne of Brittany had married Charles VIII when Louis as the Duc d'Orléans as he then was is said to have courted her, although as Anne was only twelve years old this might be looked upon with some scepticism.

On the right a servant is filling a bowl with a brown coloured liquid, perhaps gruel for the dog stalking a couple of frogs beside the pond in which a stoppered bottle of wine bearing the lilies of France in an oval Cartouche on its side keeps cool.

In this brief paper I want chiefly to explore a little more fully a suggestion I made towards the end of my article in the Scottish Art Review concerning the possible authorship of this and the W.A. Clark tapestries which we shall be looking at in a moment. This was to the effect that the designer of these tapestries might have been the elusive Jean Perréal, also known as Jean de Paris "painter, decorator, architect and engineer, valet de chambre and peintre du roi under three kings" (Charles VIII, Louis XII and Francis I) as Grete Ring calls him in her article in the Burlington Magazine (vol. 92 1950) under the title "An Attempt to Reconstruct Perréal" although as the result of her stringent examination the modest oeuvre assembled round his name by several generations of scholars was reduced.

As I expect I have no need to remind members of CIETA this artist who was looked upon as the Apelles and Zeuxis of his time, had his chief residence from at least 1483 in Lyon where he may have been born about 1455.

Documents preserved there and elsewhere suggest that he was an immensely versatile and productive man and during the course of a comparatively long life (he died in 1530) we may presume he was probably concerned with a great number of projects unknown to us today which could be considered his brain children although the actual execution of many of them may have been carried out by assistants under his supervision.

Chief of those for which evidence exists was the Tomb of Francis II and Marguerite de Foix, Duke and Duchess of Brittany (parents of Anne of Brittany) at Nantes which documents prove was sculpted from Perréal's design by Michel Colombe and Guillaume Regnault under Perréal's supervision.

Apart from this work of sculpture which he did not therefore execute, almost everything else ascribed to Perréal - miniature paintings like the Sala illustrations in the British Museum (Stowe 955), first attributed to him by Durrieu in 1919, the frescoes at Puy-en-Velay, attributed to him by Mlle Huillet d'Istria but not accepted by Grete Ring and later writers, various portraits in crayon and oil, of which the Windsor portrait of Louis XII is usually considered the most reliable, are based on a greater or lesser degree of speculation.

Curiously enough his name to my knowledge had never before been associated with the production of tapestries although as a specialist in the organisation of royal and other Entries he must surely have been involved with them one way or another and it seems to me that tapestries like the ones under consideration containing disguised portraits of royal and other leading personalities in an allegorical context might be considered just the sort of thing we would expect him to have devised - indeed it might be claimed that no one other than a court painter of a singularly ingenious turn of mind such as we may presume Perréal to have had would have been competent or permitted to produce them. Before looking at the Corcoran tapestries let me briefly review some of the documentary evidence concerning his activities as assembled by Marius Audin and Eugene Vial in their dictionary of artists and craftsmen active in Lyon.

The first of these documents proves that whether or not he designed tapestries he was sometimes concerned with hanging them, for a document referring to the Entry of Charles 1st, Duke of Savoy, into Lyon on the 30th March 1489 mentions that beside painting three armorial shields and making a large Sun and Moon, Perréal "pose les tentures".

In 1490 Perréal and Jean Prévost were summoned by the Consulat Lyonnais on the 27th February and commissioned "d'imaginer des mystères" for the Entry of Charles VIII on the 7th March. On this occasion he made the "patrons" and "rhétorique" for the entry, recruited the modellers whose work he directed, painted a St. Michael slaying the dragon, and modelled a lion which was covered with the skin of a calf.

In 1494 he was commissioned by the same body "d'inventer quelques belles histoires et mystères" for the Entry of Charles VIII and Anne of Brittany on the 15th March. He organised all the work for the Entry, made the drawing for the gift presented to the Queen (a golden lion seated holding a cup) and probably also designed the medal bearing the likeness of their majesties.

In 1499 he was charged with the preparations for the Entry on 10th July of Louis XII into Lyon. He devised the histories made all the "patrons tant desdits mystères que des certiers, toiles et targuettes, au brodeur pour la paille (i.e. dais) et à l'orfèvre pour le porc espic d'or offert au roi". He is also sometimes said to have been the designer of the surviving medals bearing the profile portraits of Louis XII and Anne of Brittany dated 1499, issued in connection with this Entry.

In January 1514 he worked at Blois and in Paris on the arrangements for Anne of Brittany's funeral for which he made an image of Queen taken from life.

In September of the same year Louis XII sent him to London to make preparations for the King's marriage to Mary Tudor (sister of Henry VIII) who later became briefly Louis' third wife. On this occasion he probably took with him his portrait of Louis XII now in Windsor Castle, and he probably returned with a portrait of Mary Tudor whose trousseau he redesigned in the French mode.

In January 1515, following Louis XII's death, he organised the King's obsequies for which he made an image of the defunct King taken from life described as "un mannequin articulé qui a le visage dudit feu Roy" et "une perruque selon la sienne". He also decorated the funeral chapels, and painted flags, escutcheons, and two standards with "ung Saint Michel, ung soleil, ung Porc Espic, ung Houlx..." etc.

On the 30th October of the same year the Consulat of Lyon commissioned Perréal "d'inventer des histoires" for the Entry of Queen Claude, wife of François 1er, which took place on the 2nd March 1516, and I would ask you particularly to bear this last commission in mind as we look at the W.A. Clark tapestries.

The Burrell tapestry had never been associated with the Clark ones until some years ago when I noticed that three of the figures in the former

(the servant filling the bowl, the jester and the seated lady whom I have since identified as Anne of Brittany) recur in reverse in one of the latter where they can be seen together in the lower left hand corner. Although reversed and among new surroundings the jester still has his gaze fixed on the same seated lady who still holds a half-filled glass and wears a drape over her fore-arm. The drape however is no longer charged with the ermine of Brittany and she sits forlornly on her own, a rather sad and desolate figure. Nearby the servant now appears to be filling the bowl for the three dogs in the centre foreground one of which is yapping unpleasantly and has strange vicious looking fangs.

The centre of the same tapestry is filled with a sheep-pen in which a shepherdess is engaged in trimming the fleece of a pet lamb on her lap. Besides them is a young ram and a number of more elderly sheep and goats. From the right-hand corner of the tapestry a curiously attired shepherd hurries towards the sheep-pen holding in his right hand a dog's collar which he is apparently offering to the shepherdess.

On the far side of the same pen near a wooden shed and a peasant woman another curiously attired shepherd with shorn head like the jester leans pensively on the wattle fence and gazes fondly at the shepherdess and her two precious charges.

Beyond the sheep-pen is a scene of falconry comprising two mounted couples and an unmounted bearded man. The older couple (seen here) are evidently persons of status for he wears a plumed hat and carries a sword and she sports an ermine-lined sleeve of absurd size. They look grim and unattractive and the younger couple on the left is also portrayed somewhat unsympathetically but more as figures of fun.

Midway in the sky between the two pairs of falconers, a falcon tears the breast of a swan or heron which is trying to ward off the bird of prey with its long beak and claws.

Another of the Corcoran tapestries contains a comparable mixture of pastoral and hunting scenes in the lower and upper halves. Here our attention is first drawn to the scene of falconry. From the left riding towards the centre on a white horse is an impressive falconer wearing three plumes. Behind him are two professional huntsmen who point significantly toward the other side of the tapestry where a younger falconer also mounted on a white horse and accompanied by a professional huntsman faces them. The older falconer bears a falcon, the younger waves a lure while midway between them, almost in the centre of the tapestry, is apparently taking place the same encounter between bird of prey and game bird as we saw in the other Clark Collection tapestry but now the falcon has alighted on the back of the game bird which apart from the white marks on its head and lack of tail feathers is almost a replica of the bird of prey and instead of the usual bloody combat the meeting seems to be quite amicable - in fact the game bird, instead of turning on its back as it normally does when attacked, has remained in a defenseless position on its front and only twisted round its neck so that the two birds have come together beak to beak.

In the lower half of the tapestry three men and three woman wearing an interesting diversity of costume are engaged in a round dance to an accompaniment played by the gorgeously apparelled piper on the left. One of the male dancers holds a crook and they all have instruments - knives, tweezers, picks, little boxes, comb, shears - suspended from their girdles similar to those worn by the "shepherds" and "shepherdesses" in the other tapestry. On the right the oldest of the ladies has turned with outstretched hand to a bearded "shepherd" standing nearby as if inviting him to join the circle of dancers, but he makes a gesture of refusal.

As I have already mentioned I believe these tapestries should be interpreted as a "mystère" or allegory of events which culminated on the 22nd May 1506 with the signing of the marriage contract between Louis XII's daughter Claude and the King's cousin and successor Francis, who came to the throne when Louis died in January 1515, after their marriage on the 18th May of the previous year.

In the first of the Clark tapestries the queen's isolated position in the corner of the tapestry reflects Anne of Brittany's unpopular policy of trying to maintain the independence of her duchy by negotiating a marriage between her daughter Claude and the infant Charles of Luxembourg, later Charles V.

The seated shepherdess in the sheep-pen is Louise de Savoie and the pet lamb and the young ram are her children, Marguërite and Francis.

The shepherd with the dog-collar is Louis' chief minister, the Cardinal d'Amboise hurrying to declare Francis the King's heir.

The other shepherd leaning on the wattle fence is the Maréchal de Gié whom Louis had made Francis's guardian but whose advocacy of the Claude - Francis as opposed to the Claude - Charles betrothal had been partly the cause of his trial and expulsion from court.

The sinister falconers represent the Emperor Maximilian and his son the Archduke with their wives, Bianca Maria Sforza and the mad Joanna (daughter of Ferdinand II of Aragon, the bearded falconer who accompanies them on foot) and the bloody combat of falcon and heron symbolises the dismemberment of France which their negotiations would have entailed had they been successful.

The yapping dog probably represents the informer François de Pontbriand who with his brother testified against the marshal at his trial and the gruel which the servant pours is presumably the inducement they received to do so. The transfer of the ermine from the cuff of Anne of Brittany to that of the empress enforces the jester's taunt that Anne who for a fleeting moment in 1490 as a girl of fourteen had been married to Maximilian by proxy (at a moment moreover when the Emperor was in alliance with Brittany against France) had once again forfeited her right to the ermine by her support of the Austrian match for her daughter.

In the second of the Clark tapestries we see Louis XII and his young heir and future son-in-law taking part in a falconry expedition outside the walls of Plessis-les-Tours where the Notables assembled on the 14th May 1506 to petition the King to give his only daughter in marriage to the young François "qui est tout français". It is recorded that during his conversations with the queen on this topic Louis was often inclined to persuade her by parables based on the lives of animals, avowing for example on one occasion that he was determined to marry his mice only with the rats of his granary. The meeting of the two royal birds, both of the same species, to represent the all-French match, would therefore be quite in keeping with this known tendency.

The dancing shepherds and shepherdesses in the foreground of the same tapestry I identified as representatives of the territories in France (i.e. Brittany) and Italy (i.e. the Kingdom of Naples and the duchy of Milan) which would pass to Claude as heiress of her mother and father and which her marriage with Francis would safeguard. We know from Jean d'Auton's *Histoire de Louis XII* that a similar dance had taken place in Lyon after an agreement had been reached on the 16th August 1501 with the ambassadors of the Archduke and Duchess: "Parquoi la feste feut grande du Roy et de la Roynie. Et tant que chascun d'eulx fait convis et banquets aux ambassadeurs où fut faict une danse en laquelle feut dansé à la mode de France, d'Alemagne, d'Espagne, et de Lombardi, et à la fin en la manière de Poictou".

The dancers who are named are described as all being dressed in the costume of the countries they were supposed to represent, for which the queen provided "grande foison de draps d'or et de soye". Since these festivities took place in Lyon it seems to me likely that she asked her court painter, Jean Perréal, a resident of that city, to design them an experience which may have served him in good stead when many years later after the death of Anne of Brittany he was asked "to invent the histories" for the Entry of her daughter into the same town on the 2nd March 1516. I suggest that the Burrell and Clark tapestries now in Glasgow and Washington were either designed by Perréal on that occasion or as an outcome of it possibly by royal command. In that case, they must be rather later in date than Perréal's portrait of Louis XII now in the royal collection at Windsor which shows the King in 1514 shortly before his death, while his likeness in the second of the Clark tapestries would have been intended to depict him in 1506 at the peak of his popularity. The tapestry likeness, therefore though executed at a later date than the Windsor portrait shows him as a younger man and is doubtless intended to present an idealised image of the King at a moment when he had recently had conferred upon him the title of "Père du Peuple".

If I am right in identifying the Burrell tapestry as a representation of the royal nuptials which took place in January 1499 at Nantes when Louis was thirty-seven and Anne was twenty-two, we are in a position to compare their likenesses there with the medals made later the same year in connection with Louis's Entry into Lyon on the 10th July. These medals bear the date 1499 and are known to have been executed by Nicolas Leclerc and Jehan de Saint Priest, sculptors, and Jehan le Père, goldsmith. The medals therefore ostensibly portray the King and Queen at a time when they were about six months older than they were at the moment shown in the tapestry, though the latter was in fact designed and carried out sixteen or more years later, if, as I think, it should be associated with the Entrée of Queen Claude on the 2nd March 1516.

Obviously whoever designed the tapestry, the freedom with which Louis is depicted there suggests that this designer was so familiar with the King's appearance at different periods of his life that he did not need to model himself closely on a known original. Jean Perréal moreover had been made painter-in-ordinary to the King that same year and this, as Mlle Huillet d'Istria notes, gave him the right to do his portrait and to make use of it in official work. Perréal is also known to have painted a portrait of Louis in 1499. In the tapestry the happy bridegroom seems to be sporting two different types of headgear perhaps an in-joke of some kind indicating that the marriage would bring the King not only a fine duchess but a fine duchy.

The sharp featured face of the Queen as she is depicted in the tapestry is notably similar to that of the medal and notably dissimilar to her far more solid appearance in the Hours of Anne of Brittany by Bourdichon and in other portraits of her which perpetuate the Bourdichon image.

This strengthens my contention as to the designer of the Burrell and Clark tapestries, which if correct I hope may lead to a "reconstruction of Perréal" on a somewhat broader basis than has been attempted hitherto. As the leading artist of his time in France, I think we should consider the possibility of him having been the designer of one of the great surviving tapestry masterpieces of the early 16th century, namely the Hunt of the Unicorn series in the Metropolitan Museum which I suggest should be regarded as a "mistère" invented by Perréal for or in connection with the Entry of Louis XII and Anne of Brittany into Lyon on 10th July 1499.

Résumé Français

Une tapisserie du début du XVIème siècle dans la collection Burrell à Glasgow et deux tapisseries dans la Corcoran Gallery à Washington sont ici interprétées comme des représentations allégoriques de l'histoire de la famille royale de France.

La tapisserie Burrell se réfère au mariage de Louis XII et d'Anne de Bretagne en 1499, tandis que les tapisseries de la Corcoran Gallery se réfèrent aux événements précédant le contrat de mariage, en 1506, entre Claude fille de Louis XII et son cousin et successeur François 1er.

De nombreux personnages de ces tapisseries peuvent être identifiés à des personnages historiques mêlés à ces événements.

L'auteur suggère que ces tapisseries auraient pu être dessinées par Jean Perréal, peut être à l'occasion de l'entrée solennelle de la reine Claude à Lyon en 1516.

SOME PROBLEMS OF 20th CENTURY TEXTILE STUDIES *

by Valerie MENDES

For reasons of limited space only a few research problems concerning later 20th century textiles in Britain can be considered. Five very recently established British organisations recognise the immediate importance of promoting scholarly studies not only of 20th century textiles but of all 20th century decorative arts. Obviously a considerable amount of valuable work has already been accomplished by individuals, museums, libraries and well established specialist societies. In 1975 the Decorative Arts Society, 1890-1940, was formed to encourage interest in and research into the decorative arts in Europe and America. The Association of Art Historians although chiefly devoted to the furtherance of fine art historical studies also concerns itself with the applied arts. Part of this organisation is the Design History Publications Sub-Committee comprised of representatives from Polytechnics, Universities, Museums and Art Libraries. This Sub-Committee was set up to investigate the area of design history publications and is anxious to promote academically reliable studies, especially of 20th century developments. The Design History Society was founded in 1977 and the encouragement of sound design history studies of 20th century material is part of its programme. A 20th century gallery is planned for the Victoria and Albert Museum and a Museum Committee with representatives from all relevant departments meets frequently to consider the establishment of a Contemporary Art Archive which will possibly serve as the National Centre for 20th century design history studies.

Although up-to-date, standard works on technical and socio-economic aspects of the major British textile industries have been published, a great deal remains to be researched and discovered about the development of design, designers and firms and their records especially during the period 1900 to 1940. It is imperative to complete such studies with all possible speed and accuracy before primary sources of information vanish. From my own experience this work is divided into six wide, though usually interdependent areas: -1) manufacturers, 2) designers, 3) retailers, 4) customers, 5) textile collections in museums or private ownership, 6) libraries and archives.

The most urgent priority is to carry out fieldwork which involves visits, surveys and interviews outside the museum. Speed is essential for various reasons; first, textile manufacturers are taken-over at an ever increasing rate, which generally means streamlining, change of function and loss of older and knowledgeable personnel, as well as dispersal or destruction of significant records and libraries. Next, many textile designers, craftsmen and skilled operatives at their peak during the inter-war years are now retired and so difficult to locate, whilst others are, sadly, dead. Fortunately many larger British retailers have commissioned dependable company histories and keep their catalogues, order books, posters and press cuttings in an exemplary manner. Consumer information comes from customers themselves, manufacturers, designers and retailers. The two most fruitful areas of 20th century studies are, it seems to me, interviews with designers and craftsmen and visits to companies which have kept their records intact.

* a résumé of a paper delivered at the CIETA Conference, on September 28th 1977 .

A chain reaction often results with one informative interview leading to another. Complexities arise when one has to organise the material obtained -whether it be on tape, film or in note form- into a retrievable system.

Current research into 20th century textiles undertaken by staff of the Victoria and Albert's Department of Textiles and Dress has highlighted particular problems. Marion Dorn (1899-1964) was one of the leading textile designers in England between 1925 and 1940. Although her work received due acclaim during these years it was then almost entirely forgotten until very recently. She died only fourteen years ago but assembling details of her work was, and continues to be, a considerable problem only partially overcome by interviewing her friends and colleagues. Boldly patterned resist-printed silk, linen, cotton and velvet fabrics designed and executed by Marion Dorn first appeared in the mid-1920s. It was thought that evidence of her batiks whose colours were described as "vivid", existed only in black and white illustrations such as the enormous set of hangings resembling a theatrical backdrop printed for Lady Lathom in 1927 (Figure 1). Fortunately, Miss Hester Bury, archivist at Warner & Sons Ltd discovered a brilliantly coloured silk batik purchased from Marion Dorn in the 1920s and still in use as curtaining. The owner kindly allowed us to photograph the silk and gave us a great deal of hitherto unknown information about Marion Dorn's working methods. In 1932 the newly completed Broadcasting House, Portland Place, London W1 was furnished with a number of rugs designed by her. These rugs no longer exist as the building in constant use for forty-five years has been re-furnished many times. During a visit to the Wilton Royal Carpet Factory Limited in 1975 a collection of 1930s carpet designs, which answered many questions about 20th century hand-knotted carpet production in England was found. Amongst them was a gouache design signed DORN for the B.B.C.'s long vanished rug. Its pronounced wave motifs has suggested that it had been commissioned for use on a liner (Marion Dorn's rugs and carpets graced many luxury ocean liners of the 1930s) and indeed a label on the gouache specified that the rug was designed for use aboard the Cunard White Star Line's 'Queen Mary'. In the 1930s many of her carpets were walked upon in England's most fashionable hotels. The management of the Savoy, Claridges and the Berkeley commissioned her to design carpets and fabrics for their hotels with the most fortunate results. Private records of this working relationship exist but the imposing carpets were removed long ago and given to deserving causes. However, public business registration records of her own firm were destroyed in 1972, as part of the normal 'weeding' procedure, before researchers had consulted them.

Over the past four years the Department of Textiles and Dress has acquired a fairly representative collection of British carpets made in the 1930s. It is frustrating that, although manufactured only about forty years ago, precise documentation of these carpets is often impossible. The hand knotted carpet (Figure 2) was designed by the graphic artist Ashley Havinden -1- (1903-1973) and shown at an exhibition of his textiles in London in 1937. Exact details about the provenance of such a modern carpet should be available but at this stage I can only speculate about manufacturer and date of production as no definite evidence has emerged. In an attempt to fully document a chenille carpet designed by Frank Brangwyn R.A. (1867-1956) and made by J.& J.S. Templeton & Co., Glasgow in 1930 -2-. I visited the factory. For two days I searched through the myriad of documents but none related to Brangwyn. On the third day an elderly member of the design studio informed me that as a young man he had watched the chenille weavers at work on a Frank Brangwyn carpet and that as far as he knew the design and production records no longer existed.

Figure 1 -
Curtains for a large bedroom
designed and executed by Marion
Dorn, 17 John Street, Adelphi,
London.

Architectural motifs with floral
designs interwoven with birds
and animal motifs on cream-
coloured Roman satin ground.
Photograph from Studio
Year Book 1928.

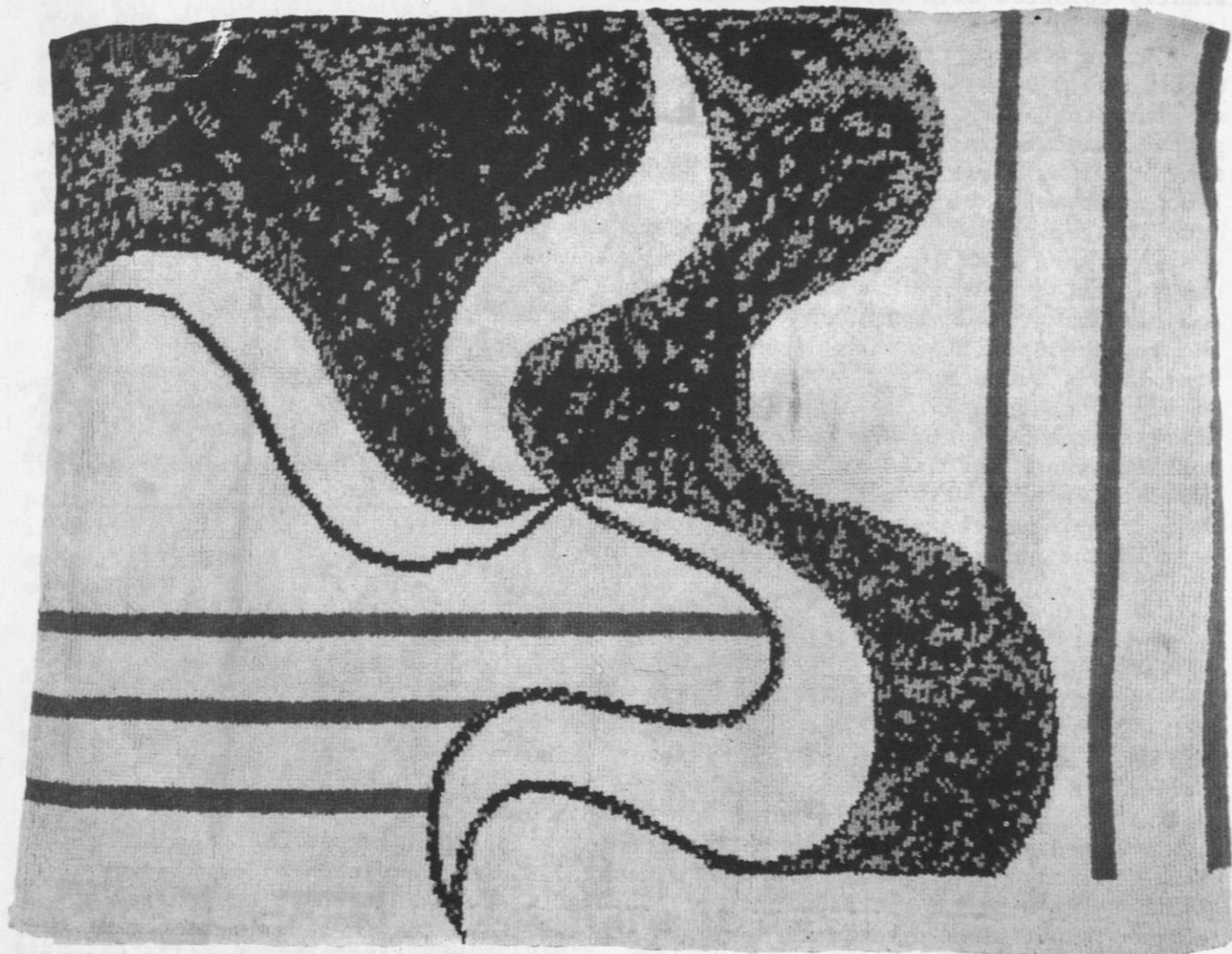
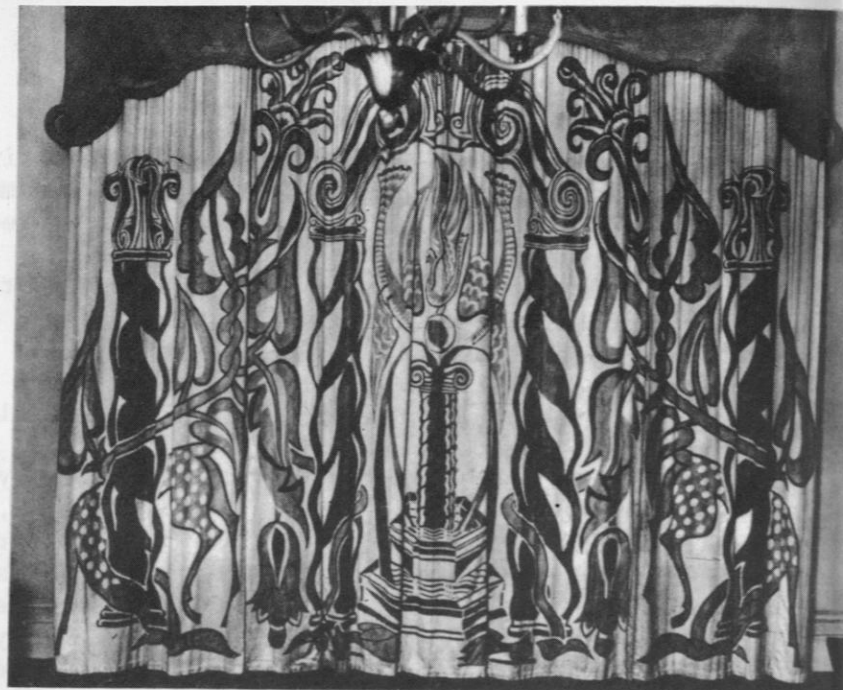


Figure 2 - Carpet, hand-knotted woolen pile (Turkish type knot) on a jute warp
designed by Ashley Havinden (1903-1973) and probably made by
Edinburgh Weavers, English about 1937. L. 2.438m - W. 1.829m.
Crown copyright, Victoria and Albert Museum T.380-1976.

Some leading 1930s textile designers, now well advanced in years, are most reluctant to discuss the work they accomplished so long ago, whilst others give information most generously. They have kindly lent the department their records to be photographed and documented and have furnished us with accurate accounts of their careers. Research continues but often to discover the loss of vital source material concerning textiles of the recent past. The few cases cited concern objects dating from the 1920s and 1930s but the same problems must be faced when considering today's textile production. Contemporary textiles quickly become historic - the 20th century is drawing to a close and we must take the opportunity to fully document newly manufactured textiles.

To conclude with some general observations: the main methodological problem which arises in collecting and researching 20th century textiles is the same as that faced by students and curators concerned with the contemporary arts and that is of course, selectivity. Students of the period have so much more material to work with; they must carefully pick their way through, choosing the significant and representative with constant reference to aesthetic and technical considerations.

Lacking the historical perspective which points up important productions of periods further away from us they are thrown back on to their own critical judgement. Knowledge of the history of the subject naturally provides the framework in which this judgement can operate but the main results emerge from methodical and laborious day to day research.

NOTES

- 1 - An exhibition of Ashley Havinden's furnishing fabrics and rugs held at the showrooms of Duncan Miller Ltd, London in 1937.
- 2 - The chenille carpets were made for an exhibition of furniture and furnishings designed by Frank Brangwyn, held in London Gallery of E. Pollard & Co Ltd in October 1930.

Résumé français

Le Victoria & Albert Museum, de même que plusieurs autres organismes, a entrepris de consacrer un effort considérable à l'étude des textiles du XXème siècle.

Dessinateurs et artisans ont été interviewés et les archives, en particulier celles des fabricants de tissus, ont été consultées. Mais de toute évidence la besogne est urgente et déjà une précieuse documentation de la première moitié de notre siècle a disparu. Peu de choses subsistent, par exemple, de l'oeuvre de Marion Dorn (1899-1964) laquelle fut parmi les dessinateurs les plus en vue en Angleterre de 1925 à 1940.

D'autre part, le Victoria & Albert Museum a réuni une collection de tapis représentative des années 30, mais il a été difficile de réunir des informations précises concernant leur fabrication.

Il est également important de recueillir des exemples de la production textile contemporaine, malgré les difficultés de la sélection.

WILLIAM LEE - INVENTOR OF THE KNITTING FRAME

by K.G. PONTING

So little is known about William Lee, the inventor of the stocking knitting frame, and so much legend has grown up around him in the centuries since his death that it has seemed desirable to set out the few facts which we have that beyond question refer to William Lee the inventor, and to examine them critically so as to see if they alter the balance between fact and fiction in the life of this English genius.

Much of the evidence is unsatisfactory and conflicting. According to Aubrey :

Mr. William Lee, M.A., was of Oxon (I thinke Magdalen Hall). He was the first inventor of the weaving of stockings by an engine of his contrivance. He was a Sussex man born, or els lived there. He was a poor curate and, observing how much paines his wife tooke in knitting a payre of stockings, he bought a stocking and a halfe, and observed the contrivance of the stitch which he desinged in his loome, which (though some of the appendent instruments of the engine be altered) keeps the same to this day. He went into France and there dyed before his loome was made there.

So the art was, not long since, in no part of the world but England. Oliver Protector made an act that it should be felonie to transfer this engine. Vide Stowe's Chronicle and Baker's Chronicle, if any mention of it. This information I tooke from a weaver (by this engine) in Peer-poole lane, 1656. Sir John Hoskyns, Mr. Stafford Tyndale, and I, went purposely to see it.

(John Aubrey, Brief Lives (1813) Vol. II, p. 32), but of course written much earlier). John Aubrey (1626-1670) is an important source, he is no longer regarded as an unreliable gossip, and his comments for example on William Shakespeare are now regarded as of great importance.

On the other hand, in Alumni Cantabrigienses he is claimed as a Cambridge man :

Lee or Leighe, William. Matriculated sizar from Christ's, May 1579. Of Nottinghamshire, perhaps of Woodborough. Migrated to St. John's. B.A. 1582-3. Probably curate of Calverton, Notts., circa 1589. Invented the stocking loom 1589. Practised the art at Calverton, and later at Bunhill Fields. His invention discouraged by Elizabeth and James I. Settled at Rouen by invitation of Henri IV. Died at Paris, c.1610. (J. and J.A. Venn, Alumni Cantabrigienses, Part I, Vol. 3, p. 66).

Despite the effort of many scholars it has proved difficult, indeed impossible, at this time of day to test which of these two conflicting accounts is correct. The Cambridge university and college records do not help much. Christ's College' admissions book dates only from 1621, so it is impossible to verify Lee's supposed admission from the college records. The university records, however, show that one William Leigh matriculated from Christ's in May 1579 but

there is no positive proof that he was the inventor of the knitting frame. Equally, the suggested migration from Christ's to St John's cannot be verified from college records since the admissions registers of the latter do not begin until January 1629-30. There is perhaps one significant discrepancy in the extracts quoted above. It is generally supposed that William Lee the inventor, was a master of arts, and he is credited with that degree by Aubrey. In Alumni Cantabrigienses, however, which is scrupulously accurate as to degrees, the Nottinghamshire Lee is given no more than B.A. But, the evidence of later documents is that William Lee the inventor was a master of arts, and this might be taken as some evidence that our inventor is not in fact the Nottinghamshire Lee.

Oxford university and college records do not help. There was a William Lee at St. John's who took his B.A. degree in 1577 and his M.A. in 1581, but his later career is well documented and he was not the man. No-one else fits the dates.

The ecclesiastical and local records in Nottingham are no more helpful. They certainly do not prove conclusively that William Lee the inventor was ever curate at Calverton or Woodborough, or that he was ever married. These documents include the will of a certain William Lee of Calverton, who died in 1607, which establishes that he had three sons, William the eldest, John and Edward, and three daughters, but makes no reference to James who was associated with his brother William Lee the inventor, in France. The Calverton registers begin in 1568 but contain no record of the baptism of a William Lee, though they do contain entries of the baptism of four sons of a William Lee, viz. Edward 1574, Robert 1577, John 1580 and James 1582. These Calverton parish registers cover the whole of the material period, but it is impossible to build a family tree based on them which satisfactorily links the inventor with the numerous other Lees mentioned. Perhaps the most conclusive entry is dated 17 April 1755: 'Buried, Joseph Lee, Stockinger, the last of the family of Stockframe inventor Lee of this parish'; but this entry does not confirm that the inventor had been in holy orders, or indeed anything other than that he had been a native of the parish of Calverton. There is also, of course, a gap of about one hundred and fifty years.

The ecclesiastical records are even less satisfactory and there is no real evidence that he was ever vicar or curate at Calverton. The Diocesan Registry at Nottingham has no information about him.

What, then, do we really know? First regarding his birth. There were certainly Lees at Calverton, many of them. One William died there in 1607 and he had a son, William. Our Lee did not die in 1607, that much is certain, so he is not the first William. It is probable that it was his father who died which might have been an additional reason for our William being prepared to go abroad and the balance of evidence remains that the second William is the inventor, but if this is so, this only proves he was of the Calverton family, not that he went to Cambridge or was a clergyman. It is worth making the point here that this supposition is confirmed by what Thoroton, the most reliable and earliest of the Nottinghamshire historians states. William Lee the elder could possibly have been vicar of Calverton and hence that particular confusion.

Finally to return to Aubrey, there is one piece of supporting evidence. John Evelyn in his famous diary, 3 May 1661, wrote: 'I went to see the wonderful engine for weaving silk stockings said to have been the invention of an Oxford scholar forty years since'. And in his Nusmismatic, page 163, 'Mr. Lee or Leigh, a curate in some obscure part of Sussex', is mentioned as the inventor. But there is a distinct likelihood that Evelyn got his information from Aubrey. They were close friends and associated in the work of the Royal Society. I find it difficult to decide but am inclined to dismiss Aubrey with regret, especially as there is in

the form of his report an odd similarity to his Shakespearian evidence which has proved important. The old weaver could easily have got Oxford and Cambridge mixed but information about him being a Sussex man is much more difficult to explain. and is perhaps the main point we have against a complete acceptance of the Nottinghamshire story.

Among these early documents the Nottinghamshire ones relating to the family of Lee are the most definite that we have. The will and probate of the William Lee who died in 1607 has been printed in Grass 'Stockings for a Queen' and need not be given in full. For our purpose the vital paragraph is:

Item: I give to my eldest son, William Lee, one ring of gold, in the value worth 20 shillings, in full discharge of his filial portion. He making the like discharge.

There is also an Inventory but this does not contain material that is important, and one is left wondering how much it is permissible to read into this bequest. Had William used his patrimony in his industrial experiments? Had he chosen to forsake his family inheritance for the far different world of Elizabethan London? Unless further documents are discovered there is no way of answering this question which is obviously central to the early life of the inventor.

The first authentic documents we have is the partnership agreement between William Lee and George Brooke which has recently come to light and has been reprinted in full in E.W. Pasold's 'In Search of William Lee' Textile History, volume 6. The importance of this document in the life of Lee is clear. It establishes a partnership between Lee and one George Brooke to go into business in framework knitting. The first question is, who was George Brooke? In the agreement he is simply George Brooke Esquire of London. Although there is no evidence to prove it completely, he was probably the brother of Lord Cobham, with whom he was found guilty of treason in 1603. Cobham's brother was living at Blackfriars in London in 1600, and would ordinarily have been described as 'Esquire'. He seems to have been chronically short of money, and it would not be surprising to see him seeking a share in the exploitation of the new invention. Dr. Joan Thirsk has confirmed that he was frequently engaged in what the Elizabethans called projecting. Although Brooke was always short of money, he was accustomed to live in great style, and the surprisingly large sums mentioned as compensation in certain circumstances might suggest that he was an aristocrat 'thinking big' rather than a careful merchant with his feet firmly on the ground. When George Brooke the conspirator was offered a prebend in York he turned it down on 8 May 1600 - a month before the Brooke-Lee indenture was signed - which is perhaps what one would expect of a man who thought that he was about to make a fortune as a manufacturer and merchant. All this, however, is sheer speculation.

As stated above, in 1603 George Brooke was arrested for treason and in due course executed. The plot in which he was involved was ill planned and probably not all that serious. In so far as it had a purpose, it was to stop James I succeeding Elizabeth and to have Lady Arabella Stuart as queen. Its main importance in history is that it gave James an excuse for arresting Raleigh and shutting him up in the tower. In so far as Lee was concerned, the arrest and execution of his partner must indeed have been a sad blow.

There is no further surviving reference to William Lee until 1 October 1605 when he petitioned the Court of Aldermen in the City of London for the freedom of the city by redemption, a course which was open to men of substance who had not, for one reason or another, become members of a livery company. Lee was, of course, a special case since he had invented a completely new form of manufacture, for which no livery company existed; and this may be why he applied direct to the Court of Aldermen.

The document in question reads :

Court of Aldermen, Repertory 27, 1 October 1605. f. 83.

Lee for his freedom

Item the petition of William Lee master of artes first inventer of an ingeine to make silk stockinges made to this Court for his freedome of this Cittye by Redempcion and for certain roomes to be granted unto him in Brydewell to work in is by this

f. 83b

Court referred to the consideracion of Sir Stephen Soame, Sir John Garrard, Sir Thomas Bennett, Sir Humfrey Weld and Sir William Romney knightes or any three or more of them and they to make report to this Court of their opinions towching the same.

The committee no doubt made a thorough investigation of his claim but there is no record of any conclusion or any record of Lee's name again in the proceedings of the Court. It therefore seems likely that the petition was unsuccessful since lists of freemen by redemption appear regularly.

This document, however, makes it quite clear that William Lee the inventor of the knitting frame, was a master of arts and is therefore a confirmation of the Aubrey tradition.

There is then another gap. Nothing more is heard of Lee's aspirations in the City of London until March 1608 when he was admitted as "a foreign brother" to membership of the Weavers' Guild. This was a common method of entering a lively company, which was open to Englishmen ineligible for other methods, for example, as the sons of freemen, or after a seven-year apprenticeship ; and it should not be confused with entry as a "stranger" (equally common at this time) which was open to foreigners who had taken up residence in London.

f. 47b

William Lee Receyved of him when he was admitted in parte payment the some of .

£02:00:00

f. 48

William Lee weaver of Silke stockinges by Ingyn was the Seaventh day of Marche 1608 admitted a forren brother for Three Poundes whereof he payd Fortie shillings in hand and the rest he is to pay whensoever he shall sett up anie Looome or Sapyn to use the Art of weaving and is sworne say for £03:00:00

The standard entrance fee for a "foreign" member of the Weavers' Guild was £3, as it was for the apprentice who had served his time, compared with £5 for a "stranger". It was usual to pay part of the entrance fee on admission, and to undertake to pay the balance by instalments over a period. The record of the new members and the amounts they were required to pay on admission and over a period is kept on the right hand pages of the Admissions Book ; and there is a parallel record on the facing pages of the amounts actually paid quarter by quarter.

The latter record is of particular significance in the case of William Lee, since according to the terms of his admission he was required to pay £2 down, and the balance of £1 only when he started operations with his knitting "engine". The down payment was duly recorded, and although the appropriate blank

space was duly ruled on the left hand page of the Admissions Book to record future payments, none was ever entered. Most members were slow in paying the balance of their dues, but all payments actually made appear to be faithfully recorded. Thus on the same page where Lee's initial payment is noted a 'stranger' (Henry Fournye) admitted in November 1609 is credited with an initial payment of £1, and five instalments, the last of which was received in July 1611.

The fact that Lee paid no more than his initial £2 is not evidence of his shortage of money (as his biographers have suggested) but simply means that he never took up the option to set up manufacture in London under the aegis of the Weavers' Guild. It is inconceivable that he would have been allowed to set up a loom without honouring his obligation to the Weavers ; and it is equally unlikely that the record of any subsequent payments would have been omitted from the Admissions Book, since his membership was unique (because of the nature of his invention) and must have been very carefully debated by the Council of the Guild. Unfortunately the Council's Minute Book for 1608, which would almost certainly have contained a reference complementing the information in the Admissions Book about Lee's admission, has not survived.

Thus the evidence suggests that although Lee was accepted as a member of the Weavers' Guild, and given the right to manufacture, so making use of the invention he did not exercise the right. This still leaves it open that he might have engaged in machine knitting outside the auspices of the Weavers' Guild, on the ground that he was plying a different trade - which of course he was.

A final point remains to be dealt with. It was contemplated that Lee would set up "a loom or sapyn to use the art of weaving". His knitting frame was called a loom for want of a better word - it was the "horseless carriage" of the age. What of "sapyn" ? At first sight, the only meaning provided by the Oxford English Dictionary - "pine tree" - seems difficult to fit. "Sapine" in sixteenth century French is more helpful. The word is used more in the records of the Weavers' Guild, first relating to the admission of "Nicholas Bassye a stranger Sapyn weaver" on 6 July 1613, and second to that of "Claude le Blanque stranger Sapin weaver" on 16 March 1618.

The records speak of 'silk weavers', 'linen weavers', 'cobweblawn weavers', 'tiffany weavers', and so on which might suggest that 'sapyn weaver' should relate to the type of cloth produced ; but while the other terms are well-known, 'sapyn' is not. One can only guess at the true meaning of the word. There is one common factor to early knitting frames and the pine tree, and this may provide the clue. They both had large numbers of needles. 'Sapyn' may have been used to describe the first knitting machines for this reason.

There is one other piece of contemporary information which is worth including here. John Stow the well known Elizabethan analyst died in 1605 and in his own editions of both The Survey of London and The Annals of England, there is no reference to Lee. His entries, however, were continuously revised. As far as we are concerned the most important revisions are those of The Annals of England continued and edited by Edmund Howes, and in the 1615 edition of them (page 869) in the section rather misleadingly headed 'The Life and Raigne of King James': Paragraph 60, column 2, we read :

A new kind of weaving - In the yeere 1599 was devised and perfected the Art of knitting or weaving silke stockinges, wastecoates, and divers other things by engines or steele loomes by William Lee Master of Arts of St. John's College in Cambridge, after that hee went into France where hee obtained a Pattent of the King, and there taught them that Mystery, his servants were

entertained in foraign Nations as in Spayne, Venice and Ireland and in other places where they taught the secret of their art, and so it went through the world.

This information has several times been quoted but it has not, I think, been stated that Howes in an earlier book based on Stow, entitled 'The Abridgement or Summary of the English Chronicle etc. 1607' by E.H. Gent, has on page 477 :

'This year 1589 was invented and perfected the art of knitting or weaving of silk stockings, waistcoats, coverlets and diverse other things by engines or steel loom by William Lee sometime master of St. John's College of Cambridge.'

Howes' abridgement went through numerous editions coming out again in 1611, when the entry is identical to that of 1607. However, in the 1618 edition, the entry is changed as follows :

This yeare 1589 was devised and perfected the art of knitting or weaving silk stockings, waistcoats, coverlets and diverse other things by engines or steel looms, by William Lee, sometime Master of Art of St. John's College, Cambridge, and fifteen years after this he went into France and taught it to the French because he was not regarded in England.

Clearly several points are of interest, but first Edmund Howes. The fact that he is E.H. Gent is proved by the fact that the abridgement has a preface signed Edmund Howes. There is a note about him in the D.N.B. and Dr. Joan Thirsk tells me that she has found him most reliable in his entries regarding other technical matters. Most unfortunately for our present purpose he gives the date as 1589 in all three editions of the Abridgement, but in his edition of the Annals published in 1615 he gives it as 1599. On the other hand it is clear that he was well informed because whereas the first entry in the Abridgement naturally never makes any mention of Lee going to France, the entry in 1618 does and adds the further information that Venice was interested in the discover. We know from other sources that this was so. One would give a great deal to know how intimately Howes knew Lee.

Our next definite information comes from Rouen and is contained in the well known contract between William Lee and Pierre de Caux headed : For a company to manufacture stockings of silk and of wool upon a loom to be introduced in France. This document has been printed in Grass 'Stockings for a Queen', page 165-168, and need not be given in detail here. It draws up a contract which in some ways resembles the contract between Lee and Brooke. Fortunately quite a lot is known about de Caux. He was a member of a French family that was very active in London in the early decades of the 16th century specialising in all types of engineering work including, for example, installing the Earl of Pembroke's famous water garden at Wilton. If we assume, as would indeed seem reasonable to do, that Lee and his work were fairly generally known in London, then he would be just the man who would either contact Lee or be contacted by Lee with the idea of taking the invention to France.

In the past it has usually been assumed that Lee died shortly after his arrival in France, the date being given as 1610 or 1611. A recent discovery in Rouen proves that this was not so. He was alive in 1614 when he appears in a document which will be printed in Textile History Vol.9 (1978) and that, as far as we know at present, is all one can say for certain of the life of this great inventor from contemporary evidence.

There is, however, a certain amount of further documentation round about the middle of the 17th century that warrants mention. First of all in the petition by the Framework knitters to Oliver Cromwell asking for a charter, Lee

is mentioned and the petitioners make the point that most of them had been trained by his associates or immediate successors and it does seem likely that in spite of the lapse of about half a century, the information which they provided about Lee was accurate. The relevant passage reads :

the trade of frame-work-knitting was never known or practised either here in England, or in any other place in the world before it was (above 50 years past) invented and found out by one William Lea of Calverton in the county of Nottingham, gent. who by himself and such of his kindred and countrymen as he took unto him for servants, practised the same many years, somewhat imperfectly in comparison of the exactness it is sithence brought unto, by the endeavours of some of these petitioners. Yet even in the infancy thereof, it gathered a sufficient estimation of a business of so extraordinary a national profit and advantage, as to be invited over into France upon allurements of great rewards, privilege and honour ; not long before the suddain murther of the late French King Henry IV unsuccessfully accepted by the said Mr. Lea (at that time wanting due encouragement at home). And transporting himself with nine workmen his servants (with some frames) into Roan ; there wrought to so great applause of the French, that the trade was in all likelihood to have been settled in that country for ever, had not the decease of the said King disappointed Mr. Lea of his expected grant of privilege, and the succeeding troubles of that kingdom, delay's his renew'd suit to that purpose, into discontentment and death at Paris, leaving his workmen at Roan to provide for themselves, seven of which returned back again into England with their frames, and here practised and improved their trade ; under whom (or the master-workmen since risen under them) most of these petitioners had their breeding and served their apprenticeships. Of the other two which remained in France, only one is yet surviving : but so far short of the perfection of his trade (as it is used here) that of him, or what can be done of him, or his means, these petitioners are in no apprehension of (sic) fear, nor have not been (since then) endangered in foreign countries by any that have served out their full term of apprenticeship here...

Unfortunately Oliver Cromwell died before anything was done. The Framework Knitters therefore re-applied to his son Richard during his short-lived Protectorship but this petition does not contain any fresh information about Lee. This petition also got nowhere and it was not in fact until after the restoration of Charles II that the Framework Knitters got what they wanted.

The other mid-16th century information comes from Thornton, who writes :

At Calverton was born William Lee, master of arts in Cambridge and heir to a pretty freehold who, seeing a woman knit, invented a loom to knit, in which he or his brother James performed and exercised before Queen Lizabeth and leaving it to - Aston, his apprentice, went beyond the seas and was thereby esteemed the author of that ingenious engine, wherewith they now weave silk and other stockings etc. This - Aston added something to his mater's invention, he was some time a miller at Thornton, nigh which place he was born. (Thornton Vol. III, page 42. There is a note giving the source of the information 'ex relatione Johannis Story, gent.')

This is an important source. There is no mention of Lee being a clergyman, but it states definitely he obtained his M.A. at Cambridge. It also contains the earliest reference known to the Queen Elizabeth story. One is convinced of the truth of Thornton's recording of the tradition because of his reference to Aston, who, as he rightly states, did make an important additional contribution to the frame. It is worth noting that he specifically says William Lee, heir to

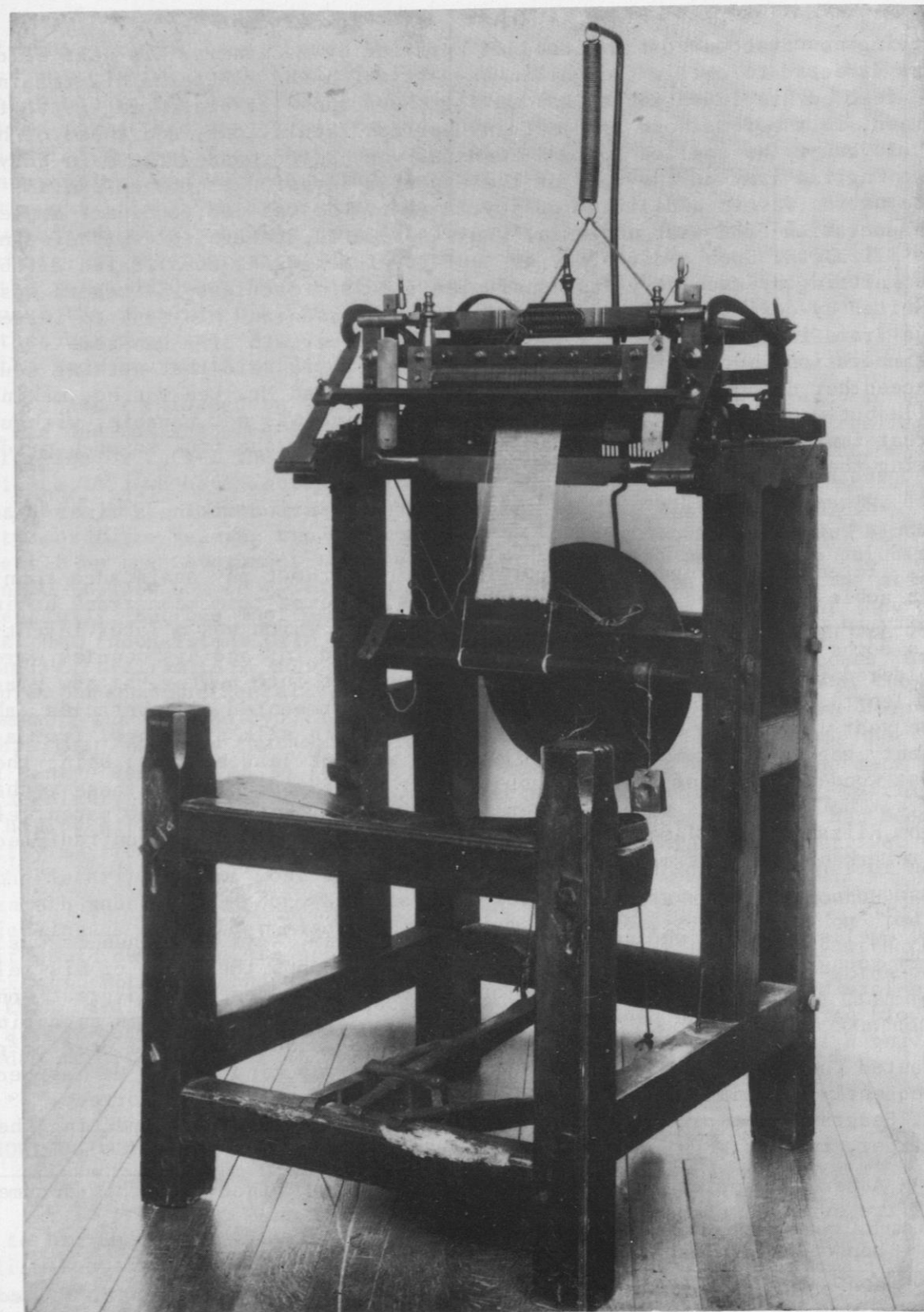
his father's estates. We know from the will that although William might have been heir in that he was the eldest son, he never actually got the estates which went to his younger brother.

To sum up, the evidence is that Lee came from Nottingham, and was at Cambridge but was never a clergyman. I suspect he came to London about 1589, but it was not until ten years later that he really perfected his frame. After that the documents, although few, are consistent and we can picture Lee as living in London during perhaps its finest days, a contemporary of Shakespeare and many other of the greatest figures of the age. The reference by Howes proved his work was known, the connection with de Caux confirms this and we also know that the Venetian Government were trying to get the frame to Venice. It is surprising that rather more is not known and truth to tell perhaps there is other information in the documents of the period.

Finally, one turns to the myth. In 1831 Gravenor Henson published his History of the Framework Knitters and it is in fact from this volume that almost all later accounts of Lee have come. If the actual facts are as I have summarized above, Henson certainly filled in the gaps :

The invention of the knitting machine, (since better known by the name of the stocking frame, and the workmen as frame-work-knitters) owed its origin as is universally agreed, to a singular circumstance, the disappointed love of the inventor, the Rev. William Lee, curate of Calverton, in the county of Nottingham. This gentleman, it is said, paid his addresses to a young woman in his neighbourhood, to whom, from some cause, his attentions were not agreeable; or, as with more probability it has been conjectured, she affected to treat him with negligence, to ascertain her power over his affections. Whenever he paid his visits, she always took care to be busily employed in knitting, and would pay no attention to his addresses; this conduct she pursued to such a harsh extent, and for so long a period, that the lover became disgusted, and he vowed to devote his future leisure, instead of dancing attendance on a capricious woman, who treated his attention with cold neglect, in devising an invention that should effectually supersede her favourite employment of knitting. So sedulous was Mr. Lee in his new occupation, that he neglected every thing to accomplish this new object of his attentions; even his sacerdotal duties were neglected. In vain did his sweetheart endeavour to reclaim him; she found, too late, that she had carried her humour too far, all interests, all avocations, all affections were absorbed in his new pursuit, from which he imagined he should realise an immense fortune. His curacy was despised, and at length abandoned, as beneath the notice of a person who had formed in his imagination such gigantic prospects. (p. 38-39)

According to Henson's footnote: 'The greater part of this information was obtained from Mr. Hardy, Twister's-alley, Bunhill-row, London, who was apprenticed in London in 1711, and died, aged 90, in 1790 - from Mr. Woods, Godalming - and from an ancient stocking maker who died in Collin's Hospital, Nottingham, aged 92, and who was apprenticed in Nottingham in the reign of Queen Anne, and all of them gave a similar account. This is in some measure confirmed by the arms of the London Company of Framework-knitters, which consist of a stocking frame without the woodwork, with a clergyman on one hand and a woman on the other as supporters'. This is not a satisfactory reference. Henson was born in Nottingham in 1785 so it is not clear how he could have collected the information from Mr. Hardy, who died aged 90 in 1790. He continues his account with a description of how Lee solved the many technical problems that arose, and then:



KNITTING MACHINE c. 1770

A hand-operated machine similar to the original stocking frame invented by William Lee in 1589. Crown Copyright. Science Museum, London.

Having now discovered the method of knitting by machinery, his next effort was directed to obtain the golden harvest which had flattered his imagination. He removed his invention to London for the purpose of presenting it to the Queen, in the fond hope of receiving her congratulations, and those of her whole court. He applied to Lord Hundson, who had commanded the main body of the English army at the time of the expected invasion from the Spanish armada; the nation was in a delirium of joy, and Mr. Lee was led to expect ample remuneration from that nobleman, who was related, though somewhat distantly, to Elizabeth. Such a discovery as the art of making so complicated a fabric as knitting by machinery was considered almost miraculous; Elizabeth was excited by curiosity (in company with Lord Hundson and his son) to inspect the frame incognito. Lee now imagined himself certain of a handsome remuneration, but his hopes proved delusive. It is said that nothing could exceed her disappointment, when she perceived that Mr. Lee was not making silk but woollen stockings, and that his machine was not capable, without great improvement, of making the articles in which she took so much pride of being the first wearer. (p.43)

Henson next tells how Lee spent a further period making a finer frame that would knit silk stockings:

Yet did this ingenious persevering man, without any assistance than from his noble colleagues and his brother James, attempt to make a frame having sixty in three inches, and that without a sley, which was a later invention. His combs and counters were not cast, but wedged in, and his needles were soldered into brass combs, instead of being cast into pewter, as now practised; at length, at the end of seven years, having surmounted all obstacles, about the year 1596-7, he completed the making of plain silk stockings, from a twenty gage silk frame, having only jacks without lead sinkers, being the most wonderful act of a single genius ever displayed, even in these mechanical ages. The London and Godalming men unitedly say, that he had no patent, either from Elizabeth, or James, her successor, but this account is contradicted in a remarkably curious manner. (p. 45-7)

Henson then has a footnote:

Mr. Twells, tailor, who now resides in Nottingham, says that when he was very young, not more than fifteen years of age, upon the death of his relative, the late Mr. Seagrave, town clerk of Nottingham, he destroyed a great number of old parchments and papers; and he particularly recollects one in a tin box, having a large seal, and upon examining it, he found it was the deed of patent granted to Mr. William Lee, for the use of the stocking frame. He has declared frequently his willingness to make affidavit of the fact. If correct, Mr. Seagrave most probably obtained it during the disputes respecting the charger, in 1753.

A careful search in the Patent Office has not discovered this document and all the evidence suggests that he was never given one.

Henson concludes his account of Lee's London experiments:

But he proceeded in applying his invention in a very tardy manner. The cost of the first silk frame must have been very great, from its extreme fineness, and the finished execution is required. The second, and even the third, would meet with equal impediments, therefore, unless he met with a pecuniary remuneration for his ingenuity, small must have been his hopes of obtaining a competency from the profits which might arise from working his knitting

frames. It must be presumed that his patrons, the Lord Hunsdons, zealously supported him, for he was enabled to build and work nine frames. Mr. Lee, absorbed in the erection of such delicate machinery, could have had little time for attendance at court, and upon the death of Elizabeth he lost every idea of a grant from the crown, the ultimate hope of all his measures. His apprentices and workmen were principally composed of his relatives, who thought it so high a honor to belong to the new craft, that they wore their working-needles, having ornamental silver shafts, suspended from a silver chain, at their breasts; and this mark of distinction was preserved so late as the reign of Queen Anne. After the death of Elizabeth, Mr. Lee, who was now past the meridian of life, became in some measure melancholic, for he found that her successor James, who retained Elizabeth's minister Cecil, followed the same course in refusing him remuneration. (p.47-8)

After this Henson switches to the movement to France already mentioned. What can one in fact make of this detailed account? Was it all, as I believe, the imagination or rather the invention of Henson, or did he have some inside knowledge that we have not. Henson himself was a fascinating man and has been described by E.P. Thompson in *The Making of the English Working Classes*, as one of the two or three leading trade union leaders of the period. We know that he was suspected by the Government of even being Mr. Ludd. A leading trade unionist then did need to know how to cover up his tracks and Henson in his own time did this successfully. But one must emphasize that he is a notable figure but I do not think that inconsistent with his having allowed himself to very much write-up the account of William Lee. In particular I do not think Lord Hundson comes into the picture. Hundson incidentally, was a close, not a distant, relation of the Queen. His mother was Mary Boleyn, Ann Boleyn's sister, but there could have been more to it than that. We know that Mary Boleyn had been Henry VIII's mistress and indeed when Henry was engaged in getting rid of Ann Boleyn as his wife, he made the extraordinary claim that thought he was living in mortal sin having married Ann and having already had her sister as a mistress. We know that Mary had been rather hastily married to Richard Carey and that the future Lord Hundson arrived six months later. It seems most likely that Henry VIII was in fact father of both Elizabeth and Lord Hundson. Hundson does not seem to have been so much engaged in projecting as many other Elizabethan noblemen. The older Lord Hundson died in 1596 so it would have been his son, who, if Henson was right, went along with the silk stockings. Both Hunsdons were Lord Chamberlains and it is probably worth pointing out that Lord Cobham, who was George Brooke's brother, was the Lord Chamberlain for a year between the two Hunsdons, but I hardly think this has accounted for the Hundson myth.

ACKNOWLEDGEMENTS

In preparing this paper I am deeply in debt to the late Mr. E.W. Pasold and to Dr. Charles Cruickshanks. The former has placed his vast knowledge of William Lee at my disposal and the latter has allowed me to use the report of his researches made for the Pasold Research Fund, including his discovery of the Lee/Brooke agreement. Obviously the faults and, in particular, my opinions about Henson, are entirely my own responsibility.

Résumé français

Le métier à tricoter de William Lee est la plus grande invention technique qui soit intervenue dans l'industrie textile entre le XIII^{ème} et le XVIII^{ème} siècle. Jusqu'ici, la plupart des détails connus concernant la vie de cet inventeur étaient basés sur les notices de Gravenor Henson dans son "History of the framework Knitters" publiée en 1831.

Le présent article produit des détails inédits basés sur des documents récemment découverts qui, en fournissant de nouveaux faits concernant Lee, rendent extrêmement suspectes plusieurs anecdotes rapportées par Henson.

Par exemple, il semble tout à fait improbable que Lee ait été présenté à la reine Elisabeth par Lord Hunsdon et il est faux de le faire mourir en 1610 ou 1611, peu après qu'il eût émigré en France ; un document découvert à Rouen démontre qu'il vivait encore en 1614.