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NEWSLETTER

WORKING GROUP : TEXTILES
GROUPE DE TRAVAIL : TEXTILES
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CONTENTS

ICOM-CC Interim Meeting
Recent Preoccupations with Textiles, Leather, and Legislation

We are delighted to announce that the Hellenic Committee of ICOM and the Department of Conservation of Antiquities and Works of Art - Technological Education Institute (T.E.I.) of Athens are co- organizing a joint Interim meeting of the Textiles, Leather and Legal Issues Working Groups of the ICOM-CC, next spring.

We hope that this meeting will give the conservators the chance to meet colleagues, exchange new ideas, methods and discuss new policies in order to gain a new perspective on the problems of the field. By bringing together conservators, scientists and experts in conservation, from all countries we will hopefully manage to maintain the high standards in analysis and conservation of the cultural property.
We encourage everyone to come and share his/her ideas in a short oral or poster presentation. The abstracts, which should not exceed ten double- space lines and may also include one illustration (chart or picture), must be sent to Working Groups co-ordinators by December 15th, 2003. Instructions concerning the oral and poster presentations will be given after the abstract selection has taken place. Selected abstracts will be published in a special issue of the scientific Greek magazine Arts and Technology.

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You can find more information about the ICOM-CC Interim Meeting at
http://www.teiath.gr/sgtks/antiquities_works_art/ICOM_Interim_Meeting

Textile Abstracts

Posters

Douglgeridis, D., M. Karadima, E. Kouloumpi, and A. Karazini, "Preventive Treatment and Study of an Epitaph from the Balkans."

Koussoulou, T., Alexandra Kotsaki, Anna Karatzani, and Yannis Papas, "Historic and Folk Art Museum of Milos, Conservation Express. "

Presentations
Abdel-Kareem, Omar and S. Samaha, "Investigation of the Effect of Fungi on Properties of Egyptian Cotton Textiles and Their Prevention with Fungicides"

_____ and S.M. Morsy, "Investigation of the Physical and Chemical Characterization of Deteriorated Coptic Egyptian Textiles Using Non-Destructive Methods."

Ballard, M., F. Marte, W. Hopwood, and D. von Endt, "The Effects of Acetone on Wool."

Chanialakia, Archontina, "The Conservation of the Ecclesiastical Textiles of the Greek Orthodox Church: Practical and Ethical Challenge."

Flury, Lemberg, M. “The Shroud of Turin.”

Gregoriou, Manolia, “The ‘inner world’ of Medical Ecclesiastical Textiles from Greece: Materials and techniques.”

Habgood, Sean and Marion Mecklenburg, “Characterizing the Proper Lining Material for the Support of Textiles.”

Karatzani, Anna, “Metal Threads: AN Overview of their Use in Ecclesiastical Textiles.”

Kavassila, Kalliope, “The Use of Paper & Leather in the Construction of Byzantine and Post-Byzantine Ecclesiastical Textiles: Preoccupations concerning their Conservation”

Koniditsiotis, A., Tiligada, D., Koussoulou, T. and Panagiaris, G. “Creation and Development of Software for the Input and Statistical Evaluation of Data Related to Museum Objects: Pilot Study of Textile Museum Artefacts.”

Koussoulou, Tatiana, “Testing Photodegradation Inhibitors as a Conservation Treatment for Historic Silks”

Margariti, Christiana, “The Conservation of the Textile Collection of the Holy Monastery of Arkadi, Greece.”

Malea, E., K. Melessanaki, P. Pouli, and S. Rapti, “Investigation on the Application of Different Laser Wavelengths for the Removal of Oil Stains from Proteinacious Substrates (Textile & Leather): Preliminary Results”

Mikolaychuk, Elena and Nina Pinyagina, “Investigation and conservation of a Man’s Shirt, V century B.C. from Pazyryk.”

Mueller-Radloff, Christine, “Is the Knowledge of the Textile Technique in detail Important for the Restoration of Textile Objects?”

Naoumidou, Niki and Tatiana Koussoulou “Data base for the Documentation of Greek Ecclesiastical Textiles in D.C.A.N.M.”

Richards, Elizabeth, “Is Your Collection Prepared for a Flood? A Canadian Response to a Flood Disaster.”

Santamaria, Claudia “Conservation of an 18th Century Appliqué Processional Canopy from the Textile Collection of the Comune di Genova.”

Spantidaki, Youlie and C. Moulherat, “La preparation des fibres en lin à l’antiquité: Étude des fils provenant de l’Égypte et de la Grèce.” [The preparation of flax (linen) fibers in antiquity: study of fibers coming from Egypt and Greece]

Ziddan, Yassin and Harby Elzz el deen “The Conservation Treatment of a Silk Textile Object in the Islamic Art Museum—Cairo.”

Textile Conservation at Queen’s University

The Art Conservation Program at Queen’s University has developed productive working relationships with other university departments to enhance the learning experience of our students. Co-operation between the Department of Drama and the Art Conservation Program has been particularly beneficial for the study of textile conservation.

The costume collections of the Drama Department, which are used throughout the academic year for student theatre productions, consist of modern as well as historic costumes and accessories. The collections are housed in the basement of a limestone building that is well over 100 years old. The major goals of this co-operative project are to improve storage conditions for the collections as well as to teach good handling practices. A variety of student assignments have been devised with the following goals in mind: to familiarize students with costume terminology; to introduce methods of materials identification for textiles; to provide an introduction to the concepts of proper support for textile objects; to teach students how to communicate conservation concepts to personnel in other fields.

Over the past five years, art conservation students have evaluated the storage facility and provided suggestions to improve conditions. A survey of the collection was conducted and fragile items were identified and removed from use. Workshops have been organized and presented by the students to personnel in the Drama Department, including Mount Making and Care and Handling Practices. A Mannequin-Making Workshop, presented by Anna Jakobiec, a conservator at the Canadian Museum of Civilization, is a regular feature of our program. Personnel from the Drama Department have been invited to participate in this workshop, which teaches students how to

construct ethafoam disc mannequins. The costumes that are used for this exercise are loaned to us by the Drama Department.

Last year, each conservation student was asked to choose a garment from the collections and to provide a thorough condition report backed up by research into the historical context of the piece. An additional requirement of the assignment was to prepare a suitable storage device for the garment. Students were given the choice of boxes, hangers, mounts or dust covers. The properly stored garments were returned to the Drama Department with recommendations provided by the students for the care and future use of each item. The final requirement of the exercise was an oral presentation in class on each garment, focusing on areas such as fabrication techniques, costume history, condition problems, storage solutions and innovations.

Assignments that take the students out of the lab and introduce them to "real life" situations can provide valuable learning experiences. The partners in such projects also benefit. The Drama Department at Queen's has learned how mitigate some of its storage problems and how to care for its collections more effectively.

The Queen's University Collection of Canadian Dress

The Agnes Etherington Art Centre has received a generous grant from Dr. Isabel Bader of Milwaukee to fund a 10-month conservation internship with the goal of rehousing the Queen's University Collection of Canadian Dress. Sheilah Mackinnon, a recent graduate of the Art Conservation Program, has been hired to implement this project. Ongoing supervision is provided by Christine Adams, also a Queen's graduate and an adjunct professor in the Art Conservation Program.

The collection consists of 2,800 objects, all of which have been donated by Kingston families. These objects frequently arrived complete with the records of the people who owned the items, making the collection extremely significant to the history of Kingston. The collection consists largely of 19th and 20th century women's dress, as well as representative items of men's and children's attire. The collection was started through the efforts of Dr. Margaret Angus, a costumer in the Queen's Drama Department. Dr. Angus became aware of the quality and historical significance of some of the donations she received for costuming and began to form a separate collection of historically important items. Dr. Angus served as curator of this collection of historical dress for a period of forty years.

The collection continued to grow even after the retirement of Dr. Angus. In the year 2000, the collection was moved to its current location in the Agnes Etherington Art Center. The internship provided by Isabel Bader and the Agnes Etherington Art Center will enable the collection to be re-housed according to modern conservation standards in acid-free textile storage boxes and hanging or rolled storage.

Krysia Spirydowicz, Director, Art Conservation Program, Queen's University and Sheilah Mackinnon, Bader Intern, Agnes Etherington Art Centre at Queen's University prepared this submission for the ICOM-CC Textile Conservation Newsletter.

A Preliminary Study of a Micro Extraction Method for Measuring the pH of Textiles
Jan Vuori and Season Tse

Recently a series of tests were carried out in the Textile Lab of the CCI to determine if a micro extraction technique using samples as small as 0.001 g could be used to measure the pH of textiles reliably.

The pH of a textile provides valuable information about its condition and can have a significant bearing on treatment decisions. The most accurate method for measuring the pH

of textiles is by extraction, i.e., soaking a sample of the textile in water and measuring the pH of the extract. In order to produce meaningful and repeatable results, it is best to follow a standard method for performing the extraction. Examples of standard methods include the *American Society for Testing Materials (ASTM) D2165-90, pH of aqueous extracts of wool and similar animal fibers* and *Canadian General Standards Board CAN/CGSB- 4.2 No. 74-M91/ ISO 3071:1980, Textile Test Methods, Textiles - Determination of pH of the aqueous extract.* However, these standards require removing a significant amount of material from the textile, 10 ± 0.1 g and 2 ± 0.05 g respectively. Clearly, this is not an option for conservation since even a 0.1 g sample of a typical light weight silk fabric can measure approximately 4 cm x 3.5 cm!

Although standard test methods cannot be applied directly to artefacts, they do provide very good guidelines for sample preparation and handling, sample to water ratio, water quality, and extraction time, among other things. Modifications can be made to the guidelines as long as these modifications are carefully followed and documented. After all, the goal is to produce reasonably reliable results with the minimum of disturbance to the artefact.

All samples were extracted using a sample to water ratio of 1:50 (0.5000 g extracted in 25 ml, 0.0100 g extracted in 0.5 ml, and 0.0010 g extracted in 0.05 ml). A micro pipette is required to measure out 0.05 ml. Water purified by reverse osmosis with subsequent polishing followed by deionisation, organic removal and submicron filtration (RO/DI;18.2 mega ohms) was used for extraction. Readings were taken after 1, 2, and 24 hours. An Orion EA 940 Ion Analyzer with analytical electrode (ROSS flat surface combination pH electrode, accuracy ± 0.01 pH units) was used to measure the pH of the 0.5 g samples and the results were taken as the standard against which the other methods were compared. The other methods of measurement included a portable pH meter, the Model IQ240 from Scientific Instruments, Inc., equipped with a micro probe (accuracy ± 0.01 pH units) and ColorpHast pH strips. The pH of the RO/DI water as measured by the Orion EA 940 IonAnalyzer was 5.9.

For this study, the sample material consisted of naturally aged samples of cotton, jute and silk.

Three sample weights were used: 0.5000 g, 0.0100 g, and 0.0010 g. The 0.5000 g samples were used to provide a benchmark against which the other much smaller samples were compared. The 0.0010 g sample was considered to be a realistic size that a conservator may be able to take from some textile artefacts (fig. 1). Samples weighing 0.0100 g were included because we were also interested to see how samples in between the two extremes would compare. All samples were weighed using a Mettler AE electronic balance (reproducibility ± 0.05 mg). The 0.0100 g and 0.0010 g samples were weighed into 1.5 ml (actual capacity 2 ml) plastic snap cap micro centrifuge tubes held upright in a foam jig (fig. 2).[1] The 0.5000 g samples were placed into 100 ml glass beakers and were cut up into pieces approximately 5mm square. The 0.0100 g and 0.0010 g samples were cut up into smaller fragments using tweezers scissors within the micro centrifuge tubes. All extracts were prepared in triplicate.

The IQ240 is a newer type of pH meter that uses a silicon chip sensor, technically an Ion Sensitive Field Effect Transistor (IFSET), instead of a glass electrode to measure pH (fig. 3). The tiny silicon chip sensor is located on the slanted tip of a stainless steel rod, which is only 3.5 mm in diameter (fig. 4). The main benefits of IFSET sensors are that the probe can be stored dry thus no storage solutions are required and there is no glass to risk breaking. The probe also contains a reference electrode and temperature sensor so that pH readings are automatically temperature compensated. The IQ240 with micro probe is not inexpensive; as of May 2003, the system cost $1,495.00 CDN. If the cost precludes purchase of the unit, it is certainly worth enquiring if a local scientific laboratory has

one and is willing to do the measurement for you. One idiosyncracy we discovered is that when the AC adaptor is being used, it should be plugged directly into the power mains not into an extension cord as this causes the readings to fluctuate.

This study also included the use of a readily available and low cost alternative method for measuring pH, namely ColorpHast pH strips manufactured by Merck. These are either pressed onto a wetted area of the textile or are themselves wetted and pressed onto the surface of the textile. The drawbacks of using pH strips is that they can produce less accurate results, risk creating tide lines on some artifacts, and the pressure involved may prohibit it from being carried out on very fragile textiles. Nevertheless, pH strips are inexpensive, readily available, and easy to use. In this study, three ColorpHast strips were used: range 2.5 to 4.5, 2 to 9, and 4.0 to 7.0. Each strip was cut into 3 narrower strips, both to economize and to avoid absorbing too much of the extract available for measurement (fig. 5). For each extract, the 2.5 to 4.5-range pH strip was used first, followed by the 2 to 9 and finally the 4 to 7 range strip. This sequence of measurements was repeated with two more replicates using fresh strips each time. With the 2.5 to 4.5 range strips, if the colour indicated that the pH was higher than 4.5, this was indicated with a plus sign. With the 4 to 9 range strips, if the colour indicated that the pH was below 4, this was indicated with a minus sign.

In order to improve extraction, methods used in paper research as well as industrial control incorporate soluble salts such as sodium chloride (NaCl), potassium chloride (KCl) or potassium nitrate (KNO_3) in the water (Scallan 1990). To confirm the usefulness of this approach, a second set of identical tests was carried out using a 0.1MNaCl solution for extraction.

The pH measurements made with the various methods are indicated in the following tables.

Table 1. pH Measurements - Cotton extracted in RO/DI water

Sample Weight / Sample Volume	**Sample #**	**ColorpHast strip 2.5 to 4.5** **1hr 2hr 24hr** ***48hr**	**ColorpHast strip 2 to 9** **1hr 2hr 24hr** ***48hr**	**ColorpHast strip 4.0 to 7.0** **1hr 2hr 24hr** ***48hr**	**IQ portable pH meter with micro probe** **1hr 2hr 24hr**	**Orion EA 940 IonAnalyzer with ROSS flat surface electrode** **1hr 2hr 24hr**
0.5g/ 25ml	1	4.5+ ---- ----	4.5 ----- ----	4-4.4 ----- ----		5.01 4.94 -----
	2	4.5+ ---- ----	4-4.5 ----- ----	4-4.4 ----- ----		4.99 4.82 -----
	3	4.5+ ---- -----	4-4.5 ----- ----	4-4.4 ----- ----		4.89 4.98 -----
0.01g/ 0.5ml	1	4.5+ 4.5+ 4.5+			4.66 4.74 4.67	
	2		4-4.5 4-4.5 4-4.5		4.71 4.62 4.62	

	3			4.4 4.4-4.7 4-4.4	4.69 4.67 4.70	
0.001g/ 0.05ml	1	4.5 4.5 4.5				
	2		4-4.5 4-4.5 4.5			
	3			4.5+ 4 4.4		
	4	4.5 4.5 4.5				
	5		4-4.5 4.5 4.5			
	6			4- 4- 4-		
	7	4.5 4.5 4.5*				
	8		4.5 4-4.5 4-4.5*			
	9			4-4.4 4-4.4 4-4.4*		
	10				4.89 4.87 4.90	
	11				4.75 4.78 4.78	
	12				4.75 4.75 4.75	

Table 2. pH Measurements - Jute extracted in RO/DI water

Sample Weight / Sample Volume	**Sample #**	**ColorpHast strip 2.5 to 4.5** **1hr 2hr 24hr** ***48hr**	**ColorpHast strip 2 to 9** **1hr 2hr 24hr** ***48hr**	**ColorpHast strip 4.0 to 7.0** **1hr 2hr 24hr** ***48hr**	**IQ portable pH meter with micro probe** **1hr 2hr 24hr**	**Orion EA 940 IonAnalyzer with ROSS flat surface electrode** **1hr 2hr 24hr**
0.5g / 25ml	1	3.9 ----- -----	4 ----- -----	4- ----- -----		4.23 4.15 -----
	2	3.9 ----- -----	3.5-4 ----- -----	4- ----- -----		4.14 4.18 -----
	3	3.9 ----- -----	3.5-4 ----- -----	4- ----- -----		4.25 4.11 -----

0.01g / 0.5ml	1	3.9-4.2 3.9-4.2 3.9-4.2			4.10 4.00 4.00	
	2		3.5-4 3.5-4 3.5-4		4.08 4.01 3.93	
	3			4- 4- 4	4.25 4.32 4.30	
0.001g / 0.05 ml	1	4.2 3.9-4.2 3.9-4.2				
	2		4 4 4			
	3			4- 4- 4-		
	4	3.9-4.2 3.9-4.2 3.9				
	5		4 4 4			
	6			4- 4- 4-		
	7	3.9-4.2 3.9 3.9*				
	8		3.5-4 3.5-4 3.5-4*			
	9			4- 4- 4*		
	10				4.55 4.55 4.51	
	11				4.56 4.57 4.53	
	12				4.01 4.04 4.00	

Table 3. pH Measurements - Silk extracted in RO/DI water

Sample Weight / Sample Volum	**Sample #**	**ColorpHast strip 2.5 to 4.5** **1hr 2hr 24hr**	**ColorpHast strip 2 to 9** **1hr 2hr 24hr**	**ColorpHast strip 4.0 to 7.0** **1hr 2hr 24hr *48hr**	**IQ portable pH meter with micro probe** **1hr 2hr 24hr**	**Orion EA 940 IonAnalyzer with ROSS flat surface electrode** **1hr 2hr 24hr**

e		***48hr**	***48hr**			
0.5g / 25 ml	1	4.5+ ----- -----	4-4.5 ----- -----	4.4-4.7 ----- -----		5.47 5.70 -----
	2	4.5+ ----- -----	4.5 ----- -----	4.4-4.7 ----- -----		5.56 5.81 -----
	3	4.5+ ----- -----	4.5 ----- -----	4.4-4.7 ----- -----		5.55 5.69 -----
0.01g / 0.5ml	1	4.5+, 4.5+, 4.5+			5.07 5.12 5.14	
	2		4.5 4.5 4.5		5.31 5.17 5.28	
	3			4.4-4.7 4.4-4.7 4.4-4.7	5.01 4.98 5.19	
0.001g / 0.05 ml	1	4.5+ 4.5+ 4.5+				
	2		4.5-5 4.5-5 4.5			
	3			4.4-4.7 4.4-4.7 4.4		
	4	4.5+ 4.5+ 4.5+				
	5		4.5-5 4.5-5 4.5			
	6			4.4- 4.4 4-4.4		
	7	4.5+ 4.5+ 4.5+*				
	8		4.5-5 4.5 4.5-5*			
	9			4.4-4.7 4.4-4.7 4.4-4.7*		
	10				5.22 5.05 4.73	
	11				5.65 5.15 4.72	
	12				5.71 5.38 5.15	

Table 4. pH Measurements - Cotton extracted in 0.1 M NaCl

Sample Weight. / Sample Volume	Sample #	ColorpHast strip 2.5 to 4.5 1hr 2hr 24hr * 5hr	ColorpHast strip 2 to 9 1hr 2hr 24hr * 5hr	ColorpHast strip 4.0 to 7.0 1hr 2hr 24hr *5hr	IQ portable pH meter with micro probe 1hr 2hr 24hr **72hr	Orion EA 940 IonAnalyzer with ROSS flat surface electrode 1hr 2hr 24hr
0.5g/ 25 ml	1	------ 4.5+* 4.5+	------ 4.5* 4.5	----- 4.5-4.7* 4.5-4.7		4.68 4.6 0 4.66
	2	------ 4.5+* 4.5+	------- 4.5* 4.5	----- 4.7* 4.4-4.7		4.64 4.6 0 4.70
	3	------ 4.5+* 4.5+	------ 4.5* 4.5	----- 4.7* 4.4-4.7		4.71 4.57 4.67
0.01g/ 0.5 ml	1	4.5+ 4.5+ 4.5+			4.31 4.23 4.28**	
	2		4.5-5 4.5-5 4.5		4.39 4.20 4.31**	
	3			4.4-4.7 4.4-4.7 4.4-4.7	4.22 4.15 4.25**	
0.001g/ 0.05 ml	1	4.5+ 4.5+ 4.5+				
	2		4.5-5 4.5-5 4.5-5			
	3			4.7 4.7 4.7		
	4	4.5+ 4.5+ 4.5+				
	5		4.5-5 5 5			
	6			4.7 4.7 4.7		
	7	4.5+ 4.5+ 4.5+				
	8		4.5-5 4.5-5 5			
	9			4.7 4.7 4.7		

	10				4.56 4.54 4.61**	
	11				4.57 4.55 4.59**	
	12				5.35 5.22 5.02**	

Table 5. pH Measurements - Jute extracted in 0.1 M NaCl

Sample Weight / Sample Volume	**Sample #**	**ColorpHast strip 2.5 to 4.5** **1hr 2hr 24hr *5hr**	**ColorpHast strip 2 to 9** **1hr 2hr 24hr *5hr**	**ColorpHast strip 4.0 to 7.0** **1hr 2hr 24hr *5hr**	**IQ portable pH meter with micro probe** **1hr 2hr 24hr** ****72hr**	**Orion EA 940 IonAnalyzer with ROSS flat surface electrode** **1hr 2hr 24hr**
0.5g/ 25 ml	1	----- 4.2* 3.9-4.2	----- 4* 4	----- 4-* 4-		3.77 3.77 3.84
	2	----- 3.9-4.2* 3.9-4.2	----- 4* 4	----- 4-* 4-		3.78 3.78 3.83
	3	----- 4.2* 4.2	----- 4* 4	----- 4-* 4-		3.78 3.78 3.82
0.01g/ 0.5 ml	1	4.2 4.2 3.9-4.2			4.04 4.06 4.12**	
	2		4 4 4		4.09 4.07 4.17**	
	3			4- 4- 4-	4.25 4.18 4.24**	
0.001g/ 0.05 ml	1	3.9-4.2 3.9-4.2 3.9-4.2				
	2		3.5-4 3.5-4 3.5-4			
	3			4- 4- 4-		
	4	4.2- 3.9-4.2 3.9-4.2				
	5		3.5-4 3.5-4 3.5-4			
	6			4- 4- 4-		

	7	3.9-4.2 4.2 4.2				
	8		4 4 4			
	9			4- 4- 4-		
	10				4.24 4.20 4.27**	
	11				3.99 3.98 4.09**	
	12				3.84 3.80 3.86**	

Table 6. pH Measurements - Silk extracted in 0.1 M NaCl

Sample Weight / Sample Volume	**Sample #**	**ColorpHast strip 2.5 to 4.5** **1 hr 2hr 24hr *5hr**	**ColorpHast strip 2 to 9** **1 hr 2hr 24hr *5hr**	**ColorpHast strip 4.0 to 7.0** **1 hr 2hr 24hr *5hr**	**IQ portable pH meter with micro probe** **1 hr 2hr 24hr** ****72hr**	**Orion EA 940 IonAnalyzer with ROSS flat surface electrode** **1 hr 2hr 24hr**
0.5g/ 25 ml	1	----- 4.5* 4.5	----- 4-4.5* 4.5	----- 4-4.4* 4.4		4.40 4.38 4.46
	2	----- 4.5* 4.5	----- 4.5* 4.5	----- 4-4.4* 4-4.4		4.40 4.38 4.41
	3	----- 4.5* 4.5	----- 4.5* 4.5	----- 4-4.4* 4.44		4.43 4.36 4.36
0.01g/ 0.5 ml	1	4.5+ 4.5 4..5+			4.32 4.30 4.30**	
	2		4-4.5 4.5 4-4.5		4.32 4.27 4.28**	
	3			4.4-4.7 4.4 4.4	4.32 4.30 4.30**	
0.001g/ 0.05 ml	1	4.5+ 4.5+ 4.5+				
	2		5 4.5-5 4.5-5			

	3			4.4 4.4 4-4.4		
	4	4.5+ 4.5+ 4.5+				
	5		5 4.5-5 4.5-5			
	6			4.4 4.4 4.4		
	7	4.5+ 4.5+ 4.5+				
	8		4.5-5 4.5-5 4.5			
	9			4.4 4.4 4.4		
	10				4.62 4.36 4.38**	
	11				4.34 4.32 4.35**	
	12				4.34 4.36 4.37**	

Conclusions

The fairly consistent results demonstrate the usefulness of following a modified standard procedure for carrying out the extraction and measuring the pH As a result of this preliminary study it appears that, for acidic textiles at least, the IQ portable pH meter with micro probe produces pH readings that are very similar to those obtained using the Orion EA 940 Ion Analyzer with ROSS flat surface electrode. Secondly, these results remain much the same even when the sample size is reduced to 0.0010 g.

For acidic textiles, the pH strips produced consistent results, which were quite close to those produced by the Orion EA 940 Ion Analyzer with ROSS flat surface electrode. Care must be taken in selecting the particular range used and it is probably best to use more than one. Again, sample size of 0.0010 g did not of textile fibres. Samples should be extracted for a minimum of one hour to produce reliable results. Longer extraction times do not appear to affect the results.

appear to affect the readings that could be obtained. The addition of a soluble salt, in this case NaCl, improved the accuracy of the readings made with the pH strips. However, it must be emphasized that the pH values determined with and without adding salt are *different* since the rate and quantity of water extractable hydrogen ions are different. Because of this, the pH values obtained by the two different extraction methods *cannot* and *must not* be compared. pH values can only be compared if they are obtained by the same method.

It should be noted that the pH strips, and perhaps to a lesser extent the IQ portable pH meter,

give more accurate results when the pH lies outside the range 5 – 8. Within the neutral range, especially if the ionic strength of the extract is low (i.e., little extractable material), the strips in particular can give ambiguous or inaccurate results. Nevertheless, pH strips are extremely useful and sometimes may be the only way a pH estimate can be obtained. The accuracy of the IQ portable pH meter with micro probe for measuring low ionic strength solutions has not been tested and the product literature indicates that in very low ionic strength solutions a stable reading may not be possible.

With any kind of local sampling it is important not to assume that the results represent the whole object. At best, pH is an estimate and it is important that this limitation is recognized when the results are interpreted. In order to have a better estimate of the pH of a textile, the pH of small samples taken from several areas of the textile should be determined. The micro extraction technique described here allows this to be done without removing significant amounts of sample material.

Finally, when recording the pH of a textile for documentation purposes it is important to note how the sampling was done, the sample to water ratio, duration of extraction, quality and pH of the water, method of measurement and the type of instrument used. Although some of the tools used in this study are not standard equipment in most textile conservation labs, they are likely to be found in a scientific lab where these techniques may be carried out.

Notes

1. Snap lid micro centrifuge tubes are extremely useful for other purposes such as taking and storing fibre samples for fibre identification. The lids are attached and the contents can be written on the tube itself.

References

American Society for Testing Materials (ASTM) D2165-90, pH of aqueous extracts of wool and similar animal fibre

Canadian General Standards Board CAN/CGSB- 4.2 No. 74-M91/ ISO 3071:1980, Textile Test Methods, Textiles - Determination of pH of the aqueous extract

pH Electrodes Evolve into the Silicon Age. www.labonline.com.au/science/feature-story/mar2001.asp

Scallan, A.M. 1990. The pH inside the fibre wall. In *Cellulose Sources and Exploitation,* eds. J.F. Kennedy, G.O. Phillips and P.A. Williams. New York: John Wiley & Sons. pp. 211-215.

Textile Conservation Catalog, Section IX - Research and Testing Methods, Determining pH. 1995 AIC Textile Specialty Group.

Tse, Season. Forthcoming. Measuring and Interpreting pH of Diverse Media. Ottawa: Canadian Conservation Institute.

Supliers

ColorpHast pH strips and pH buffers:
Fisher Scientific
1-800-234-7437
www.fisher1.com

Eppendorf adjustable volume automatic pipettes (20-25-50 microliter and 100-200-250 microliter)
Brinkman Instrument
1-800-263-8715
905-826-5525
canada@brinkmann.com
http://www.brinkmann.com/index.asp

Model IQ240 Benchtop/Portable pH Meter with stainless steel ISFET Micro Probe, 3.5 mm:
Canadawide Scientific
1-800-267-2362

Orion EA 940 Ion Analyzer with analytical electrode (ROSS flat surface combination pH electrode):
Fisher Scientific
1-800-234-7437
www.fisher1.com

Polypropylene snap-cap micro centrifuge tubes, 1.5 ml:
Fisher Scientific
1-800-234-7437
www.fisher1.com

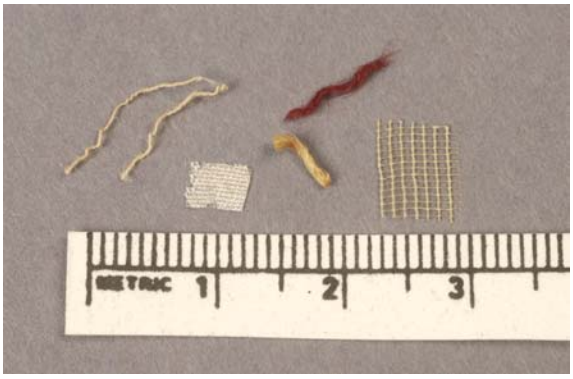

Figure 1. Fibre samples each weighing 0.0010 g. From left to right: cotton yarns, silk fabric, wool yarn (above), jute yarn (below), cotton fabric. The scale is in cm.

Figure 2. Weighing a 0.0010 g fibre sample. By taring the balance and placing the fibre on the foam jig, it is quick and easy to weigh samples to 0.0010 g. All fibre is then transferred into the snap cap micro centrifuge tube.

Figure 3. The IQ240 portable pH meter with micro probe. The cap has been removed from the tip of the micro probe.

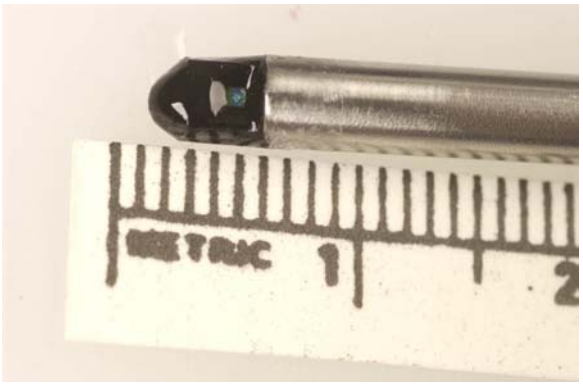

Figure 4. The silicon chip sensor which is located on the tip of the micro probe. The scale is in cm.

Figure 5. ColorpHast pH strips cut into 3 to measure pH of extract contained in snap cap micro centrifuge tube.

UKIC TEXTILE SECTION / UKIC HISTORIC INTERIORS SECTION
Section AGMs and Joint Forum

OPENING UP OPEN DISPLAY

Monday 29th March 2004
The Clothworkers' Hall, London.
http://www.clothworkers.co.uk/

The 2004 forum organised jointly by the Textile and Historic Interiors sections aims to bring together all relevant professional groups to discuss the issues surrounding open display. Papers and posters will discuss the use, care and management of historic interiors incorporating textiles and specifically the co-ordination of conservation with curators, education officers, marketing departments etc. to allow safe public access.

The booking fee will include lunch, tea and postprints.

Papers and posters will include (provisional titles):

- Dinah Casson: *Satisfying the customer and the conservator: A designer's view*
- Helen Smith: *Negotiating for equilibrium – balancing commercial drivers with conservation duties*
- Maria Jordan: *Heat and Dust: George II's Travelling Bed Traumas*
- Helen Hughes: *Displaying Missing Hangings, the Little Castle, Bolsover.*
- Mary Greenacre: *Opening Up Tyntesfield*
- Clare Stoughton-Harris: *How open can you get and sustain it? Textiles on open display at the Museum of Welsh Life*
- Liz Hollinshead: *Using Historic Interiors in education*
- Irene Greenslade: *Queen Victoria's Saloon at the National Railway Museum*
- Allyson McDermott: *Charles Rennie Mackintosh Interior,78 Derngate, Northampton.*
- Jennifer Gill: *Asbestos combined with textiles on open display: a health hazard*

For booking form please contact:
Katherine Barker, UKIC Textile Section Treasurer, The Homestead, Crown Street, Harbury, Leamington Spa. CV33 9HE, Tel: +44 1926 613004, Fax: +44 1926 613615, Email: Katherine_textileconservator@hotmail.com

UKIC Textile Section
Storage Workshop

The Whitworth Art Gallery, Manchester
Monday May 10th 2004

The Textile Section is planning a workshop on storage to consider and examine the issues of storage in the culture of "access" facing museums. The day will be based at two major textile collections - the Whitworth Art Gallery and The Gallery of English Costume, Platt Hall, with lunch in the famous "Curry Mile". A series of short talks from both conservators and curators will introduce and illustrate the issues for discussion.

The event is on a Monday - so we hope participants will be tempted to arrive over the weekend to see the many other attractions and museums in Manchester. To ease timing on the day, Ann French, Textile Conservator at the Whitworth, will give anyone interested a guided tour of the Whitworth and its facilities on Sunday afternoon – please indicate your interest (or otherwise below).

Numbers are limited to 20. Cost will be £30.00 per person, to include coffee and lunch (excluding drinks).

For further information please contact Ann French on 0161 275 7485 or e-mail Ann.French@man.c.uk

ART COURSES in Barcelona 2004.
CONSERVATION, MUSEUM STUDIES, MATERIALS & TECHNIQUES, LANGUAGE.

February 16-20 Spanish/English for conservators, 30h, 400 Eur
February 23-27 Spanish/English for curators, 30h, 400 Eur.
March 4-6 Workshop on the identification and preservation photograph collections , C.Waldthausen, 350 Eur.
March 12-14 Workshop on fibre identification, J.Barnett, 400 Eur.
April 22-24 Workshop on use of tinted fillings restoration porcelain, K. Van Lookeren, 350 Eur.
June 21-25 Spanish/English for curators, 30h, 400 Eur.
July 5-9 Spanish/English for art historians, 30h, 400 Eur.
July 13-17 Heritage biocare, D.Allsopp, 350 Eur.
August 3-7 Chemistry for paper conservators, D.Dorning, 500 Eur.
August 17-27 Workshop on the identification and preservation photograph collections (10 days), C.Waldthausen, 1500 Eur.
August 31- 3rd **September** Spanish/English for art

historians, 30h, 400Eur.
September 13-17 Spanish/English for curators, 30h, 400 Eur.
October 6-9 Workshop in Conservation of tiles and tile pictures, K.Van Lookeren, 400 Eur.
October 19-23 History and use of medieval pigments and inks, Ch.Porter, 500 Eur.
November 12-13 Documentation of textile objects, J.Barnett, 300 Eur.

Further information :
E-mail : info@balaam-art.com
Web: www.balaam-art.com
Phone:--34 93 4171347 or mobile 34 699 420542
Fax: -- 34 93 212 37 15
Office & mail address: Balaam Mireia Xarrié c.escoles pies 76 pral 1 Barcelona 08017.
Workshop: c.reina amàlia 36 Barcelona 08001.

AHRB Research
First Annual Conference, 13-15 July 2004

Scientific Analysis of Ancient and Historic Textiles: Informing Preservation, Display and Interpretation

Textile Conservation Centre, Winchester Campus, University of Southampton, UK
Extant historic textiles represent an important part of material culture; they provide rich evidence of social history, international trade, agricultural development, artistic trends and technological progress. Analytical science can play a major role in ensuring the appropriate interpretation, essential preservation and continued enjoyment of such cultural heritage.
The overarching theme of this international conference is the characterisation of ancient and historic textile materials for informed conservation and display, and enhanced understanding. Contributions should engage an audience of archaeologists, archaeological scientists, conservators, conservation scientists, custodians and curators, and will span the following topics, with an emphasis on natural fibre-based textiles: identification of textile materials, assessment of textile deterioration, characterisation of fibre behaviour, diagnostic virtual libraries, non-destructive monitoring of ageing, evaluating risks of conservation and display, setting limits through accelerated ageing, and archaeological textiles. Papers will encompass instrumental analytical methodology and its application to heritage preservation.
The conference will be held at the University of Southampton Winchester Campus.
To register interest please email: contex@soton.ac.uk

PTYCHOSIS*
From Ancient Greek Dress to 21st Century Fashion
Cultural Olympiad 2001-2004

Exhibition & Conference

* plural of the noun 'ptychosi', which originates from the ancient Greek verb 'ptysso' ('πτύσσω' in ancient Greek) meaning to fold, drape and pleat

The Exhibition

Aiming to create an international landmark in the field of costume study the Peloponnesian Folklore Foundation (PFF) is currently working at full speed in preparation for the exhibition "*Ptychosis*: From Ancient Greek Dress to 21st-Century Fashion". The project will be part of the official programme of the Cultural Olympiad 2001-2004, organised by the Hellenic Culture Organisation S.A. (the organising body of the Cultural Olympiad 2001 – 2004) and supported by the Hellenic Ministry of Culture.

The exhibition will be hosted at the new Benaki Museum exhibition area (1200 m^2) on Piraeus Street from **21st June – October, 2004**.

The exhibition aims to explore the aesthetic qualities of the plasticity of drapery through selected works of art from the classical period of ancient Greece, regional clothing from around the world as well as high fashion and ready-to-wear creations by contemporary designers. Within this last category the PFF intends to include garments by Mariano Fortuny, Madeleine Vionnet, Issey Miyake, Rei Kawakubo, Alexander McQueen and Hussein Chalayan to be displayed alongside Maasai robes and authentic ancient Greek sculptures.

The main aims of the exhibition are: a) to discuss and show ancient Greek costume belonging to the draped and wrapped convention, one of the oldest forms of dress to be found simultaneously in different cultures; b) to present the journey of "one piece of cloth" and also the pleat's tradition through history, by going beyond cultural and geographical boundaries and looking from a modern perspective and c) to examine contemporary fashion up to the recent creations of world-renowned and subversive Japanese and Belgian designers.

Ioanna Papantoniou, founder and President of PFF, and Vassilis Zidianakis, costume historian and theorist, are co-curating the exhibition, in collaboration with other international costume institutions and specialists.

The Conference

As adjunct to this great exhibition the PFF is planning various activities of interest as well as a four-day International Conference. This Conference will be on

the subject of the sartorial convention of historical and contemporary types of wrapped and pleated garments.

The Conference will be held in a neo-classical building at the historic centre of Athens (Plaka) and is scheduled to last four days, from **June 22nd - June 25th**, 2004. The first registration day of the conference **(June 21st)** will coincide with the grand opening of the "*Ptychosis*" exhibition. An additional day will be dedicated to a post-conference cultural excursion to Delphi **(June 26th).** The delegates will, thus, have the chance to admire up close the famous Charioteer of Delphi, the bronze statue that inspired Mariano Fortuny to create *Delphos*, one of the core exhibits of "*Ptychosis*".

The Conference will be organised by the PFF in collaboration with the newly founded Hellenic Costume Society and the Hellenic Committee of the International Council of Museums.

Scope & Themes

The Conference aims to explore various themes in an inter-disciplinary way: the ancient Greek costume, draped and wrapped garments of ethnological interest, the tradition and fashion for pleats, techniques of pleat-making and the depiction of pleats in works of art. Consequently, we hope the Conference will appeal to an international array of costume and fashion specialists, archaeologists, ethnologists, social anthropologists, art historians and contemporary fashion designers.

The themes we propose are: *Ptychosis* & Technology (pleating techniques, conservation), *Ptychosis* & History, *Ptychosis* & Art, *Ptychosis* & Ethnology, *Ptychosis* & Archaeology, *Ptychosis* & Theatre, *Ptychosis* & Natural Sciences. More relevant sub-themes to *Ptychosis* will be welcomed and, if possible, taken into account.

The key-note speakers of the conference are world renowned experts in their fields:

Gen Doy (Professor of the History and Theory of Visual Culture at De Montfort University, Faculty of Art and Design, Department of History of Art and Material Culture), Betty Kirke (Senior Costume restorer and specialist on Madeleine Vionnet's work), Naomi Tarrant (research associate of the National Museums of Scotland), Madeleine Ginsburg (ex-Head of the Department of Textiles & Dress at the Victoria & Albert Museum).

All the papers presented in the Conference will be published in a collective volume of Proceedings, as a special issue of *Endymatologika*, the PFF's journal on costume study and research.

Programme

The overall goal is to offer an informative and challenging programme which will include study presentations and discussions, a visit to the PFF's exhibition "*Ptychosis*: From Ancient Greek Dress to 21st-Century Fashion", visits to other museums as well as participation in various social events.
The programme will take place in Athens, the city hosting the Olympic Games in August, 2004.

Registration – Fees – Accommodation

The registration costs are:

	BEFORE MARCH 15TH 2004	**AFTER MARCH 15TH 2004**
Participants & speakers	**300€**	**330€**
Accompanying persons	**250€**	**280€**
Post-conference excursion	Post-conference excursion is optional and thus participation will require an extra cost	

The registration fee includes admission to all academic sessions, the conference pack, coffee, tea, four meals, transportation (round trips) to the conference venue, admissions to selected museums and exhibitions in Athens and participation in all social events. Please remember that all prices are in Euro (€).

The deadline for pre-registration and submission of abstracts is **10th January, 2004.**

Details on accommodation as well as the post-conference excursion are provided by Ippocampos Travel Agency and you can find them herewith attached. All accommodation bookings will be done through Ippocampos Travel Agency (Ippocampos Travel S.A., 78, Syngrou Av. & 49, M.Botsari Str., Athens, 11742 Greece, Tel: +30 210 9002600, Fax: +30 210 9002629, www.ippocampos.com Attention: Ms Athena Papareskou, Email: apapareskou@ippocampos.com).

We remind you that Athens will be hosting the Olympic Games just 45 days after our Conference, so it is crucial to plan your participation as early as possible to secure accommodation and transportation.

Contact & information
For any queries regarding the Conference, please contact the PFF Conference co-ordinator **Dr. Marlen**

Mouliou: Email: mmouliou@otenet.gr ; Tel: +30 6947804192, Fax: +30 210 7652021.

Your letters and applications should be sent to:
Peloponnesian Folklore Foundation, c/o Benaki Museum
(Attn: Dr. Marlen Mouliou) 2, Koubari Street., 106 74 Athens, Greece
Email: mmouliou@otenet.gr, pff2004@otenet.gr; Tel/Fax: +30 210 3390822.

Updated information on the Conference will soon be available on-line, at the web site of the Peloponnesian Folklore Foundation **(http://www.pli.gr)**

Dates to Remember

☞**30 January 2004** Pre-registration and submission of a paper proposal (title of presentation & a 250 word abstract)
☞**1 March 2004** Mailing of 2nd circular
☞**15 April 2004**. Final registration:
- Payment of registration fee
- Hotel reservation. Two nights deposit is due with the reservation

☞**30 May 2004**. Payment in ful of Hotel accommodation.
☞**21 June 2004**. Welcoming you all in Athens

The Cultural Olympiad 2001-2004

Every city and every country that undertakes to host the Olympic Games – the greatest sporting event in the world – should seek to draw attention to its cultural profile and highlight its most authentic aspects.
For other cities and countries that have hosted the Olympic Games, the cultural aspect of the event and its preparation was a very important, but yet secondary, issue. However, for Athens and for Greece, the Cultural Olympiad spanning the four-year period from 2001 to 2004 is more than a secondary aspect of the preparation for the Olympics; rather, it is part of its essence.
For the great majority of Greeks, the Olympic Games to be held in Athens mark the end of a much longer event: the Cultural Olympiad, which is much more than just another festival. It is a cultural and symbolic event and institution of global significance, set under the auspices of the International Olympic Committee, the Athens 2004 Committee, the UNESCO and the UN, to send out messages for the ideals of peace, fair play, creativity and the universality of man.

CALENDAR OF AFFILIATED MEETINGS

Call for Papers for the ICOM-CC
14th Triennial Meeting
The Hague, The Netherlands, September 10-16, 2005

In preparation for the upcoming ICOM-CC 14th Triennial Meeting, ICOM-CC is now calling for papers and posters. We shall continue to publish the Preprints in the usual two-volume format of approximately 150 papers and on CD. The process for selecting papers and posters has changed somewhat from that used in 2002. PLEASE TAKE CAREFUL NOTE OF THE NEW PROCEDURE AS FOLLOWS.

Each author should request an abstract template from our website, www.icom-cc.icom.museum or from the ICOM-CC Secretariat secretariat@icom-cc.org. The abstract template consists of a 1000 word description of the proposed paper or poster and must include the title, author and co-author's names, addresses and e-mail addresses. It is important to note that, while the initial abstract must be in English or French, the final paper can also be in Spanish. Please indicate clearly which language you will use for the final paper.

The objective of the Triennial Meeting is to present an overview of the current state of conservation research and practice through reports by ICOM-CC Working Groups. Special attention will be given to problems and progress in conservation in the region hosting the meeting.

The papers and posters will be selected based on quality, originality, importance and relevance.

The abstracts will be reviewed according to the following criteria:

- Relevance to the Working Group's aim and triennial program
- Increasing Knowledge Base of Specialization
- Usefulness for the field
- Relevance to the Plenary Session Theme "Our Cultural Past – Your Future"
- Demonstrating Collaboration between Disciplines

Completed abstract templates are to be sent to the appropriate Working Group coordinator no later than April 15, 2004. Contact information for Coordinators and the abstract template may be obtained from our website, www.icom-cc.icom.museum or from the ICOM-CC secretariat at secretariat@icom-cc.org. The Coordinators and the Peer Review Committee will rank the abstracts and the Editorial Committee will make their selection by June 15, 2004. Authors whose abstracts have been chosen will then be invited to

submit a full paper or poster and will receive the 'Instructions to Authors'.

Full papers must reach the Working Group Coordinators by November 8, 2004. The Coordinators will collaborate with the authors on the finalisation of the papers/posters, rank them and forward them to the Peer Review Committee. Final selection of the papers will be made by the Editorial Committee based on the rankings of the Coordinators and Peer Review Committee in March 2005 and authors will be notified immediately afterward. **Submission of a full paper does not guarantee acceptance.** In the event of space limitations, ICOM members are given priority in the final selection of papers of equal quality.

NOTICES

Obituary

Betty Mary Haines MBE
2nd February 1925 - 24th November 2003

Most conservators of organic materials and conservation scientists will have, at some time in their careers, come across the work of Betty Haines. Those who specialise in the treatment of objects incorporating leather, parchment and other skin related materials will undoubtedly know her publications, and possibly will also have been taught by her during their training regarding the fibre structure of leather and the chemistry of hide and skin.

Betty graduated from London University in 1945 having studied Botany, Chemistry and Zoology and began her career in 1946 when she became a Research Assistant in the Biology Department of the British Leather Manufacturers' Research Association at Northampton. In 1969 she became Head of the Biology Department and in 1971 assumed responsibility for biology and protein sciences. During the 1970's she managed a research project in conjunction with the UK Meat and Livestock Commission to establish a database for the characterisation of UK cattle hides and sheepskins. This work lead to new ideas for the assessment of the yield of leather and for hide trading.
She undertook major studies on the effect of breed, age and feeding regime on hide quality and carried out important research in protein science, particularly the ageing of collagen and proteoglycans.

Betty made a significant contribution to the leather trade and was appointed MBE in 1983. She has also made a major contribution to Conservation. She worked with A. D. Baines-Cope, Senior Principal Scientific Officer at the British Museum Research Laboratory, in pioneering research which lead to the production of a report, *The Conservation of Bookbinding Leather*, published by the British Library in 1984, and to the formulation of British Standard BS7451:1991 for Archival Bookbinding Leather.

Bettys published work ranged over 50 years of her professional life which was a remarkable achievement. She was an active member of a number of professional associations; a Fellow and Council Member of the Royal Microscopical Society; a Fellow, member of Council and President (1986-1988) of the Society of Leather Technologists, and consultant to many museums.

In 1978 Betty became a trustee of The Leather Conservation Centre which had been set up earlier the same year, and in 1984 became Chairman of the Technical Advisory Panel. In 1987 she became Chairman of the Trustees and in 1999 President. From small beginnings in one room at the BLMRA to its current spacious purpose built studios at University College Campus, Betty has given freely of her time, knowledge and expertise to further the aims of the Leather Conservation Centre and her contribution has helped establish it as the centre of excellence for training, research and practical work that it is today.

Betty taught many successive generations of conservation students about the fibre structure of skin and the processes of tanning, parchment manufacture and the deterioration mechanisms of skin related materials. She was always willing and shares her knowledge and enthusiasm for leather and skin materials and would help anyone who asked for her assistance with a particular object or project. Betty understood the practicalities and the need to handle samples of different skins prepared using different tannages and had an excellent resource of samples. One sample was a tanned mouse skin which Betty was particularly attached to for sentimental reasons, as she had been given it some years previously from Gomshall tannery, which is now closed. After a particular training session the mouse skin had become lost and Betty was "very put out". To pacify her and to replace this important sample, a friendly taxidermist was consulted and in due course a raw and freshly salted mouse skin appeared through the post as a gift ready for Betty to tan it. Her delight was evident and she seized upon it with obvious pleasure and glee.

Professionally I had the pleasure to know Betty for about 20 years. Often she would telephone with a list of things that needed doing…. and needed doing NOW! It was said that she was always ready to find you a job – whether you wanted one or not! Betty was demanding but had a wonderful sense of humour, a wisdom and understanding of the human condition and was a warm and generous personality. Personally I have much to thank her for and I know that Betty Haines will be sorely missed by all those who had the privilege to know her and work with her.

Marion Kite

NEWSLETTER SUBMISSIONS

Once again we call for your contributions to the next TWG Newsletter. This is an opportunity to keep collegues informed of developments and events in your region. Notices of exhibitions and books are also welcome. Please send your submissions to either;

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