Producing this Newsletter together with copy editor Kate van Lookeren Campagne raises some melancholic feelings for me as it will be my last edition. The 16th ICOM-CC Triennial Conference in Lisbon (p.6) and its Glass & Ceramics Session will be my final activity as WG coordinator and I will not stand for re-election at the business meeting (p.7). You may wonder about this as I have always insisted in my editorials how much fun coordinating this group is (and I continue to think this!). Thanks to Stephen Koob and his colleagues we had a wonderful Interim Meeting at the Corning Museum of Glass (p.2). Our specialist groups HISTORY, ENAMEL, and GLASS DETERIORATION continue their fruitful work (p.7). In addition, coordinating the group brings you in contact with dedicated colleagues all over the world, one of them being Tep Sokha from Cambodia (p.13). So I am definitely not leaving because of the work. I simply feel that as a teacher of an object conservation course I need some more time for reading and research. Happily I can make this decision with a clear conscience as one of the most active assistant coordinators has promised to stand as a candidate. I am therefore sure that the work of the group will not only continue but even develop further!

As you can see from the Conference Calendar (p.9), there are so many interesting conferences outside ICOM-CC going on. Unfortunately, more than our travel allowances and our time budget can stand. But with our Meetings in Nova Gorica 2007 and Corning 2010, their colourful preprint publications, and our organizational structures backing us up, we have created a tradition we can build on!

And now I need to ask for your help. Be also nice to your next coordinator and send contributions for the next newsletter until December 1st, 2011! Please keep this in mind.

I do not have to bid farewell as I hope to meet as many as possible of you in Lisbon (and beyond as an ordinary member).

See you!

**Gerhard Eggert**  
Coordinator, ICOM-CC G & WG 2008-2011

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Gerhard (left) leading happy delegates on their way from Corning to the enamel conference at the Frick, New York in October.
‘Glass and Ceramics Conservation 2010’
ICOM-CC Glass & Ceramics WG Interim Meeting at the Corning Museum of Glass, Corning (NY)
3–6 Oct 2010

Kate van Lookeren Campagne

From the 3rd to the 6th of October the 70 participants of the interim meeting of the Ceramics and Glass Working Group enjoyed the hospitality of colleagues at the Corning Museum of Glass. Not only was the organization impeccable, but the conference hall was in the middle of a building housing one of the most inspiring glass collections in the world. The temptation to keep ‘popping’ into the museum was difficult to resist. Luckily the programme was so engaging that this was not a problem.

The hospitality began immediately. Members who managed to register on site on Sunday were rewarded by a personal invitation from Stephen Koob to dine at his home. Sadly I arrived too late to participate but later heard enthusiastic reports about the warm welcome and delicious cooking.

The subjects covered during the conference were wide ranging both technically and geographically. The history of conservation was a major theme. The changing nature of the profession over time was outlined during Isabelle Garachon’s talk entitled ‘From Mender to Restorer’. Wonderful examples of antique repairs were shown and an image of the working life of ‘ceramic repairers’ from the middle ages up until the 19th century was presented. This talk was complimented by the poster presented by Renske Dooijes and Luc Megens describing historical restorations found on Greek vases in the National Museum of Antiquities in Leiden (The Netherlands).

A major problem in studying the history of the profession is the lack of written sources. For this reason there is an increasing interest in oral history. The methodology of recording oral memories was explained clearly by Agnès Gall Ortlik. Her talk was further illustrated with examples including extracts of two fascinating video recordings of Stephen Koob and Robert Brill discussing their long experience in the field of glass research and conservation.

The ongoing interest in the history of the profession was also reflected in talks on educational and technological themes. In their discussion of the training of ceramic and glass conservators at the Russian State University for the Humanities, Ekaterina Stolyarova and Ekaterina Sharkova described how conservation training has changed during the 20th century from being craft-based with professional ‘secrets’, to having a scientific and more open approach.

Another important aspect of the history of the profession was seen in the development of polymers used for glass conservation. Norman Tennent and Stephen Koob have been working in a very interesting research project assessing the aging of materials that have been used in conservation treatments at The Corning Museum of Glass through time. This study has provided the opportunity to analyse the in-service behaviour of polymers as opposed to synthetic laboratory aging studies. Problems encountered included trying to do in-situ, non-destructive analysis of polymers as well as the difficulty of quantifying yellowing. Also, a clear discrepancy was found between the aging experience of polymers in the museum environment as compared to the results from laboratory studies. The possibilities of modern
Raman spectroscopy for in-situ studies were also discussed. The importance of thorough documentation by conservators was highlighted as well as efficient archive systems in museums. Only with more detailed information about ‘what, how, and when’ a polymer has been applied is it possible to better assess which factors are central to the accelerated aging of conservation materials.

Glass conservation rightly received a lot of attention during the conference, seeing that it was held at a major centre of glass research. Various forms of glass disintegration were covered on a micro to macro scale. Astrid van Giffen presented a fascinating paper on an international project that is studying the deterioration and preservation of Blaschka glass. These are incredibly beautiful and delicate glass objects (notably invertebrate animals and plants) that were produced by a German family business in the 19th and early 20th century. The complex issues of disintegration and conservation are exacerbated by the problems caused by other materials worked into these objects, notably metal wire and paper. This problem was further expanded by Gerhard Eggert who reminded us of the dangers of ‘socoforamicite’, a corrosion product formed when copper and glass corrode together under the influence of high humidity and carbonyl pollutants. The importance of recognition and treatment were emphasized (as well as a call for more samples when discovered!).

The relationship between the composition and stability of imperial 17th and 18th century Qing-dynasty glass was clearly outlined in the talk by Abigail Hykin. This collaborative research project involved the analysis of 200 Qing glass objects in the collection of the Museum of Fine Arts in Boston. Again pollutants were shown to play a major role in the disintegration process, in combination with an unstable glass composition.

The international nature of this meeting - which had delegates from 14 countries - was highlighted by the talk from Akin Ige from Nigeria on the classification and preservation of ancient glass beads from Ile-Ife, South-western Nigeria. It is possible that glass beads have been produced in southern Nigeria since the 12th century. Beads made in the area were certainly central to trade in the 16th century. According to tradition, glass beads are considered to be ‘of equal value as children’. In his talk, Akin described an indigenous Yoruba method of preserving beads that has been used for centuries. The beads are stored in a calabash gourd containing powdered bark of the camwood tree. It has been shown that local beads not stored in this way can suffer from glass disintegration. Now this method is being adopted in museums.

![Fig. 3: The posters](image)

The deterioration processes that occur with archaeological glass were also discussed in two very interesting lectures. Paul Bellendorf showed how an interdisciplinary research project has been able to give more clarity to the phenomena of ‘iridescence’ on archaeological glass, a disintegration process which is seen as aesthetically pleasing and to be preserved. The project provides a clear analysis of the relationship between glass composition and the burial environment and proved that minimal variations in pH in one area can dramatically effect the disintegration process on glass of the same composition.

On quite another scale Paul Mardikian described the excavation of 18 tons of 3rd century glass recovered from a Roman shipwreck in the south of France. The practical and coordination problems of such a massive excavation were discussed together with the many conservation issues. A major danger when excavating glass from a marine environment is collapse if there is a sudden change of environment. The creation of a hydrated glass layer on the surface leads to poor structural strength after desalination and drying so tests were carried out into the most effective method of consolidation. Initial treatment in solution with Primal W24 or Primal AC33 and then, after drying, with Paraloid B72 proved to be the most effective technique.

A similar technique was used by Stephen Koob when trying to rescue severely crizzled glasses from total disintegration. Stephen is involved with experimental treatment where severely crizzled glasses are impregnated with 5% Paraloid B72. Although this is a highly invasive and irreversible
treatment, the glasses would be lost without intervention and up until now the results have been good and the glasses have remained in a stable condition.

On the second day of the conference delegates had the opportunity to enjoy a museum ‘Hot Glass Demonstration’ where the glass blowing process can be followed with full commentary (and if lucky you could win the result of the work!).

Another aspect covered in the talks was the specific problems of treating architectural glass and ceramics in situ. Conservators are given the difficult choice of in situ conservation (preventive and remedial), keeping the material in less than perfect climatic conditions, or removal of the material to a better environment resulting in loss of authenticity and historical context, as well as possible further damage. This conundrum was highlighted in the talk by Maria Concetta Laurenti, Elisabeth Huber and Antonella Martinelli on the preservation of three glass and marble opus sectile panels at the Roman villa of Faragola (Ascoli Satriano, Italy).

The problems of conserving architectural glass were covered in two quite different lectures. Kristal de Vis brought to attention the use of glass bricks in 19th and 20th century architecture. Using a factory in Belgium as a case study, she described the problems of conserving complex building structures and analyzing early industrial glass made from different batches.

Stained glass is not often represented at these conferences due to the amount of specialized meetings on the subject. It was therefore a pleasure to hear Diane Roberts Rousseau speak on the many aspects of conserving a mediaeval window at the Museum of Fine Arts Boston. Her talk covered all important aspects of the work including production techniques as well as preventive and active conservation issues.

There were a number of talks covering the analytical and technical study of ceramic production techniques. The characterization of 18th and 19th century Japanese Raku Ceramics from the Freer Gallery of Art was researched by Raina Chao et al. using analytical techniques including FTIR and XRF as well as the visual assessment of physical characteristics. Helena Fuertes, on the other hand, tried to gain a greater understanding of 16th century coloured glazes by attempting to reproduce a glaze using historical recipes. The results were interesting, although the problem deciphering original technical sources remained a challenge.

In many cases the conservation process itself provides an opportunity for in-depth study of production methods. This was evident in the talks on the conservation of polychrome terracotta sculptures by Jessica Chloros, who has worked on a sculpture from the Isabella Stewart Gardner Museum, and Simona Cristanetti who had worked on a 15th century Madonna and Child at the National Gallery of Art. By careful study of all the aspects of the sculpture Simona was able to verify that a nailed panel of wood at the back of the sculpture was not an old restoration but part of the artist’s original concept. In a similar vein, Elisheva Kamaisy was able to gather very important information about production techniques during the conservation work on of a large group of pottery vessels from Peqi’in in Norther Israel dated from 4500 BC.

An interesting practical conservation issue was presented by Juanita Navarro in her talk on re-attaching paper labels. Sometimes conservators forget the importance of this form of documentary evidence.

Lunch pauses during the conference were extended enabling delegates to visit the museum. Many delegates managed to visit the superb temporary Medieval Glass exhibition, a small but exquisite and well presented exhibition presenting objects not only from the museum’s own collection, but also loaned from all over the world. I had the opportunity to hear the director of the museum, David Whitehouse, taking a group of visitors on a guided tour of the exhibition. It was wonderful to see how he took the time to inspire and excite a group with little or no knowledge of glass history.
We were also given the opportunity to visit the museum archive and the conservation laboratories where Stephen Koob and his assistant Astrid van Giffen showed off their innovative work. Stephen always inspires with his enthusiasm for the profession and willingness to try something new (often involving Paraloid B72!)

Finally I have to mention the wonderful conference dinner that was organised. This event provided the opportunity to present Robert Brill with a gift as recognition of his contribution to glass research: Agnès Gall Ortlik had managed to find tin figures illustrating an alchemy lab in an antiquity shop in Paris and handed it on behalf of the group to the passionate collector.

Robert Brill has been affiliated with the museum for 50 years and has made an outstanding contribution to the scientific understanding of glass materials. He is also exceptional in his openness and generosity in passing on his experience and knowledge to others. Stephen Koob managed to keep the dedication of the conference preprints to Bob secret until the very last minute which produced a great surprise and a grateful recipient.

We wish to thank David Whitehouse, Robert Brill, and Stephen Koob as well as many others at the museum for their work in supporting and organizing this conference and publishing the preprints.

Kate van Lookeren Campagne
Education, Newsletter copy editor: Lecturer Amsterdam University Conservation department
GROUP NEWS: Lisbon 2011

16th Triennial ICOM-CC Conference 19-23 Sept. 2011
- On our way to Lisbon

Gerhard Eggert

![Image: Lisbon: city of tiles]

Exciting Programme

From our WG’s point of view there could hardly be a better place to meet for ICOM-CC than Portugal with its rich heritage of ceramics and glass. And you can expect a great conference: due to the record number of submissions the ICOM-CC Directory Board decided to increase the number of presentations by 50%!

Behind the scenes, preparations for the upcoming Triennial Conference have kept the WG quite busy. Authors who successfully submitted abstracts for papers and posters had to send their full papers in November. These were then reviewed and discussed with the authors by the WG coordinator and assistant coordinator Laurianne Robinet. The Peer Review Committee had the final word on acceptance. Assuming that authors make the requested final revisions we can expect the following contributions:

- Cleaning Medieval stained glass with ionic liquids
- Polymer conservation treatments for stained glass in the Burrell Collection, Glasgow: an assessment of 25 years of natural aging
- Étude et restauration d’un objet exceptionnel: une corne en verre d’époque Carolingienne
- The composition of plaster casts
- Conservation and study of ceramic vessels from the Ban Chiang Culture, Thailand
- The mural of Joan Miró at the Barcelona’s airport: conservation issues about a monumental work of art

Oral presentation in the Metals WG session
- When glass and metal corrode together III: the formation of dicoppertrihydroxy-formate

Poster presentations
- Studies on the Protection of Portuguese Ceramic Tiles
- Stained glass from the Convent of Christ, Tomar (Portugal)
- Fungal bio-deterioration of tiles from the Pena National Palace
- Archaeological ceramics: comparative study of the initial effectiveness of two consolidants – acrylic polymer and ethyl silicate
- The Renaissance set of twelve terracotta coloured and gilded bas-relief that represent Christ Passion - Study and intervention

As you will see from the programme, a variety of important glass & ceramics conservation research projects are going on at the Universidade Nova in Lisbon and elsewhere in the country. Please note that the Universidad Nova can also be visited, as there is an excursion scheduled to it on Wednesday afternoon. Updated information on the whole conference can be found at the website: www.icom-cc2011.org.

Do not miss this opportunity to meet colleagues and friends from all over the world and hear about latest developments in the whole field of conservation!
Exciting business meeting

After the lecture session, the Glass & Ceramics Working Group will hold its official business meeting. Activities in the past Triennial will be reviewed and the WG programme for the 2011-2014 term discussed. The WG (assistant) coordinators would love to hear your ideas: What are the most important themes? How can we improve communication? How should we continue with our specialist groups? And, of course, what about another Interim Meeting? Due to the initiative of Kate van Lookeren Campagne, we can expect an invitation for 2013 by the University of Amsterdam, supported by the Netherlands Cultural Heritage Agency (RCE, formerly ICN) and the Rijksmuseum. An exciting outlook!

Exciting elections?
Vote on new WG-Coordinator

The election terms for the ICOM-CC Directory Board and all WG Coordinators always end at the Triennial Conference. All members are invited to nominate candidates for the next Glass & Ceramics WG coordinator. Candidates must be voting members of ICOM-CC in good standing. They should consult the Manual for Coordinators (search for it in the download section of the ICOM-CC website) first to get an idea of the tasks involved. Please e-mail your nomination to the WG Coordinator. According to the rules, the list of nominations will be posted at the Triennial Conference a day before the business meeting where all WG members may cast their vote.

For your information: The current coordinator will not stand again for election. One of the assistant coordinators has expressed interest to take over. Further nominations are welcome.

SPECIALIST GROUPS

GLASS DETIORATION
Laurianne Robinet

An informal meeting during lunch at the Interim Meeting showed the great interest in this topic. Many participants discussed ideas for future work. The main concern was how to make scientific research on the corrosion of historic glass fruitful for practical conservation. It is clear that research in this field is being pursued, as papers at our Interim Meeting 2010 have shown and as those to be presented at the 16th Triennial Conference will also show.

To help her with the coordination work of this group, Laurianne Robinet has been joined by Astrid van Giffen from the Corning Museum of Glass, Sarah Fearn from Imperial College London and Katherine Erem in from Harvard Art Museums. This team is currently working on developing the Glass deterioration group, with the creation of a Newsletter and the update of the group members’ directory and literature survey. If you know of a relevant publication or if you want to become a member or update your data do not hesitate to e-mail Laurianne:

laurianne.robinet@synchrotron-soleil.fr

HISTORY
Renske Dooijes, Isabelle Garachon

Isabelle Garachon had the chance to meet some of you at the ICOM conference in Corning last year. During an informal meeting with participants interested in the history of ceramics and glass conservation various subjects were addressed among which the main topics were:

- The importance of further research into the use and ageing properties of synthetic
polymers used for the treatment of ceramic and glass since the second world war
- The continued interest in the ethical questions posed by the treatment of previous repairs by those caring for museum collections as well as those working in private practice
- The relevance of recording the oral history of glass and ceramics conservation and plans to set up a project to interview conservators, scientists and curators. The question of funding was also raised.

We can conclude from this meeting that there are some basic research questions that we all find important. Although all of these questions apply to the broader history of conservation we would, for now, like to concentrate on the 20th century:
- What is the recent history of conservation materials and techniques?
- What is the recent history of conservation ethics?
- How, and by whom, have conservation decisions been made within institutions through time?
- How can oral history help us to provide answers to these questions?

We have considered the best way to set up a database to store information about conservation techniques and materials. To be able to build a preliminary template, we need information to enter into this database. Could anyone interested please send us the answers to the following questions:
- What conservation materials have you used in the past and/or are you still using at the moment?
- Please give us information about the brand name, the chemical composition and the application of the material.
- How did you get acquainted with these materials?

You can send the answers to either: Isabelle Garachon (i.garachon@rijksmuseum.nl) or Renske Dooijes (r.dooijes@rmo.nl).

We appreciate your help!

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Rivets ‘set in stone’
Norman Tennent

During my involvement with the conservation of Italian limestone sculptures in Torosay Castle garden on the Isle of Mull, Scotland, I came across an interesting representation of ceramic restoration history. The project involves 19 life-size figures attributed to Antonio Bonazzo (b1698; d1763), representing various activities of a vernacular nature. The sculptures have been in Scotland for over a century and will be the subject of a paper at the June SFIIC congress Jardins de Pierres.

Related to the work of Isabelle Garachon on records and depictions of early ceramic restoration (presented at the 2010 Working Group Interim meeting in Corning), the Torosay sculptures include a gardener pruning a lemon tree in a ceramic pot. Bonazza, with characteristic attention to detail, shows that the pot in question has been broken and repaired with metal rivets.

Norman Tennent (normantennent@yahoo.co.uk)
ENAMEL
Agnès Gall Ortlik

There is nothing particular to report from ENAMEL - the Enamels on Metals Conservation Network - they do it all themselves! Agnès and Catia have published the ENAMEL Newsletter no. 5 (Winter 2010/11). Members can download it from our WG website. Other interested people can request it by sending an e-mail to gallortlik@yahoo.fr. The main theme in the Newsletter was the wonderful 3rd experts’ meeting in October 2010 at the Frick (NY). Extended Abstracts (ca. 3 pages per talk) from the conference can also be found on the web. And don’t forget to download Agnès’ greatly increased bibliography which now has more than 300 references. The Château de Germolles (Burgundy 2006), the Villa Medicis (Rome 2008), the Frick Collection (New York 2010). What is next? Barcelona 2012!

Agnès Gall Ortlik, the coordinator of the group, will be acting as the local host for the 4th biennial meeting.

CONFERENCE CALENDAR

GLASSAC 11
Glass Science in Art and Conservation
Bronnbach Monastery near Wuerzburg, Germany, 10-12 May 2011

The central theme of this conference will be "Innovative technologies in glass art, design and conservation from the 19th to the 21st century – the role of the sciences". The GLASSAC represents an international forum of exchange for glass experts. Further information including the full programme can be found on the website www.glassac.eu.

2011 American Glass Guild Conference
Crowne Plaza Resort, Asheville, USA, 21-24 July 2011
The programme includes 5 lectures on conservation, details of which can be found on the website: http://www.americanglassguild.org/2011conference/2011overview.html

MATCONS 11
2nd International Conference “Matter and Materials in/for Cultural Heritage”
Craiova, Romania, 24-28 August 2011

This conference is aimed at providing a platform for presentation and discussion on the capabilities of chemistry, physics, engineering and technology to answer specific conservation-restoration needs raised by the conservation-restoration community. The Conference will focus not only on scientific research and its direct application to the treatment
and analysis of cultural heritage but also on the practical problems of intervention facing conservators and restorers and innovative possibilities for the conservation practice.

It will offer the opportunity to share methods, studies and strategies regarding conservation and to deepen the interdisciplinary aspects, as well as the development of research and education in heritage conservation, to bring out the activity of young conservation professionals and encourage networking. Ceramics and glass will be an important topic.

Four WG members will give invited lectures. The programme is still open for submitting abstracts and the deadline is June 10th 2011. For details see www.forummuzeulolteniei.ro/index.html.

16th ICOM-CC Triennial Conference
“Cultural Heritage/Cultural Identity – The Role of Conservation”
Congress Centre, Lisbon, Portugal,
19-23 September 2011

See the article “On our way to Lisbon” in this Newsletter and check www.icom-cc2011.org

FORUM for the Conservation of Stained-Glass Windows
Stained Glass after 1920: Technology and Conservation
Lisbon, Portugal, 26-28 September 2011

The next Forum for the Conservation of Stained-Glass Windows will take place in Lisbon from September 26th-28th 2011, the week after the ICOM-CC Conference. The Forum is being held under the auspices of the Portuguese Committee of the Corpus Vitrearum and the International Committee of the Corpus Vitrearum for the Conservation of Stained Glass.

20th and early 21st century stained glass presents particular technical features that are related to changing aesthetics. New technology and materials also represent a great challenge to conservators and conservation scientists. These aspects have not yet been the object of systematic reflection in spite of some important contributions. The next forum intends to propose an overall approach to this subject and motivate related discussion.

Art historical issues are central to the desired theoretical and methodological debate to be set-up in this forum, as well as an integrated vision of artistic production in the period considered. Workshops are a specific aspect of contemporary stained glass heritage which deserve particular attention. Papers will be offered in English, French and German. Simultaneous translation will not be provided. The programme can now be downloaded from:

http://www.dcr.fct.unl.pt/programme2.pdf

The conference is open to all interested stained glass professionals, including conservators and conservation scientists. All information is updated at http://www.dcr.fct.unl.pt/eventos/portal_factory/Document/forum-for-the-conservation-of-stained-glass-windows

Reverse Painting on Glass
6. Tagung zur Hinterglaskunst
Residence, Würzburg, Germany,
7– 8 October 2011

The main conference language will be German. To receive further information (and the programme in due course) please send an e-mail to Dr. Verena Friedrich (verena.friedrich@uni-wuerzburg.de).

To get an idea of the scope of the conference series, please see Simone Bretz’s report from the 4th Meeting in our Newsletter (no.18, p.10-11). Sorry, there is no webpage.

CCI - SYMPOSIUM 2011
Adhesives and Consolidants for Conservation: Research and Applications,
Ottawa, Canada, 17-21 October 2011

Adhesives and consolidants are important components of almost every conservation treatment. The symposium in 2011, convened by the Canadian Conservation Institute (CCI), will bring together conservators and scientists from around the world to share their practical and theoretical knowledge about the use of adhesives and consolidants in all areas of conservation. 4 papers are devoted to glass and ceramics. Information can be found on the website: www.cci-icc.gc.ca/symposium/2011/index-eng.aspx
INTERNATIONAL SYMPOSIUM
History, Technology and Conservation of Ancient Metals, Glasses and Enamels
Athens, Greece, 16-19 November 2011

Focusing on ancient materials from Greece and the adjacent areas, this symposium will also emphasize related topics to help the understanding and prediction of the chemistry and technology of the fabrication, behaviour, corrosion and properties of ancient materials (Copper-Bronze-Steel-Brass-Lead, Glass and Enamel).

Sessions will be devoted to:
1. History and objects
2. Structure and properties
3. Dating techniques and applications
4. Technology (Raw materials, Furnaces, Melting, and Forming)
5. Corrosion of ancient materials
6. Modern aspects of corrosion of materials
7. Conservation

The last day of the symposium will be devoted to the second conference “Hyalos-Vitrum-Glass” dealing with archaeological issues related to glass.

The deadline for submitting abstracts is June 20th 2011.
Website: www.ims.demokritos.gr/gme2011/

ENAMEL IV
4th Experts’ meeting on Enamel on Metals Conservation
Barcelona, Spain, June/July or Sept. 2012
Local host: Agnès Gall Ortlik (gallortlik@yahoo.fr)

EXHIBITIONS

A Flood of Art - Sauvés des eaux
An exhibition featuring the mudac collections and their flooding

Lausanne (CH), November 4th, 2008: a construction site next to the mudac’s main storehouse at rue Villamont was the source of an impressive flood: within a mere few hours, the level of the water pouring into the room where the museum’s works were stored had reached a height of 3 meters. Around midnight, water overflowing through a basement window cascaded down the street, catching the attention of a passer-by who then gave the alert.

Once notified, the fire department contacted Ms. Silvia Zamora, municipal councillor in charge of culture, who in turn got in touch with Chantal Prod-Hom, director of the mudac. On site, the firemen set about evacuating the large mass of water, while the museum director removed sundry accessible objects. To save what could be saved, dry what could be dried, put first things first: that was the order of the day!

The accident affected large portions of the glass art and ceramics collections, works entrusted to the mudac by the Jacques-Edouard Berger Foundation and, to a lesser degree, the design collection. The broken, water-logged and heavily soiled works required immediate action by the various collection heads and the museum’s technical staff. On the morning of November 5th, Fabien Ruf, head of the culture department, Chantal Prod’Hom and the curators held an emergency session to make the many decisions called-for by the situation. Namely:
· to draw up a communiqué for the press, the donors and the lenders
· to rescue all that could be rescued and determine the priorities for handling the various objects
· to assess the damage and communicate the results to the insurance companies
· to take the necessary measures to transport the works to a repository
· to seek out qualified professionals for the conservation of the objects

Fig 1: Richard Marquis, Shard Rocket, 1987, blown glass, pasted and painted. Photo: courtesy of the artist.

Exhibition Line of approach and goals
An exhibition like ‘A Flood of Art’, providing a detailed exposé of an accident and setting various damaged objects on display, may appear to be incongruous to some viewers. Why go back over...
all the facts? To us it seemed like a very sound idea to share with our public not only the event, but also how it has been and continues to be handled. Public collections belong to a collective heritage and it is up to us, the museum professionals, to update you on the matter. In addition, the exhibition is meant to highlight the enormous undertaking, the closing of ranks, and the painstaking, long term work to which the flood gave rise. The resulting exhibition is certainly not limited to the emotional impact of the accident but gives full due to the conservation work itself. Finally, it familiarizes viewers with an important aspect of behind-the-scenes museum work.

The exhibition is open until 13 June 2011. More information can be found at www.mudac.ch

Figures for the 4th November 2008 flood:
108,000 litres of water, 892 objects submerged in 3 meters of water. For 2 weeks, the mudac was run by only 2-3 people. Everybody else was busy with the aftermath of the accident. 325 objects had to be restored, 577 objects had to be cleaned, 40 works were considered destroyed. In total it came to CHF 500,000 in damages, CHF 80,000 extra costs such as transport, on-site surveillance, storage material purchases, and 100 work hours to extricate the objects.

Further, 200 hours were needed to sort out the objects and estimate the damage. In the end over 1000 overtime hours were worked in 2008 and 2009. Help was given by two Lausanne museums and the conservation work is due for completion in 2016. A refrigerated storage closet had to be rented for two years. There was endless to-ing and fro-ing and numerous questions were left unanswered.

All mudac collections are insured. Nevertheless, such an experience raises numerous questions:
· How can the objects be protected?
· What are the best conditions to store the objects?
· How can any additional damage be avoided?
· What is the insurance value of the objects? (actuarial calculation)?
· Should restoration be undertaken “at any price”? - collection value versus insurance value
· Aesthetic, historic, or documentary value: which comes first?
· Do the same decisions apply to contemporary or historic objects, artistic or utilitarian?
· Are there differing criteria depending on whether it is a private or institutional collection?
· How can one judge whether the decisions made are the best possible?

EDUCATION

New Master of Glass and Science

This is a degree conferred to students of art and students of science by the Faculty of Sciences and Technology (Universidade Nova de Lisboa) and the Faculty of Fine Arts (Universidade de Lisboa). The programme starts in October 2011 and the tuition fee is €4,500 per year.

If you’re interested to become part of one of the newest and most innovative concepts in glass education, check out the website at www.vicarte.org/cont/master.html.
PROJECT NEWS

Conservation of Ceramics from Phnom Borei Burials
January – September 2010

Tep Sokha

The ceramics Conservation Laboratory (CCL) at the Royal University of Fine Arts (RUFA) and Institute of Culture and Fine Arts (Royal Academy of Cambodia) conducted a project to conserve and restore ceramics from the Phnom Borei site which is located in Phnom Borei village in Cambodia, Prek Phtol commune, Angkor Borei district, Takeo province (see figure 1).

Phnom Borei is situated approximately 5-7 km south of Angkor Borei at the western edge of the Mekong Delta (GPS coordinates: 10°56’N and 104°58’E). The altitude at Angkor Borei varies from about 2 to 10 meters above sea level. Located to the south of Angkor Borei town are the two prominent hills of Phnom Borei (170 m above sea level) and Phnom Da. (Phun Kaseka 2005:1). The project has been supported by a private donor, Lisa Sardegna.

The graves at the Phnom Borei burial sites contain ritual offerings of ceramics and other artefacts. There are seven human burials associated with this site and pots from burials 2, 3, 5, 6 and 7 have been conserved. The ceramic wares found at the burial sites had been placed above the head, near or on the hands and lower arms, and near the side of the knees of the bodies. Radiocarbon dating of samples at the BETA Analytical Laboratories (US) dated the site between the 2nd to 1st centuries BC 1 (Phun Kaseka 2005: 4) : the Cambodian Iron Age.

Ceramic Conservation
The general condition of the two thousand year old ceramics at this site was what one would expect at sites of a similar age. Objects were broken, had collapsed into many sherds or were suffering from the effects of insoluble and soluble salts. Although many ceramic objects at Phnom Borei were broken or damaged, several pots were still in good condition.

The conservation of the ceramics from the Phnom Borei burial site involved standard procedures. Twenty three pots were conserved as follows:

Cleaning
Both dry and wet cleaning techniques were used. First the stability the red slip was tested by spot-testing on an inconspicuous area with a cotton-tipped swab damp with distilled water. If the cotton swap became stained it indicated that the slip was water-soluble and that a dry-based cleaning method should be used.

The Phnom Borei objects were also tested for soluble salts using specific tests such as that used on pot # 1a. The pot was immersed in de-ionized water and after 24 hours the salinity of the water was measured using a conductivity meter. Tests indicated that there were low levels of sodium chloride (NaCl).

Dry cleaning techniques included mechanical cleaning with scalpels, bamboo sticks, and soft brushes. Sponges were also used, but care had to be taken since even dry-sponging a pot surface with too much pressure could damage the unstable slip pigment.

Fig 1: situation of the Phnom Borei site

Fig 2: sherds after excavation

Some of pots were filled with hardened soil which had caused cracking of the wares due to expansion of the soil when wet. Bamboo sticks were used to carefully flick out the soil, while checking for any archaeological remains inside. In one case soil removed from inside a jar contained fish bones,
and in another bowl a child’s tooth was discovered. When cleaning mud from the sherds special attention had to be paid to the slip layer. The sherds were quickly dipped into water and the softened soil was patted away using the fingertips or very soft, fine-tipped brushes used along the incised lines of the cord decorations. The mud and excess water were then gently removed by patting with tissues, ensuring that the red slip was not damaged. After cleaning, the sherds were laid out in a basket to enable them to dry completely before continuing to the next step.

**Fig 3: sherds after cleaning and sorting**

**Matching and assembling the sherds**

There were several strategies to match and assemble the ceramic sherds. This task was helped by the fact that the objects were mostly broken into less than 40 pieces. Scratching on an inconspicuous area of the pot with a coin helped to determine the hardness and stability of the ceramic body. This had to be determined before attempting to join the sherds together. The stability of the ceramic and the cleanliness of the break edges were both important in ensuring effective adhesive absorption and bonding.

Previous restorations had poorly fitting joins as a result of insufficient cleaning of the break edges. Objects with poor previous restorations had to be dismantled, and the old adhesive removed. The pots at the burial sites were small and easily reconstructed by bonding the sherds from the base up. This method was used on most of the objects, with the exception of jar #10 which was joined in two pieces with body and rim sections.

Before bonding, all the sherd edges were consolidated with adhesive diluted in acetone. While bonding such fragile sherds one must be able to assess how much force needs to be used when pressing the sherds together. I often lay a white cloth across my legs while sitting, in which I cradled the pot during reconstruction. The pressure on the bonded sherds was gently increased until the fit was good. Too much pressure too quickly could have caused shattering of the sherds into even smaller pieces.

**Restoration and Colour Matching**

With most of the Phnom Borei objects, the base, body, neck and rim had to be stabilized and large missing areas restored. Several objects required major restoration such as PB2010.7a and 7b; and PB2010.2.

**Fig 4: jar #10 during bonding**

To bond the ceramics a mixture of Acryloid B72 and Acryloid B-48 1/1 in acetone was used. By mixing these two Acryloids it was possible to create an adhesive with a suitable Tg. As the temperature in Cambodia often exceeds 40 °C it is not possible to use pure Acryloid B72 which has a Tg of 40. Acryloid B-48 in its pure form has a Tg of 50 but is too hard for fragile pottery.

**Technical Restoration**

After assembling the sherds, large sections of some objects still had gaps remaining which required filling in order to stabilize them. Consolidation of the edges of the section to be filled with plaster was achieved using a thick consolidant. This was not only done to stabilize the ceramic, but also to prevent salt and moisture being absorbed into the clay fabric.

**Fig 5: jar #10: fitting the rim**
In the second step, wax moulds were made to support the gaps to be filled. The gaps were then filled with plaster of Paris using spatulas of various sizes. Any excess plaster was quickly removed with cotton swabs and demineralised water. In the final step, the hardened plaster was sanded down to give the correct form. The Phnom Borei objects are small with thin walls, so metal tools were used to shape the hardened plaster in difficult areas of the body, neck and rim.

**Retouching the fills**

The clay used to make Phnom Borei ware has red and straw colours in the clay matrix. Yellow ochre, red oxide and titan buff were used to paint the plaster infilling, after which red oxide was applied in a very thin layer in order to match the colour of the red slip. We also had to apply additional in-painting by mixing in light green and light buff, or by adding diluted raw umber when we wanted the surface to look darker.

**Conclusion**

We have now conserved twenty three pots from five burial sites at the Phnom Borei site. These ceramic objects appear to have been made to a special size and placed in human graves as part of the funeral ritual of this region in the prehistoric period. One of the most charming findings in the reconstruction of the Phnom Borei ceramics was the discovery of ancient finger prints on the pot surfaces which were left when the potter applied the red slip to the pots. The size of the finger prints tells us whether the pots were handled by an adult or a child assistant. Pots were decorated in red slip using cord marking.

Now that the ceramics conservation is finished, these objects can be studied as complete objects and help us to understand the rituals for the spirits who would ‘use’ these ceramics in their next life. The Phnom Borei ceramics are now in a stable condition and their conservation has played an important part of preserving the history and cultural heritage of Cambodia.

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**BOOK ANNOUNCEMENT**

Forum 2009

Do you remember Sebastian Strobl’s enthusiastic report from the Forum 2009 (Newsletter no. 18, p. 9-10)? Now here is the book!

The American Committee of the Corpus Vitrearum is delighted to announce the publication of papers from the 2009 Forum for the Conservation of Stained-Glass Windows, held in New York at The Metropolitan Museum of Art:

The Art of Collaboration; L’art de travailler ensemble; Die Kunst der Zusammenarbeit
Stained-Glass Conservation in the Twenty-first Century, Edited by Mary B. Shepard, Lisa Pilosi, and Sebastian Strobl
Corpus Vitrearum USA, Occasional Papers II
(currently cheapest seller ca $80 on Amazon.com)

This publication presents current topics in stained-glass conservation, with special consideration given to those which highlight the collaborative process. Topics include the transfer of technology across disciplines or national boundaries in the manufacture of stained glass; interdisciplinary approaches to the art historical and technical study of stained glass; discussions of the impact of the client on conservation decisions and more. Papers are in English, French, and German.
**Corning Preprints available (but hurry)!**

The quality of the preprints from our 2007 meeting in Nova Gorica had inevitably raised expectations. You need an experienced and skillful editorial coordinator to manage a tight time schedule and oversee the quality of the contributions. Clearly we chose the right one in Hannelore Roemich. Assisted by the WG’s (assistant) coordinators and local host Stephen Koob as well as other staff members at Corning, she created a wonderful, full-colour volume of 240 pages. Those who could not afford to come to Corning in person have the opportunity to keep updated on developments in glass & ceramics conservation through the preprints. Conservation libraries cannot do without it!

The table of contents can be found on the AIC website (see below). Abstracts of the contributions will soon be included in the AATA database for free online consultation and search (aata.getty.edu). The 2010 Preprints can also be ordered online from the AIC website (www.conservation-us.org, click Online Store, then click category General) for 40 US$ plus 8 US$ postage fee (for foreign shipment). To ensure that you are not disappointed please hurry as only few copies are left.

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**G & C WG CALENDAR**

For news and updates see our WG website at http://www.icom-cc.org/27/working-groups/glass-and-ceramics/

**September 19th to 23rd, 2011**
16th Triennial Conference of ICOM-CC in Lisbon with Glass & Ceramics Conservation session and business meeting of our WG

Deadline for the next Newsletter:

**December 1st, 2011!**
### “Glass and Ceramics” Working Group

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