INTERNATIONAL COUNCIL ON MONUMENTS AND SITES ICOMOS CONSEIL INTERNATIONAL DES MONUMENTS ET DES SITES

International Scientific Committee for Stone (ICOMOS-ISCS)

Winter/Spring 2009/2010

Dear Colleague,

It is my pleasure to update your briefly on the work of our ISCS with this Newsletter which comes to you in its second edition, carefully compiled as usual by Jean Marc Vallet and Andrew McMillan.

The newsletter intends to share with you the news about our activities and meetings in the recent months. In brilliant winter weather, at temperature far below 0℃ we held our 15 th meeting in mid January in Dresden, Germany, kindly organised by the IDK and Christoph Franzen, and hosted by the Saxonian State Conservation Office whose hospitality is greatly acknowledged.

While the first day of the meeting was largely devoted to administrative discussions, the second day was characterised this time by a vivid scientific exchange between the participants.

In the hope that you may also share your news related to the conservation of porous inorganic building materials, I am looking forward to inform our members on further current stone conservation research issues.

Our next ISCS meeting will be held on December 7-12 in Petra, Jordan, in the frame of the 7th International Conference on Science and Technology In Archaeology and Conservation, a Workshop on Documentation and Conservation of Stone deterioration in Heritage Places", which will be organized commonly by: ICOMOS/ISPRS CIPA Heritage Documentation, ICOMOS ISCS Stone Committee, ICOMOS ICAHM Archaeological Heritage Management and CulTech for Archaeology and Conservation

Good reading!

Stefan Simon, President
Berlin, Germany
Email: s.simon@smb.spk-berlin.de

CONTENT OF THIS NEWSLETTER

15th Meeting of ICOMOS International Scientific Committee for Stone (ISCS)

hosted by Dr Christoph Franzen
at the IDK, Dresden, Germany

15-16th January 2010

The 15th Meeting of the ISCS was held in the State Conservation Office, Dresden at the invitation of Dr Christoph Franzen (Institut fur Diagnostik und Konservierung an Denkmalen in Sachsen und Sachsen-Anhalt e.V.) and the President of ISCS Prof. Dr. Stefan Simon (Rathgen-Forschungslabor - Staatliche Museen zu Berlin).

ISCS Members were warmly welcomed by Prof. Dr. Pohlack (State Conservator, State Conservation Office, Dresden).

Prof Dr. Pohlack

Present:

Name	Acronym	Organisation	State
Bärbel Arnold	BAD	BLDAM-Brandenburg	GE
Christine Bläuer	CBR	Conservation Science Consulting	CH
Christoph Franzen	CFN	IDKDSSA, Dresden	GE
Andrew McMillan	AMM	British Geological Survey	UK
Marisa Pamplona	MPA	Rathgen-Forschungslabor - Staatliche Museen zu Berlin	GE
I. Pianski	IPI	IBZ-Freiberg	GE
Heinz Siedel	HSL	University, Dresden	GE
Stefan Simon	SSN	Rathgen-Forschungslabor - Staatliche Museen zu Berlin	GE/USA
Jean-Marc Vallet	JMV	CICRP, Marseille	FR
Myrsini Varti-Matarangas	MVM	I.G.M.E, Athens	GR
Véronique Vergès-Belmin	VVB	LRMH, Champs-sur-Marne	FR
Wanja Wedekind	WWD	GMX	GE
Gerald Ziegenbalg	GZG	IBZ-Freiberg	GE

Apologies:
T. Anson-Cartwright (Canada ; T-AC), M.J. Cassar (Malta), M. Dagmar (Czech Republic), J.M. Garcia de Miguel (Spain), R. Van Hees (The Netherlands), E. Hyslop (United Kingdom), D. Kwiatkowski (Sweden), K. Normandin (USA), G. Scherer (USA) and Sybille Herkner, Richard Ollig, York Rieffel, Kathrin Schütte (Germany)

The meeting had been in fact scheduled for 2009 (ISCS is expected to meet annually) but had to be postponed for technical reasons until January 2010. The 2 days meeting was convened to discuss the business of the ISCS, and to provide an opportunity for the presentation of several ongoing scientific studies. Tours were led by conservation experts to the inner City of Dresden and to the restoration workshops of the state conservation office.

Agenda (Day 1 of the 15th meeting)

1. Agreement on schedule, additions

The main addition to the agenda was for the Committee to consider a response to Gustavo Araoz's email concerning the response to the natural disaster which had occurred on January 12th, 2010 in Haiti. The Committee drafted a letter offering the support of members and explaining the areas of expertise which could be called on following on from the humanitarian rescue and rehabilitation phase (see Annex 5). It was also necessary to enquire how the budget for recovery phase was to be defined. The letter was emailed to Gustavo and ICOMOS organisations by SSN. The final Agenda of the meeting is given in Annex 1.

2. Round table: presentation of new participants, guests

Members and prospective members (BAD, MPA, HSL, WWD) introduced themselves.

3. Secretary to be chosen

AMM was elected to take notes of the Meeting and is also the main contributor of this Newsletter.

4. Quebec meeting report: approval

SSN described the work of the ISCS members in Quebec including the drafting of the revised Statutes and the Triennial Workplan. ISCS was delighted that it proved possible for the new Glossary of Stone Deterioration Patterns to be launched in Quebec and thanks all contributors including the financial sponsors. The New Board of ISCS (Stefan Simon, President; Tamara Anson-Cartwright, Vice-President; Jean-Marc Vallet, Secretary; Andrew McMillan, Treasurer) for the period 2008-11 was elected in late 2008.

5. New candidates for ISCS, presentation, discussion

The Meeting elected the following candidates as Expert Members of the ISCS:

- **Ann BOURGES** (ABS, Stone conservation scientist) proposed by LRMH, France, member of F/ ICOMOS;
- **Gilles MARTINET** (General Manager of LERM) proposed by F/ ICOMOS;
- **Didier GROUX** proposed by F/ ICOMOS; D. Groux had though to send a complete CV to Jean-Marc Vallet and he did it on the 19th of January;
- **Sandeep SIKKA** (LEED Accredited Professional and a Conservation architect based in New York) proposed by US/ ICOMOS (Donald G. Jones).

A brief presentation of these three first appliances is given in Annex 2.

Subject to receiving written correspondence (including receipt of CVs) from the candidates confirming that they wish to become Expert Members the following may be approved at the next meeting:

- **Seema BADHAURIA** (Associate professor, Department of Botany, R. B. S. College, Agra – 282002, India) proposed by ICARSAH- ICOMOS;

- **Olivier LABESSE** proposed by F/ ICOMOS.

It was important to follow the criteria set out the Statutes for the election of Expert and Associate Members.
It was agreed that normally elections will take place at meetings of the ISCS unless a quick decision is needed.

ACTIONS:

1. The ISCS should proactively seek nominations of candidates from national ICOMOS committees. Members of the ISCS can also propose experts who are beforehand ICOMOS members.
2. The ISCS website should contain a statement explaining the role and activities of the ISCS committee, the role of Expert Members, the eligibility rules and the ways in which prospective members can apply.

6. Current state of activities 1-16 of the Triennial Work Plan (TWP)

Each of the 16 activities of the Triennial Work Plan (TWP) was discussed, some in more detail than others. It was agreed that for some activities most probably only little progress could be made within the horizon of three years. All 16 TWP activities are listed below.

GOVERNANCE

TWP 1: *Provide annual report to Scientific Council.*
TWP 2: *Identify the need and create sub committees to support ISCS activities.*

MEMBERSHIP

TWP 3: *Invite all national ICOMOS committee to propose members to the committee according to 2008 ISCS statutes membership categories and the committee's technical mandate has been expanded to inorganic porous building materials (IPBM).* It is important to proactively renew the invitation to join the ISCS. Only certain national committees had responded to the first call. ISCS could ask the ICOMOS Board which meets in Paris and also the heads of scientific committees (who meet each year) to place this matter on the agenda.

ACTIVITIES

TWP 4: *Update and maintain membership list and email distribution list. ISCS needs to update and maintain its membership list ensuring who are Expert Members and Associate Members; and who, amongst the Expert Members, is eligible to vote (**one** representative per country).* Two National subcommittees already exist in Canada and in Japan. The Board will get in touch with our colleague TAKESHI ISHIZAKI in order to insert the Japanese webmail addresses in our list of recipients.

TWP 5: *Launch and promote the "Illustrated Glossary on Stone Deterioration patterns/ Glossaire illustré sur les formes d'altération de la Pierre"* at the ICOMOS 16th General Assembly in Quebec City, Canada. The French- English version was achieved thanks to the hard work of VVB, the French National Translation Group, including JMV and Philippe Bromblet from CICRP, TA-C, and all authors.

TWP 6: *ISCS members promote the glossary to their national ICOMOS committees and to technical training and conservation institutions in each member's country.* ISCS members continue to promote the Glossary. A Powerpoint presentation is available (contact: veronique.verges-belmin@culture.gouv.fr).

TWP 7: *Multilingual glossary: state of the current translations, proposals about the dissemination of the new bilingual glossaries*
78, 000 downloads of the French-English translation have been recorded since its publication in October 2008 until the end of December, averaging 3,000 downloads per month.
Members were interested to know how this compared with other downloads available from ICOMOS and it was recommended that contact was made with the web manager. He replied to VVB (3rd of February) that the glossary was the third of the most important ICOMOS downloaded documents in 2009 behind two bibliographical reviews from the ICOMOS documentation Centre. One ventured the hypothesis that the high number of downloads did not seem to be in reasonable accordance with the number of potential users. May some clarification can be seeked with the web manager?

Further translations (a.o. German, Greek, Spanish) are being prepared and are about to reach their finalization stage.

Furthermore Israeli, Arabic and Chinese translations of the glossary are in progress. MPA will ask to J. Delgado- Rodrigues (who participated to the conception of the glossary) whether a Portuguese translation could be started. Work had also started on the Greek translation under the leadership of MVM. The German translation has progressed with Rolf Snethlage, Kurt Heinrichs and SSN having translated the captions.
The Spanish translation was complete and had been sent to Elena Charola for review. Argentineans showed a great interest about the glossary and are waiting for the Spanish-English version.
It was discussed that it would be desirable to keep the layout of each bilingual version the same as the French-English Version. However it was estimated by VVB that for each new version c. 3000 EURO might be needed for changing the text to fit the original layout before a pdf file is produced. Further funding might be needed if a printed version is required. It was suggested that considerable parts of the funds needed for each version should be sought from the relevant ICOMOS National Committee(s). To assist with this process a generic 'fund-raising' letter was drafted in English by AMM, discussed and forwarded to SSN after the meeting. It was proposed that all authors of the French-English Version would be contacted to offer their thoughts on the present layout. After discussion it was decided that it would be desirable to remain the same in each version. If the photographs are to remain the same in each version then appropriate credits must be the same as in the original.

VVB suggested that existing funds (resulting from sales of the French–English publication) could contribute towards paying for part of the production. No consensus could be reached on the matter of financial support to upcoming publications. Currently discussions are ongoing with the LRMH in order to secure the copyright for the lay-out for ISCS.

TWP 8: *Develop the ISCS website to improve communication of the activities of ISCS such as provide PDF version of Glossary, newsletters and to have a clearing house of key stone conservation conferences and link to technical publications.*
CFN underlined that the ISCS website had to be updated soon. He also reminded that LRMH web site hosted it and thanked a lot VVB. He proposed to ask ICOMOS to host it. He also proposed to plan a new construction of the ISCS website which should contain different information including a statement explaining the role and activities of the ISCS committee, the role of Expert Members, the eligibility rules, and the way in which prospective members can apply.

VVB, as the current webmaster, proposed after the meeting to update the current website to comply with the requirements of the work plan and proposed to discuss further the topic during the next meeting of the group (the hosting the website, its management and so on).

TWP 9: *Plan and schedule annual meeting (2009, 2010) possibly to coincide with key international stone conferences to help increase participation of ISCS members and reduce travel expenses to members for attending meetings.* ***Not progressed***

TWP 10: *Develop a joint initiative of ICOMOS international scientific committees in the field of conservation, dissemination and training e.g. CIPA, ISCARSAH and Historic Gardens.* (Proposed topics: outer sculptures and documentation/ conservation of stone monuments): ***see item 9 of this report***

TWP 11: *Build ICOMOS - ICCROM relations in stone conservation training by offering an ISCS representative to any ICCROM course planning Committee such as Venice Stone and expert members to key ICCROM training initiatives associated with stone conservation.* No action has been taken. It is difficult to see how Stone experts from the ISCS can be integrated into the already well-established ICCROM training regime. A more positive move might be to highlight the pool of expertise in stone to Gustavo Araoz and also consider the possibility of developing short courses in stone conservation in other parts of the world (e.g. Africa). It would be important to identify where gaps in training exists by discussing with government contacts etc. and with national ICOMOS committees.

TWP 12: *Explore the opportunity to build a collegiate collaborative (hybrid) with ICOM – CC stone committee. We are considering the possibility to write to the President of ICOM-CC on this topic.* ***No action.***

TWP 13: *Further explore an opportunity to advance the understanding of traditional building technology and conservation methods through the development of a centralized digital portal (CDP) such as the Carleton University Immersive Media Studio, Ottawa, Canada.* It was suggested during the last ICOMOS-ISCS meeting that TA-C should make contact with those working at Carleton University to get an update on activity and to see how ISCS members could become involved.

TWP 14: *Explore opportunities to promote the understanding of traditional use and conservation of stones to the public and youth.* It was recognized that there are many local (national) educational initiatives (e.g. projects raising awareness of stone heritage in Greece) but for ISCS to take this forward there needed to be some general topics of international relevance which could be developed. "Steine in der Stadt/Stone in the city" is an example of a new publication produced by volunteers describing the stone of 18 German cities. Other publications tabled at the meeting included are given in Annex 3. This kind of publication already exists in England, Scotland and Spain. Information about this topic is welcome.

TWP 15: *Provide advisory services and support to the key initiatives of the ICOMOS World Heritage working group initiatives including expert members to multidisciplinary teams for ICOMOS missions or review of the state of conservation of World Heritage sites.* Dissemination of information on stone could form a theme for the next ISCS conference. Questions of whether knowledge of stone travels with the material were mentioned (i.e. is there sufficient knowledge of how imported stone will perform in different countries and latitudes; how does stone perform in varying climates?). It was considered a valuable task for

ISCS to identify how schools in countries across the world promoted education in topics such as stone, geology and heritage and economic relevance. Feedback might be sought from national ICOMOS committees
Participants of the 15th meeting suggested creating a dedicated sub committee. This group and its coordinator will be able to collect information coming from National ICOMOS committees. The Board launches for candidature to a coordinator since now (Please contact jean-marc.vallet@cicrp.fr).

TWP 16: *Support and contribute to the scientific program for the 17th ICOMOS General Assembly (2011).* Currently it is not known where the next GA will be held not it will be its themes and its program.

7. Day 1 Tours

A 'Tour of the city: looking for the stones and restoration' led by Dr Franzen took place at a lunchtime interval on Day 1.


Tour of the city


Restoration workshops

Visit restoration workshops of the state conservation office (in house), conducted by Dr Franzen at the end of the first day meeting.

ISCS meeting participants warmly thank CFN and the IDK Dresden for arranging these tours.

Dinner (– end of the first day meeting)

Agenda (Day 2 of the 16th meeting)

8. Presentations on scientific projects

8.1. EC program "MEDISTONE" (JMV)

This project demonstrates a practical application of the recently published ISCS Glossary (2008). JMV described a Guide for stone conservation of the archaeological site of Volubilis (Morocco). Part of the European project 'MEDISTONE', the WP2 activity objectives included the recording of field observations; diagnosis of the state of conservation of monuments with reference to the ISCS glossary; and salt analysis. The Guide contains

observations on the causes of alteration; recommended conservation practice; and an annex with a glossary of deterioration patterns observed and a map of these patterns on reference areas.
Causes of stone alteration include water, soluble salts, and intrinsic properties of the stone materials, biological activity and anthropogenic activity. He developed quickly these different causes. In addition, monitoring of contour scaling suggests that this deterioration increased during the period 2006-08 resulting in more detachment of stone, contour scaling and discolouration. Often several alteration patterns are observed in association. Therefore superposition of alteration patterns needs to be understood.

The aim of the program needed to develop a predictive model and to quantify and prioritize the required maintenance. JMV concluded that the glossary was really very useful to describe the alteration patterns and the development of quantification depends on the specificity of the studied case.

8.2 EU-STONECORE Project (GZG)

STONECORE is an EU Framework 7 project (www.stonecore-europe.eu) researching stone conservation materials compatible to those used in construction. It is also examining the removal of fungal colonies without use of biocides. Part of the project involves non-destructive GPR (TU-Delft) research using enhanced ultrasonic methods.

The work involves ongoing research into nanoparticles and their use in stone and mortar consolidation. Key characteristics include the ability of nanoparticles to deeply penetrate stone. Nanoparticles are highly reactivity and have defined compositions. Nano materials currently under development include $CaOH_2$, $BaCO_3$, $Ca(OH)_2/Mg(OH)_2$, and $MgCO_3$ in ethanol, and n-propanol solutions.

Examples of ongoing research in stone/mortar consolidation using $Ca(OH)_2$ – nano CaLoSil: nano-lime (max. particle size 250µm) showed how this consolidating material could be sprayed, injected, or pipetted. Measurements of mechanical properties, cohesive performance, penetration depth, changes in structure and colour, water uptake and porosity, and vapour permeability characteristics have been made. Monitoring of the time it takes to carbonate (calcite) is a key part of the research.

Pore structure analysis of an example of porous Maastricht limestone showed newly formed $Ca(OH)_2$ deposited within stone, but the pore structure remains the same.
In the case of Polish Zerkowice sandstone, porosity and water absorption is reduced after treatment, but the pore structure remains open. Applications are being made on buildings in Mainz, and other buildings identified for the study in Germany, Poland, Austria, and Greece. A meeting to discuss recent progress in consolidation of calcareous materials is planned in Litomysl, Czech Republic, 22-23 April 2010 (abstracts by 28/2/10). Topics include: materials for consolidation development of testing of nano-materials for consolidation of calcareous materials, mortar, stone and wall paintings; case studies; new methods of non-destructive damage assessment.

8.3. Cultural Heritage Endangered Flooding (CFN)

A final report for this European project (CHEF) is in preparation. The effects of the flood in Saxony during August 2002 were described. At Pillnitz, on the Elbe River upstream of Dresden heavy rain resulted in small tributary brook (the Meixbach) being dammed by wood debris on 13th Aug. It was decided to evacuate all important items from the cellar rooms on

14th Aug; numerous logistical problems arose including local power cuts on the 15th. Ultimately valuable heritage furniture was removed on 16th Aug. The lack of contingency plans and lack of knowledge on how to handle valuable artefacts and furniture were obvious in retrospect. The report will highlight recommendations for the rescue of heritage artefacts and flood prevention measures.

8.4. Developments and challenges of winter shelter systems (CFN)

CFN described current practice regarding temporary winter protective shelters for free-standing sculptures in parks, including the building, dismantling, and storage of these structures. In several northern European countries the sheltering of stone sculptures is a long standing tradition. In the last couple of years the typical wood shelters have been partially replaced by impermeable, textile-, metal- (aluminium), acrylic- and material combination systems. Wooden constructions permit air to circulate and slow the process of deterioration. Issues to consider include cyclical changes such as precipitation (rainfall variation; rainfall greatest in winter), temperature variation, radiation, and possible pollutants. CFN is collecting information on types of protection. Shelters need to meet structural engineering requirements, be reparable, and easy to erect and dismantle. Traditionally shelters have protected marble monuments but now sandstone also being protected.

8.5. Ultrasonic pulse velocity applied to outdoor marble sculptures (MPA-SSN)

SSN described a project examining ultrasonic pulse velocity applied to outdoor marble sculptures. The monuments comprise 26 marble sculptures (Kings and nobles 12th -19th C.) erected in 1900 in the "Tiergarten" of the Spandau Citadel in Berlin. Some of them were buried post- 2nd World War until 1980s. Fresh marble is characterised by high velocities. Higher surface to volume ratios result in more decay. The marble used 1880-WW1 has shown to be very vulnerable to decay.

8.6. Ultrasonic velocities measurements in Arles's St Trophime cloister (PBT-VVB-SSN)

SSN reported the results of measurements performed by P. Bromblet (PBT, CICRP) and VVB in the cloister. These measurements were compared with those performed nearly 20 years ago by SSN and VVB. This project is a rare example where ultrasonic techniques measurements are compared nearly 20 years apart. There is a good comparison of measurements made in 1992 (using USG 20 equipment, 250 kHz frequency) and those made in 2009 (55Hz frequency). The values in 1992 are slightly lower than in 2009, especially in the decayes south-west corner of the Cloyster, and are reproducible in general. The SW wing shows greater reduction in velocity readings, due to weathering.

8.7. Origin of cuts? (SSN)

SSN recommended that the ISCS members start collecting information and illustrations on anthropogenic markings on stone (e.g. on 'knife' markings, scratches, gouges). It was agreed that standardised information would be required and that the type of observational information collected needed to be defined (Action SSN: to define criteria). It was agreed to separate facts from inference about how markings were made.

8.8. Salt crystallization (PBT-JMV)

JMV reported the findings of a PhD study by Julie Désarnaud (involving the laboratories of the CICRP and CINaM, Marseilles, France) on the 'Growth and dissolution mechanism of loaded KCl crystals: Involvement in the knowledge on stone degradation by salt'. There is controversy about the induced rock alteration mechanism in presence of salts. Currently, this alteration is considered to be the result of a developed salt crystallization pressure (this pressure is supposed to exceed the stones mechanical resistance). Historically, the

crystallization pressure concept arises from experimental studies carried out between the end of 19th century and the middle of 20th. But there are discrepancies between these conclusions and current theories about crystal growth. The goal of this study was to reproduce Correns and Taber's experiments under controlled experimental conditions.

Laboratory results show that a KCl monocrystal of a given size never develops crystallization pressure under the following conditions: the monocrystal always is in a supersaturated solution; the pore size can be considered as representative of big pores (>50µm; gravitating water circulation); and there is no drying/ wetting cycle. A conclusion of this study (see the abstract in Annex 4) is that it seems unlikely that a crystal like KCl could damage stone by means of crystallization pressure.

8.9. DESALINATION EU-Project (ABS-VVB)

VVB described the EU Desalination project (FP6). Clay mineral and cellulose poultices are the most common types. Characterising poultices and substrate are vitally important. A final report is in preparation and the project complete. The launch of the findings was in Cologne where 10-11 scientific papers were be presented at a conference. A conference/teaching session is scheduled for New Orleans in May 2010. For more information, please contact ABS (anne.bourges@culture.gouv.fr).

9. Guide Tour of the Dresden Zwinger

An excellent early afternoon Guided tour through the Dresden Zwinger was conducted by Dr. Kiesewetter, Prof. Siedel, and Dr. Franzen. The Dresden Zwinger (1711 – 1728), built of locally available Cretaceous sandstone from the Elbe Basin (Cotta and Posta sandstones), experienced several restoration phases, including post- 2nd World War restoration, with quite different strategies. Since the beginning of the 1990s a new concept of surface treatment is tested. Pros- and cons were discussed on site.

Left: City Tour, Dresden
Right: .Pr. Dr. Heiner Siedel and Dr. Arndt Kiesewetter presenting the geological aspects of the Dresden's building stones during the Guide Tour of the Dresden Zwinger (from left SSN. MPA. HS. AK. JMV and VVB)

10. Discussion of the co- organisation of the meeting in Jordan

This co-organised meeting in Petra/Jordan, with ICOMOS-CIPA (Archives), is scheduled for December 2010 (7^{th} -12^{th}). ISCS cannot contribute in finances but can assist in kind. The aim is to reinforce the links between these two scientific committees. Documentation, agenda and

dates remain to be announced. An Announcement about the meeting has been available in February:
"7th International Conference on Science and Technology In Archaeology and Conservation
Workshop on Documentation and Conservation of Stone deterioration in Heritage Places",
Petra, Jordan, December 7-12th, 2010
Organized by: ICOMOS/ISPRS CIPA Heritage Documentation, ICOMOS ISCS Stone Committee, ICOMOS ICAHM Archaeological Heritage Management, CulTech for Archaeology and Conservation

http://www.heritagedocumentation.org/workshop2010/

The ISCS agreed that an alternative meeting place should be reserved for December 2010 /January 2011 for the next ISCS annual meeting, should the Petra meeting did not go ahead. Madrid, Spain was considered as a contingency.
The final decision is that the 16th meeting will be held in Petra during this 7th international conference.

11. Organization of the PGC conference: themes, contacts, scientific and organizing committees, management of the first announcement

VVB outlined the proposed PGC conference, 'Conservation of stone in parks, gardens and cemeteries', 22-24 June 2011 (to include an ISCS meeting) in Paris. It will be coordinated by the ICOMOS-ISCS and the French Section of The International Institute of Conservation (SfIIC) in association with the SfIIC's 14th Series of study days. One lecture hall of the National institute for Cultural Heritage (INP) in Paris has been reserved.
The conference will be announced in March 2010; with call for abstracts in June; 2nd announcement call of abstracts Dec. 2010, submission Jan 2011; deadline for submission of papers March 2011.
Modest financial contribution is expected, c. 1500 EURO, from ISCS towards the costs of organisation. No budget is available yet. It is envisaged that ISCS members could review papers which will be in French with English Translation.
(Action: ISCS should ask members to volunteer to be part of the Scientific Committee and to review papers and assign them to the themes. ISCS to prepare call for volunteers which can be published in the next Newsletter).

Unprotected and protected statues (Großer Garten, Dresden)

12. Financial aspects including the management of the funds

ISCS funds currently constitute the proceeds from the sale of the Glossary. Details of these funds which are held on ISCS behalf by ICOMOS in Paris were published in the last Newsletter.

A proportion of the funds should be allocated towards the organisation of the PGC conference (see 10. above). Funds may also be required to develop further versions of the Glossary.

SSN has requested that VVB establishes if the PDF and the layout are ISCS property. Could raw files be transferred to other publishers? VVB will discuss with the designer contact a quotation for the layout and a quotation from the printer for book version.

Financial statements: it was agreed that ISCS Accounts should be presented in future Newsletters and at each Committee Meeting.
ISCS may hold a stock of books published for the PGC conference; the cost of distribution as well as cost of publication need to be established.
MVM raised the question of developing leaflets on stone – it was agreed to discuss this at the next meeting.

13. Supplementary information about other topics

13.1. Recent developments in stone conservation UK (AMM)

AMM outlined the outcome of the BGS Seminar 'Building Stone Symposium 'Building a Future for Stone' held in London (The Geological Society, Burlington House) on stone heritage. The meeting was coordinated by Dr Ewan Hyslop and colleagues and attracted a varied audience of >80 delegates. A number of issues had been raised by delegates with the emphasis of the meeting being on provision of information on UK indigenous stone-sourcing and characterization. The development of stone databases was discussed at the meeting. These include the Northern Ireland Stone database (www.stonedatabase.com) and the developing UK database by BGS in collaboration with the Scottish Stone Liaison Group (www.sslg.co.uk). Following on from the 'Glasgow Safeguarding Stone Heritage' Project, Building Stone audits had become an important part of identifying local needs for conservation and repair. The English stone Forum has developed a useful web portal (see www.englishstone.org.uk).

14. Items on original Agenda which were not discussed:

New information about the other ISC and links with them
1. Links with the ISC "wall paintings" (postponed)
2. Conclusions from the ISC meeting in Malta (no information) – ISCS was not represented at the Malta meeting

15. Miscellaneous

On December 12th 2009, on invitation by Takeshi Ishizaki, Director of the Centre for Conservation Science and Restoration Techniques at the National Research Institute of Cultural Properties, Tokyo, Stefan Simon gave a lecture on evaluation of stone conservation treatments at a National Japanese Committee Meeting of ISCS in Tokyo. It was discussed to translate the Glossary into Japanese language. This would be most welcome.

Tobunken National Research Institute for Cultural Property, Tokyo

Pictures from the ICOMOS ISCS Japan Meeting Dec 10th, 2009, in presence of Pr T. Nishimura.

Here Prof. Andreas Morgos (professor of Tokyo University of the Arts) giving a lecture on stone conservation

On March 19th, 2010 Stefan Simon gave a lecture at the Conference "Sustainable Management and Preservation of Stone in Masonry Buildings", organised by ICOMOS Sweden in Stockholm, in particular Anna Henningsson, Hélène Svahn Garreau, Ragnhild Claesson, Malin Myrin and Daniel Kwiatkowski. Also in Sweden the translation of the glossary into Swedish was discussed. Stefan Simon was encourageing the Swedish colleagues, besides in activities with the glossary to contribute to the the understanding of traditional use and conservation of stones to the public and youth (TWP 14), an area where the Swedish and Scandinavian experience is among the leading in the world.

ICOMOS Conference Stockholm, March 19th Stockholm Stads Museet (photo credit ICOMOS Sweden)

Acknowledgements

Christoph

In addition to our main hosts the ISCS participants would like to extend many thanks our host Christoph Franzen, Dorit Gühne (coffee and many many more) and to our excellent guides Dr Arndt Kiesewetter and Prof Dr Heiner Siedel.

Dorit

ANNEX 1: Final Agenda of the 15th meeting

Friday morning

1. **Agreement on schedule, additions**
2. **Round table**: presentation of new participants, guests
3. **Secretary to be chosen**
4. **Quebec meeting report**: approval
5. **New candidates for ISCS, presentation, discussion**
6. **Current state of activities 1-16 of the triennial work plan**

Friday afternoon

Tour of the city: looking for the stones and restoration

7. **End of the work on specific activities of the triennial work plan**

Steine in der Stadt/Stone in the city (Germany) (CFN)

8. **Multilingual glossary**: state of the current translations, proposals about the dissemination of the new bilingual glossaries

Visit restoration workshops of the state conservation office (in house)

Dinner

Saturday morning

9. **Presentations on actual 'stone' tasks**:
    - 9.1. EC program "MEDISTONE" (JMV)
    - 9.2 EU-STONECORE Project (GZG)
    - 9.3. Cultural Heritage Endangered Flooding (CFN)
    - 9.4. Developments and challenges of winter shelter systems (CFN)
    - 9.5. Ultrasonic pulse velocity applied to outdoor marble sculptures (MPA-SSN)
    - 9.6. Ultrasonic velocities measurements in Arles's St Trophime cloister (PBT-SSN)
    - 9.7. Origin of cuts? (SS)
    - 9.8. Salt crystallization (JMV)

Saturday afternoon

Guided tour through Zwinger (Dr. Kiesewetter, Prof. Dr Siedel, Dr. Franzen)

9.9. DESALINATION EU-Project (VVB)

Co- organisation of the meeting in Jordan

10. **Organization of the PGC conference**: themes, contacts, scientific and organizing committees, management of the first announcement

11. **Financial aspects including the management of the funds**

12. **Supplementary information about other topics**: Recent developments in stone conservation UK (AMM)

13. **Decision on location and date of the next meeting** which will have to be before the end of 2010 (proposal: Petra/Jordan in December together with ICOMOS-CIPA) and collection of proposals for 2011 and 2012!!!

14. Miscellaneous and end of the meeting

Postponed:

15. ISCS statutes, discussion

16. New information about the other ISC and links with them

16.1. Links with the ISC "wall paintings“

16.2. Conclusions from the ISC meeting in Malta (no information available)

ANNEX 2: A brief presentation of the new Expert Members

Ann BOURGES, *conservation scientist (LRMH, France)*

- PhD graduated in Mineralogy, petrology and geology
- Specialised in stones and earthen materials
- Past experience:
    - Researcher CPP-LRMH
    - Attaché of Research and lecturer on physics, INSA Lyon
    - Assistant scientist in the Getty Institute
- Involved in the European project "Desalination", Optimization and evaluation of desalination treatments by poulticing

Didier GROUX, *Expert and consultant, restorer (Groux Conseil, France)*

- Graduated from the French Institute for the Restoration of Artworks (IFROA); speciality ”sculptures”
- Specialised in stones, painted pieces
- Programming, diagnosis, restoration, preparation and management of intervention projects, and design, technical development, follow-up of works
- Past experience:
    - Gest’art
    - O’Tempora
    - Self- employed person

Gilles MARTINET, *General Manager, (LERM, France)*

- PhD graduated in Earth Sciences- Materials
- Specialised in stones and mortars
- Durability- expert
- Management of teams, and analyses and studies departments
- technical supervisor of preliminary studies before the restoration of buildings

Sandeep SIKKA, *Architectural conservator (WASA Studio A, USA)*

- LEED Accredited Professional, MSc. Architectural Materials Conservation and B.Arch , Architecture
- Specialised in consolidation of stone, plasters and mortars, seismic retrofits and sustainable conservation techniques for the historic earthen structures
- Involved in design of new buildings and conservation of historic structures
- Involved with the research and development of inorganic stone consolidants

ANNEX 3: Tabled publication at the meeting

- Elbsandstein – ARKUS 2007, H. Siedel, C. Franzen, S. Weise (Eds), 16 paper, 149 pages, ISBN 978-3-9811706-0-3, Selbstverlag Institut für Diagnostik und Konservierung an Denkmalen in Sachsen und Sachsen-Anhalt e.V., 2007

- Pierre et Patrimoine- connaissance et conservation, Collectif, Actes Sud-CEFRACOR, 213 pages, ISBN 2742786058, 2009

- Praxisorientierte Forschung in der Denkmalpflege - 10 Jahre IDK – Franzen (Ed), 15 paper, 144 pages, ISBN 978-3-00-019561-7, Selbstverlag Institut für Diagnostik und Konservierung an Denkmalen in Sachsen und Sachsen-Anhalt e.V., 2006

- Steine in Deutschen Städten 18 Entdeckungsrouten in Architektur und Stadtgeschichte, J. H. Schroeder (Ed.), 288 pages, ISBN 978-3-928651-13-4, Selbstverlag Geowissenschaftler in Berlin und Brandenburg e.V., 2009 (CFN)

ANNEX 4: Abstract of the Julie Désarnaud's thesis

Mécanisme de Croissance et de dissolution de cristaux de KCl sous Charge :
Apport dans la connaissance des mécanismes d'altération des pierres par les sels

L'altération des pierres par les sels est un phénomène connu depuis l'antiquité. En revanche, le ou les mécanismes mis en jeu. Ce type d'altération est aujourd'hui considéré comme la principale cause de dégradation des monuments historiques. Actuellement, on attribue la dégradation à la capacité de ces phases minérales à développer une pression de cristallisation. Cette pression pourrait atteindre plusieurs mégapascals et dépasser la résistance mécanique des pierres. Ce concept de pression de cristallisation est né d'études expérimentales réalisées entre la fin de XIX^{ème} et le milieu du XX^{ème} siècle mais ces notions se concilient difficilement avec les principes de la croissance cristalline tels qu'ils sont connus actuellement. Cette étude a pour but de reproduire les expériences anciennes avec des monocristaux de KCl en contrôlant rigoureusement les paramètres environnementaux.
Ce travail montre que, dans les conditions de sursaturation et de croissance, quelque soit la charge imposée, le cristal croit dans les directions non contraintes et adopte à la fin des expériences un faciès trapézoïdal à base tronquée. Ceci est dû à un gradient vertical de concentration et à une répartition non homogène de la contrainte au sein du cristal.
Dans la direction de la contrainte le cristal se dissout plus ou moins selon la charge imposée. Cette dissolution n'est pas linéaire et présente deux régimes ; le premier, rapide et non linéaire est fonction de la surface de contact cristal/charge, le second plus lent et quasiment linéaire est fonction de la sursaturation de la solution.
En aucun cas, le monocristal de KCl ne développe de pression de cristallisation. Il semble improbable qu'un cristal du type KCl puisse dégrader une pierre par pression de cristallisation.

Growth and dissolution mechanism of loaded KCl crystal:
Involvement in the knowledge on stone degradation by salt

Rock alteration by salt crystallization is known since a long time ago. However, there are still controversies about the induced mechanism. This kind of alteration is considered the most important factor in historical monuments degradation. Currently, we ascribe the degradation to the capacity of salt to develop crystallization pressure. The crystallization pressure could reach several megapascal; exceeding stones mechanical resistance. This crystallization pressure concept arises from experimental studies carried out between the end of XIXth century and the middle of XXth but there are discrepancies between these notions and current theories about crystal growth. The goal of this study is to reproduce Correns and Taber's experiments under controlled experimental conditions.
This work shows that, under supersaturated conditions, whatever the load, a KCl monocrystal grows along the unloaded directions and adopts a trapezoid-like shape with truncated edges. This is due to the heterogeneous constraint distribution and a vertical concentration gradient. Along the loaded direction, the crystal dissolves more or less according to the imposed load. The dissolution is not linear and presents two regimes. The first one is rapid and no linear, where the dissolution rate is a function of the contact surface between the load and the loaded face; the second one is slower and linear, where the dissolution rate is a function of the supersaturation of the solution. In no case, the monocrystal develops crystallization pressure. It seems unlikely that a crystal like KCl could damage stone by means of crystallization pressure.

ANNEX 5: Letter to the ICOMOS President, Dr. Gustavo Araoz

-----Original Message-----
Date: Fri, 15 Jan 2010 17:22:26 +0100
Subject: Re: [ISC] Haiti
From: "simon.kdc@t-online.de" <simon.kdc@t-online.de>
To: gustavo.araoz@ICOMOS.ORG, ISC-L@lists.icomos.org, "ICOMOS NatCom Forum" <forum.natcom@lists.icomos.org>, "ICOMOS ISC Forum" <isc@lists.icomos.org>, "ICOMOS Academy" <academy-l@lists.icomos.org>, "Gaia Jungeblodt" <gaia.jungeblodt@ICOMOS.ORG>, "ICOMOS Excom Forum" <forum.excom@lists.icomos.org>

Dear Gustavo,

During the 15th ISCS meeting in Dresden (15-16th of January) we discussed your recent call for volunteers to assist with the heritage recovery process in Haiti. We are glad that you took the initiative as we share your concerns and would like to offer the assistance of ISCS where appropriate. We are circulating all of our members with your message.
We believe that we have people with expertise to contribute to this process. Issues which we think should be addressed include documentation and damage assessment, and selection and use of replacement materials. Many of our members are French speaking which may be of assistance.
Could you please let us know how the heritage recovery process will be organized, and what are the logistical and budgetary conditions so that we can inform our members?

Yours,

15th ISCS meeting participants

Bärbel Arnold, Christine Bläuer, Christoph Franzen, Andrew McMillan, Marisa Pamplona, Stefan Simon, Myrsini Varti-Matarangas, Jean-Marc Vallet, Véronique Vergès-Belmin, Wanja Wedekind

-----Original Message-----
Date: Wed, 13 Jan 2010 14:29:10 +0100
Subject: [ISC] Haiti
From: Gustavo Araoz <gustavo.araoz@ICOMOS.ORG>
To: ICOMOS NatCom Forum <forum.natcom@lists.icomos.org>, ICOMOS ISC Forum <isc@lists.icomos.org>, ICOMOS Academy <academy-l@lists.icomos.org>, Gaia Jungeblodt <gaia.jungeblodt@ICOMOS.ORG>, ICOMOS Excom Forum <forum.excom@lists.icomos.org>

The horrifying news about the earthquake in from Haiti give all indications of major devastation and loss. Once the immediate human relief effort is over, I call on all ICOMOS to come together in solidarity to help in whatever way we can with the heritage recovery process. It is the right time now to identify individual ICOMOS members and groups of members who would be willing to form part of volunteer teams to be deployed to Haiti as needed when the time comes and the heritage needs are manifested by our Haitian colleagues. For that reason, I ask all National and International Committees to circulate this letter to their

full membership. Anyone interested in considering to be a volunteer should drop me a line and let me know who you are so that we may keep you informed about the opportunities that arise as we learn more about the situation.
For those national Committees from countries with disaster recovery experience, we also ask that you urge your government and other national institutions to be generous with their assistance.
For me personally, Haiti is a special place where I began my professional conservation life. It was at the Citadelle and later at the Palais de Sans-Souci in Cap Haitien that I had my very first projects as head of the OAS heritage assistance mission after graduation. I know the Haitians to be a good people, possessing great dignity and generosity while living amid extreme poverty. For this reason, I put my own name down as the first volunteer to assist in whatever way I can.
Thanks to all,
Gustavo Araoz

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Les terribles nouvelles sur le tremblement de terre en Haïti nous donnent tous les indications d'une grande dévastation et perte. Une fois que l'assistance humanitaire soit conclue, j'appel tous les membres d'ICOMOS de nous joindre en solidarité pour aider en toute manière possible dans le processus de sauvetage du patrimoine. Maintenant est le temps d'identifier les membres et les groupes de membres dans l'ICOMOS que seraient disponible a aider et même a voyager en Haïti comme bénévoles une fois que les besoins soient identifiés. Pour cette raison, je prie tous les comités nationales et internationales de distribuer cette message a tous vos membres. Je prie aussi a quelconque qui voudrait considérer être bénévole de m'écrire et de s'identifier. Nous vous maintiendrons informés de toutes les possibilités selon on apprend plus clairement la situation.
A ceux entre vous des pays avec expérience en récupération âpres les grands désastres, je vous demanderai de presser vos gouvernements et vos instituions nationales d'être généreux dans leur assistance.
D'une manière très personnelle, Haïti est un lieu speciale où j'ai commencé ma vie professionnelle dans la conservation. Il était à la Citadelle et puis au Palais de Sans-souci au Cap Haïtien que j'ai su mes premiers projets comme chef de la mission d'assistance du patrimoine de l'OEA. Je connais bien les haïtiens. Ils sont des bons gens, avec une grande dignité et générosité toujours en vivant entre la pauvreté extrême. Donc je voudrais être le premier de m'inscrire dans la liste de bénévoles pour assister dans la mesure possible.
Merci a tous
Gustavo Araoz
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