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thetic rather than actual damage. We looked at pictures from both light and scanning electron microphotographs differentiating fibres and microfibrils from hyphae and conidia from other related bodies.



Conidia will soon find their way onto damp tissue

On the preventive side she talked about the avoidance of creating microenvironments suitable for fungal growth such as the oft-overlooked problem of placing watercolour paintings against cold walls in summer. The prevention of dust and how it is attracted along light beams, which act as dust pathways and that dust acts as a carrier of infesting conidia as well as carrying nutrients for fungi. We were also reminded about avoiding cross- or re-contamination when moving objects that have been sterilised.

For the organic/biochemists there was even a moment discussing β -glucans and their relationship with melanin and their relevance in slime, also how to remove melanin-based pigment staining from media using (1-3 glucanase) enzyme chemistry. We also touched on the removal of such staining bodies using chamois leather or by using laser cleaning.

Mary-Lou kept the pace going all day but finding her English audience rather shy than she is used to and tending not to reply to open questions, she had to coax answers from us!

Altogether it was a thorough fact-filling day, even if it was rather like a university mycology lecture. I know that some found it too technical and 'back to basics' where they were hoping more for basic tips on collection-related and more updates on environmental problems.

Bearing in mind the attendance fee, I found that the seminar room was not up to standard since the presentation suffered from daylight infiltration, too basic projection equipment and interfering machinery noise. I found, however, that Mary-Lou was a powerhouse of information and not once did I find my eyelids drooping!

NOOX3

*- Suzanne Lewis: Lead Curator & Conservation Officer
Entomology Department, The Natural History Museum, London*

NOOX3 a two day conference on anoxic and reduced oxygen environments hosted by the British Library and the Natural History Museum, London on the 3rd-4th November 2003. The conference was co-ordinated by Chris Collins, The Natural History Museum, London and David Jacobs, from The British Library. This was the third conference on this subject and was made up of one day of lectures at the British Library and one day of workshops at the Natural History Museum.

The lecture programme was interesting, informative and varied. The first talk given by

Bob Childs described an ambitious but exciting use of anoxic environments. Bob has been involved in a project to provide a display case outside Liverpool Street station open to the light, pollution, extremes of temperature and humidity and other agents of deterioration that would normally make a conservator shy away from such a project. However, with Bob's advice and a purpose built anoxic display case, The Kindertransport Sculpture is now in place.

The two talks that followed covered different aspects of barrier films. Chris Collins told us about his recent research on the long-term stability of barrier films and outlined some ideas for future developments. Adrian Doyle continued on the subject of barrier films but concentrated on the heat sealing properties of one type of barrier film, Escal®.

The next series of presentations covered the practical application of anoxic environments within collections. This aspect surprised me, as it seems that many more collections are actively using anoxia as a method of treatment or storage than I had appreciated. This is significant change and progress from the Cardiff anoxia conference, in November 1999, where a few people were using anoxia and testing out the possibilities it could provide for museum collections and conservation. I found this encouraging, as there is the general feeling that this is now a tried, tested and realistic method for treating and storing collections.

An oxygen free environment as a pest treatment and control was the subject of the next few presentations. Anoxic environments proves to be an effective and timely option for pest control with the banning of Dichlorvos and with no other fumigant insecticide available for use in collections and exhibitions. David Pinniger gave an overview of factors contributing to the success and limitations of anoxic and temperature treatments as a pest control. Basically highlighting the fact those physiological differences between insect species and their life stages dramatically effects their tolerance to such treatments. To follow this Thermo Lignum, a German company outlined their process for pest eradication. This involves subjecting infested items to a core temperature of 52°C for 3 hours, while maintaining relative humidity within a pre-set narrow band of 10% change, thus eliminating the effects of drying the specimens and objects.

The final presentation of the day was a very interesting account of the salvage operation at the Municipal Library in Prague following the severe flooding in 2002. The process used to dry books was vacuum packing, a technique derived from the food industry but modified in Great Britain for conservation purposes. The wet or frozen volume is wrapped in unwoven textile then covered with layers of absorbent paper on both sides and then the whole thing is inserted into a polyethylene bag and placed into the vacuum equipment. Air is withdrawn from the bag and sealed. The water migrates rapidly from the volume being dried to the absorbent papers until the amount of humidity in the whole bag is equalised. The bag is cut open the absorbent material removed and the process repeated several times until the book is completely dry. The method was recommended as a suitable method for salvage of historical collections, as it proved useful for drying a whole range of library materials. It is a gentle drying method, unlike freeze drying, the process does not deform the books.

The second day of the conference was made up of a series of four, hour long workshops, which complimented and added to the previous day's lectures. The first workshop we

were shown the products available from Mitsubishi Gas Chemical (MGC), more specifically the oxygen free packaging using the RP system. We were shown the types of barrier film, oxygen scavengers, pumps and sealing systems available. We were shown how to use the products and given an opportunity to try them ourselves and given samples of some of the products.

The second workshop was an opportunity to see the Thermo Lignum chamber and learn more about how this heat treatment works. Phil Ackery also explained some of the research that has been done at the NHM to explore this treatment as a possibility for pest control.

The next workshop was a demonstration of the vacuum packing system used in Prague as a salvage technique for saturated items. We were shown how the water is extracted from a wet book and also how other specimens had been stored in this way using a more suitable long-term barrier film. The system is available and has been adapted by Conservation by Design Ltd.

The final workshop was hands-on, where we were given an opportunity to learn a little about the specification of different barrier films available, and their suitability for long term storage of objects. We also were given the chance to use different heat sealers to get an insight of the difficulties that may occur with different products. This was a very useful session for those looking to use this system in their collection as you were able to test the products available and make an informed decision as to what system would be most appropriate for your needs.

I found the two days were very useful, the organisation was also very good which made the whole thing enjoyable as well as interesting.

Conservation Techniques

One day course in conservation techniques at Camberwell College of Arts
10am - 4pm
July / September (exact date to be confirmed)
10 places

This one day practical course of workshops and discussion is aimed at collection managers, conservators, and museum and gallery staff who want to learn more about the conservation duties in a modern collection.

Topics covered on this course include :

- Tear repairs
- Surface cleaning
- Consolidation of bindings
- Strapping / support

Price: £80

For information, please contact:
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