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INP Table Ronde, Grande Galerie d'évolution, Paris December 2006

- Simon Moore, Hampshire County Council Museums,
Libraries and Archives Service

When first approached by the *Institut National pour la Patrimoine* to give a series of talks about conservation aspects relating to taxidermy specimens in museums and in French, it was a new type of challenge and the idea of a paid trip to Paris just outweighed any linguistic doubts. Following the other speakers' presentations (bar one) was quite difficult as we know how rapidly the French can speak and there were certainly a few who outran my translating think-rate and pen! The items below are as accurate as I could ascertain at the time. The event was organised by Amandine Pequignot of the Paris NHM and who came over to give presentations at both the SPNHC/NatSCA Conference in 2005 and to the more recent Biochemistry Seminar at Kew's Jodrell Laboratory in November 2006.

She opened the proceedings with a talk about historic taxidermy and the techniques used in past centuries including embalming. An article by Dufresne in 1803 is one of the first on the subject of taxidermy, which included the preservation of other lower animals – caterpillars and other invertebrates. The term *Naturalisation* was coined at the end of the 19th century to cover animals that were specifically more lifelike, as opposed to 'stuffed', which included tanning of the skin and were used in dioramas. She showed X-ray examples of earlier works which included the entire skeleton minus the rib cage and vertebral column and how this type of mount was used until the end of the 19th century when even less of the skeleton was used.

A range of period preservative agents included many botanically-based substances, resins, herbs, spices including the composite 'herb' *Artemisia absinthium*, the basic ingredient of the Paris Bohemian's favourite tippie *Absinthe*. We then proceeded to the actual stuffing materials: *Zostera* (sea grass), mosses, tobacco, several sponge species, hair, cotton waste, paper, magazines, also plaster and clay. The bind-up as we call it, or *pelote*, was held together by binding it with an iron wire armature and which also passed through it to support the body in a lifelike pose. Some bird armatures were illustrated showing the triangular form, the 'hook-type' and a more rhomboidal form. Several historic specimens were mentioned including King Louis XV's quail and the Duc d'Orléans' giraffe. Specimens were often 'fixed' by pinning to hold tissues in place and then cooking (which stabilises protein) and included specimens from 1729 such as Buffon's monkey 'Jocko'. We were taken through the process of constructing a heavy wood and iron armature for taxidermist Jules Terrier's buffalo and which is still displayed and looking good after over 100 years.

Throughout this and many of the subsequent talks there was much 'overlapping definition' for the work done: *conservation* strictly means curation, *restauration* means conservation, *reconstitution* means restoration. I have also found the term *restaurateur* more applicable to a restaurant owner than a conservator! Many use the mouthful *conservateur-restaurateur* to define a conservator but then one person could define this terminology one way and then another would turn this around in their own presentation. The word *curateur* defines a legal curator or administrator! Confused?

Following on from this introduction, Frédérique Juchauld of the *Centre technique de Bussy St Georges* talked about the breakdown of collagen fibres in skins, including leather. Inducing artificial ageing with heat and contaminants which cause the molecular triple helix to break down, particularly when accelerated above 68°C. This was monitored using a head stage with an Scanning Electron Microscope. She then gave results from analysing toxic biocides in specimens. These included salts of Arsenic, Lead, and Mercury as arsenical soap [Na₃AsO₃], lead acetate [Pb(COOCH₃)₂], lead arsenate [Pb₃(AsO₄)₂], arsenious oxide [As₂O₃], mercuric chloride [HgCl₂] and sodium tetra-borate [Na₂B₄O₇]. She also compared the use of Doctor Weber spot testing, which is non-destructive, versus X-ray fluorescence spectrometry using a 'point & shoot gun' which has a parameter of 0.01% for lead and 0.05% for arsenic, whereas gas chromatography can detect up to 0.01ppm.

After a short break Jacques Cuisin (Paris NHM), explained about the many problems that can occur when looking after large collections of mammal and other animal skins. These included water contamination removing tan salts and their preservative effects (*mégissage*), leading to cracking when they subsequently dry out, the problems of fungal infestation and ensuing tissue breakdown; also the 'hyper de-greasing' of fish skins leading to embrittlement. Some of these he illustrated using the 7 plagues of Egypt as an analogy,

especially the infestation aspect!

He showed the Museum's problems: unsuitability of wrapping materials to prevent infestation and cramped storage to the extent of finding mounted specimens between compactor units! He concluded rather sourly that there are many problems and not-so-many solutions with the irony of finding more perfect taxidermy specimens in a school than in a museum!

Julie Nives-Nivou added to this a list of further deteriorations that occur but at a more molecular level. The complex chemistry found in a single taxidermy mount measured against how much should one intervene – the ethics (*déontologie*) and metaphysical aspect of intervention. As an example she showed a fish mount that had been stabilised and part-restored but showing clearly, the delineation between original and new materials.

Michel van Praët, the director of the museum talked about the all-too-familiar problems facing a museum. Ownership and legislation, how to maintain an old building to modern museum standards, how to keep visitors comfortable without compromising the stability of displayed skins; trying to find the ideal solution to the dilemma where a rare specimen must be displayed to please the public but might deteriorate due to being displayed over a long period. His talk mainly focussed on the aspect of trying to achieve a correct equilibrium and led to a lively discussion of the present situation in France. How little expertise there is available to help sort out some of these problems at ground level, let alone trying to get government officials to understand.

All of this left me feeling rather depressed as I took the stand for the first time and explained about the dilemma of keeping the public happy by letting them touch exhibits on open display as well as providing a banquet for insect and other pests. Despite my apparent cynicism, there is a lot of good that can come of open displaying, even if we have to pander to modern taste in order to survive and the public is beginning to expect to touch. At least none of the specimens involved was rare or of scientific importance and even if the rabbits and pigeons had their heads wrenched off or plucked, they were (sometimes) conservable and easily replaceable.

Christophe Gottini, a taxidermist at the Paris NHM for 30 years, said that the lack of conservation know-how is a definite issue in France. At first, less than 10 specimens were conserved and only with consultancy from Germany and from Switzerland. He talked of tears to specimens and resin gapfills that would not take painting, the problem of nails in heavy mannequins and underlying layers of rust that corroded the skin or leather, particularly when conserving the Duc d'Orléans' giraffe. He talked of mannequin weight reduction and substituting resins, dry-cleaning specimens with solvents and restoring faded colours using waxes - techniques which are becoming rather outmoded these days.

Jacques Cuisin came back again to talk about the problems with reserve collections. He used the example of a lioness perched on an entomology cabinet to illustrate the problem of overcrowding, yet the importance of their scientific value was stressed. He mentioned how some of the enormous and scientifically-important collection of mammals was spread over 3 sites and yet if there was no current (public) interest in any of these groups then new funding was unavailable. He finished the rather pessimistic but objective view with the question of what to do with all the oddments!

I then followed this, showing how the Hampshire Museums Service adapted farm buildings – a few still have animal feeding facilities built into them, to become areas to store sensitive biological specimens and other objects. Over the years these have been improved and expanded so that there is just enough space (but only just) and that the all-important atmospherics are controlled/regulated by a Norwegian humidification-dehumidification system. I also showed the multiplicity of collections ranging from freeze-dried fungi (highly humidity-sensitive) and stored in a 'dry room' along with the conchology collection and where the RH is not allowed to rise above 50%, moving onto the fluid-preserved material, entomology cabinets, a herbarium and large taxidermy collection. This was also illustrated with some of the problems encountered over the years together with conservation remedies.

Christophe Gottini continued Jacques Cuisin's list of problems - having to transport specimens across busy Parisian streets and the problems of dust and vibrations of frequently-passing lorries. He showed how a thylacine and a Panda had been wrapped for transportation and then outlined the problem of preparing a displaying peacock!

The next day of talks centred around ownership, legislation and ethics. Dominique Wahiche works for the Paris NHM's directorate and handles legal affairs. He spoke of the gradual legislation of natural objects, especially taxidermy (in 1986), leading to the protection of nature in 1995, similar to our Countryside Act. Transgressors of 'taxidermic' laws are summoned before a tribunal hearing, who since 1996 can mete out a suitable punishment. Keeping a frozen corpse of a protected species post-1995 is punishable but a clause additionally states that a pre-1995 protected specimen cannot be prepared if it is for financial gain. Provided that some proof of natural death of a specimen is available, then there are no legislative problems. Article 13 mentions about qualifications of those who conserve/restore such specimens, since in France, taxidermy items are considered as works of art.

Gilles Pacaud opened his talk with the amazing fact that only 3% of the collections actually belong to the museum, the rest is for research.

These days, he added, the specimens are much better kept on display than being in store, especially when the stores are situated near the central heating boilers!

After a short break I spoke about the ethics involved in taxidermy conservation. This is a subject dear to my heart as, in certain cases, some slight restoration is often required to bring a display specimen up to scratch. I illustrated this with some slides showing mounted birds against a faded background and how lacklustre they looked compared to when a little colouring was added to the case back-drop. The main question was where to draw the line between conservation and restoration. For some this is still a grey area but the general definition centres around adding something new to the specimens or display, including colouring. The other area concerned repairs to areas either ravaged by pests or severely broken. Just how far could one conserve in the purest sense – to prevent further deterioration, but having to put it back in the collection looking terrible, if stable? For display specimens, these have to be restored as well otherwise the public will find them unacceptable. Scientific specimens often require further stabilising via restoration but provided that this treatment is logged then that is OK.

Christophe Gottini continued the topic illustrating the dilemma of very fragile specimens but which needed stabilising. He mentioned the use of chemicals and their effects: how formaldehyde (used as a bactericide and tissue 'stabiliser') rendered many tissues "Hard as a pebble". The problem of cotton wadding stained with oxidised lipid leading to skin embrittlement and deterioration and how after 4 to 6 treatment hours to stabilise each specimen, this can prolong its life up to a further 30 years. He gave an interesting aside example of Louis XV's rhino had been given a horn of resin to prevent theft of the real horn, especially since the original had already been broken. He added that in France, specimens preserved in IMS or formalin are now forbidden from display unless the preservative is an impractically-low concentration. He then talked about historic bases for taxidermy specimens and how, if damaged, these are often disposed rather than being conserved as well. How specimens and bases often become separated and subsequently muddled. He concluded by mentioning the dangers of loans and how, particularly the problems of mildew and other deteriorative fungi, can arise during a loan period.

I then concluded the day's talks a little hastily as time was running out about interventive treatments that were acceptable for deteriorated taxidermy specimens. These included the use of Japanese Tissues for stronger and more discreet repairs, document cleaning powder for removing dust and dust stain from white plumage. No matter what, some specimens, especially those stripped by clothes moth larvae, were beyond conservation.

The final day was devoted to conservation-related organisations and qualifications that look to the future. Gilles Pacaud started by talking about the museology and (slightly) conservation-related group OCIM: The *Office de Coopération et Informations Muséographiques* (not an anagram of ICOM!), a part of the University of Burgundy in Dijon. Outside of France who knows or cares about OCIM he asked? A questionnaire was circulated to French museums a while ago and only 27 replied, of these 51% were carrying out research into conservation – mainly concerning taxidermic mounts and skeletons. Nathalie le Dantec representing her director, Astrid Brandt-Grau, talked about the INP which is similar to our ICON (Institute of Conservation) with a similar composition and mission. She mentioned ethics and outlined their database relating to conservation reportage.

Next was Jane Richter, head of the Danish School of Conservation. She spoke methodically (and in English) about the functions of the School's role in Natural History Conservation. She covered a wide range of topics: taxidermy is not taught apart from the methodology, their use of original museum objects and that

there are no PhD students yet. There is a series of 5 x 8 week obligatory courses for a BSc including a 2 term general course. She then switched to technology and talked about their techniques for degreasing whalebones using enzymes, how a sea-snake holotype specimen (in IMS) had become gradually decalcified (detected by x-ray) and that there were traces of zinc chloride and zinc phosphates which had contributed to this deteriorative process. She spoke about analysing jar sealants as part of a Masters course and that students can get short-term contracts in museums but more permanent positions in Norway.

Julie Nives-Nivou spoke about the Sorbonne University's conservation diploma, broken down into short courses, it includes all relevant branches of chemistry including analyses, biology practical sessions and how this can lead onto a Masters. Jacques Cuisin then continued about preventive conservation, broken down into 5 units that cover all the aspects of field and preventive conservation, including collections movement, buildings and other logistical problems. 117 students have been awarded certificates since 1994 (to 2005).

Amandine Pequignot talked of the diversity of natural science specimens and how ethnography and organics exist as grey area disciplines and molecular biology where DNA is termed AND in French (RNA is similarly ARN). The problems that can arise from these disciplines, for example how the morphometry of a badly-glued skull can be affected. She then spoke about staff structuring and some of the confusing terms relating to conservators and how these, as staff inter-act. She also compared staff structuring in the USA and Europe: at the Natural History Museum (London), Field Museum (Chicago), the Smithsonian Conservation Institute and the Canadian Conservation Institute. How some of these museums have no permanent conservation staff and often sub-contract to the private sector or to other Institutes. She mentioned NatSCA and its conservation force, especially those who covered all of the Natural Sciences, the Regional Alliance for Preservation in the USA and the previously-mentioned Royal Danish Academy of Fine Arts School of Conservation, of the RCA and V&A conservation courses in London and in France, the Syndicat des Naturalistes de France which no longer exists and the CAP de Taxidermie, which I suspect is similar to our own Guild of Taxidermy.

With Jacques Maigret, Amandine finally wound up the talks with the problem of having to care for millions of specimens, coupled with the cost of conservation or restoration, maintaining such objects in a stable environment and replacing display specimens with something fresh every now and again.

Overall, it was really good, the sun shone and Paris looked as lovely as ever. Still, at the end of it all, many problems to be addressed but **what** is the french for conservator..... *Restaurateur, conservateur-restaurateur.....quoi alors?!!*

NEWS

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NatSCA Seminar on Anoxia

**Venue tbc
Late 2007**

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