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## **NSCG Newsletter**

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- small magnets - bag of 300 costs £20.73. This works out at approximately 7p per magnet, or 20p to 30p per mount. We got both through the Eastern Shires Purchasing Organisation (ESPO), but any schools- or craft-suppliers should be able to get them.

- Cost of double-sided tape and hot melt glue is negligible.

### The Bungee Trolley.

One minor hurdle we faced was how to move the insect collections. In the end we held out for the completion of a link between the Castle and our new premises, so that we could move the drawers and boxes there ourselves, rather than by road.

The cabinets were emptied and all the drawers and store boxes were wrapped in bubble-wrap and packed in large double-wall cartons fitted with cloth tape handles. But when we came to start the move we discovered that the architects had specified a textured floor covering for the link, so that the solid-wheel trolleys we had were going to vibrate and shake the insects apart! One sleepless night later, we had the answer – the trolleys were fitted with a plywood shelf supported on “bungee rope”.



The boxes sat on the platform and were held in place with elastic straps. With this system, no vibrations were transmitted to the boxes and the insects all travelled safely.

Tony is very happy to be contacted directly for more details about suppliers and equipment:  
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### *The Packing and Shipping of a Natural History Exhibition* Mark Hunt, Technical Services Manager, Constantine

The exhibition in question was “Voyages of Discovery”, generated by the Natural History Museum in Early 2000, and then packaged into a long term touring show to various venues in the US. The NHM describes the exhibition thus:

*“Voyages of Discovery reveals the stories of Captain Cook, Charles Darwin and many other pioneers of scientific exploration. They brought back priceless scientific specimens and exquisite works of natural history art, which changed the course of the natural sciences and have a legacy of importance to this day”*

Constantine was employed to handle the packing and transport of this exhibition, including the transfers in the U.S. We work regularly with the Natural History Museum, and with other collections of Natural History, Ethnographic, scientific and similarly fragile material. Packing and shipping international exhibitions of Museum objects, be they specimens, artefacts or art, is a specialised field combining the requirements of international shipping and the technical understanding of the objects to be moved. This particular exhibition, for those of you who didn't see it, included a large number of fragile original specimens.

The list of exhibit items covered the specimens that were collected, the equipment that was used to find and collect them, and the documentary illustrations and notebooks of the expeditions, as well as several sundry items. The specimens fell into two main groups – Herbarium and botanic examples mounted on paper, and zoological items either loose or, in the case of butterflies and beetles, pin mounted on self contained trays. The first thing that we had to agree was the various specifications for the packing and handling of the collections. The museum issued a list of display environment and transportation conditions. This included preferred wrapping methods and materials, methods of shock absorption, crate structure and identification, as well transport requirements including the use of couriers and the general preference for air shipment over other methods. We were able to interpret this, and update it in certain areas. For example, there are many commonly held misconceptions about airfreight and conditions in aircraft holds. Nowadays, all but the very oldest planes plying the most obscure routes, are temperature and pressure equalized, which means that the conditions that exist in the passenger cabin are the same as those in the freight compartment. There are commonly applied standards governing the construction of packing cases to accommodate freight shipments, based on a model defined by the Tate Gallery nearly 15 years ago. This was adapted to the specific requirements of the samples and other objects.

Aside from the traditional ply and timber construction, we defined such things as the lid fixings, in this case two part re-usable fixings, which are good for touring exhibitions where the cases will be subject to repeated opening and closing. We decided on large blocked feet to aid manual handling, as well as the method of waterproof sealing, the maximum height of each case so that it would fit on internal U.S. flights, the type of foam used to form the lining, and the rough grouping of objects so that similar material would be packed together. I also suggested that the Museum choose a colour. A painted case has twofold benefits. Firstly it improves the water resistance of the case. Secondly, and most importantly where a courier is concerned, the shipment becomes easily recognisable. When you are in a large commercial freight shed at a hub airport in the mid-west, the ability to distinguish your crates amongst the millions of others can save a lot of anxiety.

Our next task was to make a detailed assessment of each specimen or object. This involved taking accurate measurements, and checking that all items were "ready for transport". Specimens were presented in such a way as to reduce the risk of damage from vibration, temperature and humidity change (this does still happen on long journeys). It is, in a sense, a risk assessment process for each exhibit. Those that were not sufficiently consolidated were placed into smaller internal boxes, many of which were bought in from G.Ryder and Preservation Equipment. This meant that each specimen could benefit from an individual packing solution, and still be housed in a crate that contained other material. For example, Solander format boxes were bought in for flat specimens mounted on paper. Each box could contain several sheets, and due to the variety of boxes, the range of sizes could be safely accommodated without very small sheets being in large boxes and then be at risk of movement in transit. There were also a group of specimens in sealed glass spirit containers, all of which travelled upright in individual foam lined compartments, wrapped in polythene. In this group there were also two fish that, although stored upright in spirit containers, were considered too large and hence at risk to travel in that orientation. The solution was to take them out of the jar, wrap them in a spirit soaked muslin and put in a polythene bag. They then travelled flat, in a purpose made box. In the grouping of objects, we had a general policy of keeping like items together. Hence, all of the books in one case, all of the birds in another, all of the bottles in another and so on. As like items tend to be the same sort of size they can be economically put together. As freight shippers, we have to be aware of cost, and hence the most efficient combination will be the one that keeps the overall packed volume down. The handling benefit from this kind of combination is that in a touring exhibition, the material is repeatedly handled, in and out of it's packing, by a variety of couriers at different locations. We feel that it is better if one case is packed in one way, and another is packed differently, rather than containing several different methods in one crate.

By its very nature, Natural History material often comes under the auspices of CITES, or the Convention on International Trade in Endangered Species. It also attracts the attention of National bodies, in the US it is the Fish and Wildlife Service of the Department of the Interior who administrate endangered species legislation. Any shipment into the US has to have been approved otherwise it will be impounded at customs and refused entry into the country. With a complex group of material such as this exhibition represented, we relied on accurate information from the Museum and the various collections so that we could be as specific as possible in our application. It should be noted, that such applications need to be made in plenty of time - in the US a *minimum* of 5 weeks is required for CITES applications and material must have an export licence from the country of departure and an import licence for the country of destination. The import licence can-

not be granted without a copy of the export licence. Fish and Wildlife are notoriously difficult to work with. A variety of permits can be required (for example, there is a "migratory birds" permit), and such things as eagle feathers are absolutely embargoed. Only certain ports are cleared to receive such shipments, and our advice is to check out any sort of organic material a good time in advance with a reputable agent. Even with Natural History material, normal cultural licences are required, and, very importantly, CITES licences are required even if specimens are historic - as they were in the case of "Voyages of Discovery". If the country of destination is not part of CITES, you will not get an export or import licence. Fortunately, in this case we were working with good lead in times, and hence the applications were completed without a hitch. So, with all of the arrangements made, all that remained to be done was for the items to be packed at the Museum, and transported to Heathrow. Piece of cake. As Robert Burns once wrote, on seeing a hibernating dormouse being dug up by a plough - "the best laid plans O' mice and men gang aft aglay". Planning has to be backed up with practical problem solving, and that is what was required when the material was being packed up. This begs the question - what are we trying to achieve in the packing of objects for transportation?

- The object itself must be consolidated - in other words no loose parts that are liable to fall off, and prevented from vertical, horizontal and lateral movement within its primary packing container.
- Packing materials must be *complementary* to the object and not do harm to the item it is supposed to be protecting. For example, it should be able to shock absorb in relation to the weight and size of the object - soft foam would be appropriate to pack an egg, hard foam would cause it to break.
- There should be an element of insulation in the packing, normally in the thickness of the foam lining.
- The packing case itself should be sturdy enough to withstand any hazard including drops and skirmishes with forklift trucks.

### Conclusion

There are a couple of areas that I think are commonly misunderstood and wrongly specified. When specifying inert materials, consider how long your object is really going to stay within its packing materials. If travelling to an exhibition, the likelihood is a few days. Are the packing materials really likely to have an effect in such a short time? Perhaps a more compatible material would be appropriate. Plastazote is often overused - how has it become such a ubiquitous material? It's not particularly easy to work with and it's too hard to act as a practical packing material for anything under about 20 kilos in weight, even in the softer grades. There are several other types of foam that will contain and support an object just as well.