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The receipt book of G N Maynard 1829 to 1904

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A few years ago the "receipt book" of George Nathan Maynard, the curator of Saffron Walden Museum from 1880 to 1904, was discovered in Ipswich Museum. The book contains details of the receipts or recipes and procedures used by Maynard. The procedures give details on how to make different adhesives for different materials, pest control methods, how to make casts and prepare specimens. Many of these procedures refer to natural history reflecting the Victorian interest in the natural world.

The book consists of "receipts" copied from books, information from colleagues or cut from newspapers. I have translated a number of the natural history "receipts" from their original Victorian word for word as Maynard wrote them. All spellings mistakes are his!

Cements adhesives consolidants, and varnishes

Cement used by Dr Buckland for cementing large and ponderous specimens of fossils etc.

"Frank Buckland says "many of the larger bones and fossils at Oxford have been mended with a whitish coloured cement which is exceedingly hard and tenacious and among the Deans papers I found the following characteristic letter from Dr Wollaston enclosing a receipt for this white cement for large and ponderous specimens. It runs as follows:-

" My dear professor, - I send your great gunship, (along with the rhinoceros tooth) sundry specimens cemented in my fashion. Try them, break them do what you will with them, relying for full explanation on yours ever truly H Wollaston!"

The cement mentioned above is thus made;

1 part beeswax

4 parts resin

5 parts powdered plaster of Paris

Warm the edges of the specimen and use the cement warm."

The above appears word for word in a book entitled "Curiosities of Natural History" by F. T. Buckland published in the 1860's. Buckland was an eminent natural historian, partly responsible for debunking such myths as the bones of extinct animals being those drowned by Noah's flood.

Receipt for making Dr Bucklands Cement

A paste for labels etc. which he always used.

1 part finely powdered white sugar

3 parts powdered starch

4 parts finely powdered gum arabic

All by weight. In mixing use cold water. Rub the above ingredients, dry, well together in a marble mortar; then very little at a time add the water till it is the thickness of melted glue, put it in a wide mouthed bottle and cork it closely."

"To make paste that will not turn mouldy

Mix the following ingredients with 4oz of flour

½ oz powdered acacia

1oz glycerine

20 drops oil of cloves

Mix this with a pint of water and make into paste in the usual manner."

"Cement for mending shells used at Paris

Gum arabic one third

Sugar candy two thirds

White lead."

"To harden soft Fossils

Bones found in gravel pits etc. are often in a very fragile state.

In order to harden them they should be washed over frequently with a mixture of common glue and whitening; a little experience will indicate the proportions in which the materials should be used, there being always more glue than whitening."

Cement for Repairing bones etc

Old Plaster of Paris and Whites of egg is an excellent mixture for repairing broken bones of skeletons etc, it being the constituent of which bone is formed.

Why "old plaster of Paris? Any ideas out there.

Cement for sealing spirit Jars

"Insoluble glue. Soak ½ lb of best glue in cold water until quite soft, melt in kettle. When quite dissolved pour in 1 oz of hot saturated solution of bichromate of potash and well stir. It is now ready for use: apply with a brush.

Put to dry in full daylight for a day or two.

The stock kettle of glue must be kept in the dark.

The above I believe would be well adapted for sealing objects in bottles with spirits such as snakes, lizards etc."

"Cement for covering Jars etc containing spirit

The jars containing the specimen are closed up by sealing the tops with a cement composed of 3 parts by weight of gutta percha and 2 of asphalt. In preparing this cement the asphalt must first be gradually melted and the gutta percha added in small pieces – a few at a time - the whole being stirred at frequent intervals. It must be put on hot most conveniently with a small knife which as well as the cover glass should first be warm. A small weight should be placed on the top of the jar until the cement is set hard.

See p78 of the Museums association 1892 were further information may be found."

"Cement for ivory or mother-of-pearl

Dissolve one part of isinglass and 2 of white glue in 30 of water strain and evaporate to 6 parts. Add 1/20 part of gum mastic dissolved in ½ a part of alcohol add 1 part of zinc white. When required for use warm and shake up."

Gum for mounting beetles on cards

Take 5 or 6 small pieces of the finest and most transparent gum tragacanth, or gum dragon, with rather less than the same number of pieces of

clear gum arabic, put them in a wide mouth bottle with about a wine glass full of cold water, in a short time, 24 hours at most, the gum absorbs the fluid and swells, then add half as much more water and stir the mixture which on being left alone for another 24 hours at most will be ready for use. The mixture should be dull white of even texture and not quite fluid.

Varnish for eggs crustacea etc.

Common gum 4oz, gum tragacanth ¼ oz. Dissolve these in three pints of water, add to the solution 20 grains of corrosive sublimate and 20 drops oil of thyme dissolved in 4 oz spirits of wine; mix it well and let it stand for a few days to separate: the clearer part is to be used for varnish: the thicker part forms an excellent cement.

From Mr Clarke.

If any readers have samples of the above adhesives and 'cements' I would be interested in hearing from them, with a view to seeing how well they have survived the last 100 years.

Methods of preserving fleshy and soft specimens of objects.

Such as anatomical objects and natural objects in section etc
Steep the object for about 3 weeks in a preparation of which Glycerine forms the principle part – thus,
Glycerine 5 parts, carbolic acid one part, water three parts – The object if flat is placed in a dish and secured in its position with the aid of Plaster of Paris in which it is partly embedded, but in such a manner so as not to hide the surface of the object, by this means the specimen is prevented from shrinking, and thus kept in the form and condition required. The specimen is then kept in a suitable vessel embedded in the plaster and thus kept after being covered by the preparation alluded to above, and thus kept covered with a glass to prevent evaporation etc – after being thus kept for about 3 weeks when the liquid is removed and the object will be ready for its permanent finish, in this manner it will retain its elasticity and can be mounted and taken from its mount and examined at pleasure.

The above is the method adopted by Prof Macalister of Cambridge for preservation of his anatomical specimens in his museum of anatomy – he tells me that he prefers this method to placing them in spirits.

Would this plan answer for fungi? GN.

tency of thin paste or gruel, add enough powdered arsenic to make it tolerably thick, work the whole together and apply with a coarse when required.

Experience will soon teach you how much mixture you require for the work on hand. It is better to mix it as required for the job on hand.

Birds – Composition for preserving the skins ie, keeping the moth from injuring them.

Burnt alum ½ lb		Burnt alum ½ lb
All spice 20 oz		Pepper ¼ lb
Tobacco grounds ½ lb	or	Corrosive sublimate 20 oz
Magnesia ¼ lb		Camphor 20 oz

To remove stains of blood from birds

Any clotted blood that may adhere to the feathers can be removed by the thumb and finger nails, if there is not much of it, but when any (indistinct word) extent of plumage is stained recourse must be had to water and the application of plaster and water alternatively will soon cleanse the worst stains

For removing grease use benzine followed by plaster alternately until the plumage is thoroughly clean – but the pristine beauty and gloss of feathers can never be quite restored, so greatest care should be exercised when skinning birds to prevent the feathers getting stained.

To clean furs

The Russians clean their furs with sand made hot in an oven. W Echo Nov 22 1890.

Mounting Insects

Larger, should have their intestines taken out from underneath and filled with cotton. Beetles do not require it.

Kill them with spirits of wine; nip thorax with finger and thumb.

To preserve stout bodied moths etc

To preserve stout bodied moths such as the death Hawk Moth. Mr G woods plan.

Cut the body A from the thorax B in the way shown and then from the body at C extract the contents and humours of the body with some pieces

of wire etc bend in the form of a hook. After the contents are well cleared out dress the body and whole insect with a solution of corrosive sublimate dissolved in spirits of wine made as follows;

1 part of spirits of wine or methylated spirits to a teaspoonful of powdered corrosive sublimate, shake and then settle. After the insect is perfectly dry stuff the body with cotton wool which has previously been saturated with the above solution and dried. Then glue the body to the thorax and it is finished for setting.

NB to test whether the spirit has too much or too little corrosive sublimate, dip a black feather into it and when it is dry if any trace of the sublimate is seen, add more spirit try the same experiment and if the sublimate is not seen it is the correct strength.

From Mr J G Woods Oct 10th 1884

To remove grease from insects

Grease may be removed by soaking the insect in pure rectified naphtha or benzoline even by boiling them in the same if necessary. When the bodies only are greasy they may be broken off, numbered and treated as above. After the grease is thoroughly softened the insect should be covered up in powdered pie clay or French chalk which may subsequently be removed by means of a small sable brush.

Mouldiness in insects

This is completely remedied in insects by immersing them in boiling water, and after brushing them with a camel's hair pencil, drying them thoroughly and returning them to their places: in other insects spirits of wine carefully applied with a camel's hair pencil effect a cure.

Extracts from Maynard's note on pest and fungus eradication

Killing insects

Mr Stephens has recorded the following method for killing moths etc, with the leaves of the common laurel:- "take three or four juicy leaves, (the younger the better, with if a more powerful effect is required a small portion of the tips of the stalk), of the common laurel: break or cut them into small pieces quickly between two stones in a thin piece of paper; scrape up the produce in the latter with as little exposure to the air as can be avoided, and fix the mass by a pin in the corner of the collecting box in which the

living insects are to be previously placed; keep the box closely shut and in about 5 minute very specimen will have expired. It is necessary that the external air should be excluded otherwise the fumes of prussic acid which are evolved from the crushed leaves will become too much attenuated to affect the respiratory organs of the insects, and the latter will partially revive if too speedily exposed to the verifying influence of a purer atmosphere

“For killing moths in bird cases

Cyanide of potassium 10z Water 1oz Mix and dissolve
NOTE THIS IS VERY POISONOUS

About ¼ of the above should be placed in a glass or well glazed earthenware basin and ½ oz or so of tartaric acid added. The case to be closed immediately after the acid is placed in the basin or what ever is used to hold the solution which ought to have plenty of space above the liquid to avoid its running over while effervescence thus preventing the spread of the cyanide, (which is of a very greasy nature), from disfiguring the cases. This may remain for one month or so and after time should be replaced as long as live moths make their appearance, and afterwards applied only at such times when the larva come from their eggs which should be observed in the winter and spring of the year: when the moths are once kept down the tartaric acid may be used in its crystallised form which does not take up the poison so quickly and the cyanide will last longer
The above quantity is for about every 6 feet of cases.
Ed John Tuch, Wallington.”

Insects attacked and destroyed by mites etc

Insects attacked and destroyed by mites etc and also the larva of Dermetites Ptinites and Tincites, is very much avoided by attending to these rules ; put every specimen into the draws perfectly dry, never leave the glass of and keep a good supply of camphor always in the drawers.

Moths and their eggs

Feverfew as a preservative against moths etc
Feverfew is a wonderful preservative of clothes birds skins and linings of carriages. The moths will not come near any place where it is Benzine Collas will destroy the eggs of moths etc as well as take out grease spots.

Feverfew contains pyrethrum, an ingredient of many insecticides.

Moths in Carpets (Newspaper Cutting)

I have found the following an excelent plan to kill moths in carpets: sprinkle with methylated spirit (or still better but more dangerous) , Benzine; cover with stout paper, and pass a hot iron over the paper, when the spirit becomes vaporised passes through the carpet in an active condition, and destroys all insect life. The above method may occasionally be practised round the edges of a damp room with good preventive results. here is also a dry powder called Tar Camphorene, which can be used in the same way.

The above is a newspaper cutting from an advice column

To kill moss etc upon Tombstones.

A strong solution (say 10 grains to the oz) of corrosive sublimate, (ie bichloride of mercury), in spirits of wine will kill the moss that grows upon tombstones and in the engraved letters and prevent its germinating again.

Another method a few pages on says

To kill moss or lichen upon tombstones etc

Mr F Buckland in referring to the moss etc, that grows upon Gilbert White's grave stone says that the best solution for killing it is a solution of corrosive sublimate in spirits of wine, a strong solution say 10 grains to the ounce, it will not only kill the moss etc, but prevent it germinating again. See Bucklands edition of White's (*indistinct word here*) Selbourne pap 317.

I have only quoted G. N. Maynard's receipts or procedures for natural history. Readers interested in his receipts for metals ceramics and glass conservation or those for plaster casting and electrotyping etc. will have to wait.

