

# INTRODUCTION TO THE STUDY OF NUMISMATICS THE FUNDAMENTALS

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remote areas following a passion to visit and see what the coins spoke about. The journey has been amazing.

The following sections discuss several major concerns for the collector whether it be a small private collector or a larger, open collection.

1. How to purchase coins for a collection.
2. Bronze Disease and horn Silver. Problems that may occur on coins. A discussion on its causes and cure.
3. A system of preservation and conservation of all coins.
4. How to store coins correctly to conserve and preserve them
5. For the advanced researcher the correct methodology for the use of noninvasive testing of coins using XRF technology.
6. Recording the collecting.

Several sections have been presented by world experts to ensure the practical information is provided. As collectors it is part of our duty of care to ensure the coins that pass through our hands are kept in at least the same condition as we received them in.

### Cleaning of Hand Struck Coins

In coin collecting circles there is a continuing debate on coin cleaning. It is our contention that there is a major difference between how hand struck coins are treated (and graded) and how machine struck (modern coins) are treated.

Our views on grading note that a coin that is complete in every detail no matter what its condition is a superior coin to a coin with attribution details missing no matter what the condition and appearance.

Therefore, for hand struck coins there may be an actual need to clean them.

For older coins there is the possibility that they may have been degraded by chemical attack caused by their storage or their location before they were discovered. Bruce Nasset, a world authority on conditions such as these on coins has provided a complete process for the neutralizing of the problems that may occur on copper-based coins or silver coins.

Bruce also advises a cleaning process for hand struck coins. For many this may seem inappropriate but for hand struck coins it is a viable option. In the process he advises "Renaissance Wax or any hard type paste wax. It is rubbed on the

surface etc” We recommend Renaissance Wax as part of our conservation and storage process.

Following the section On Bronze disease (etc) is a complete section on coin cleaning and conservation. The final process is the application of Renaissance Wax. Picreator Enterprises Ltd, the manufacturer of Renaissance Wax has developed a full cleaning and conservation system for coins. The process is a museum standard methodology for the conservation of coins. For coins that can be successfully fully attributed or are be attributed to the limit of what is shown on the strike then the four step process (three step for silver and gold although step one for gold should also not be necessary) we recommend the following system. Note: the process should be as described and safety precautions, if necessary, as shown on the product data sheets must be taken.

1. The use of Renaissance Metal De- Corroder
2. The use of Pre-Lim Surface Cleaner (not to be on precious metals)
3. The use of Vulpex Liquid Soap
4. The use of Renaissance Wax.

For coins that require treatment for the presence of Bronze Disease or Horn Silver then once the condition has been treated and correctly removed then this can be used.

In the Bronze Disease discussion there is a method for cleaning and conserving there is a cleaning method discussed. This is suitable for coins that need to be further treated to ensure full attribution can be seen.

All coins should be inspected at no longer than six monthly intervals to ensure that there is no presence of any attack on any of the coins. If any is found the coins must be removed immediately and treated as soon as possible.

Bernard Nagengast, a world expert on coin storage, discusses the correct method of storage for coins. In this section there are descriptions of what happens when incorrect storage materials are used. Storage for a collection for most collections makes up only a fraction of the cost of coins and must be taken as a step of major importance for all collectors.

For advanced collectors, collections, and researchers the process of accurate metal content determination in coins by nondestructive methodology is discussed as a Standard Operating Procedure. With the correct operation of high standard equipment XRF is an eminently suitable method for testing.

## **Renaissance metal De-Corroder**

*Safe, Non-toxic System for Rust Removal with Full Control*

Amine complex of hydro-oxycarboxylic acid in aqueous solution. pH: approximately 4.0

For use on *Iron, Bronze, Copper and Copper Alloys, Brass, Steel, Zinc and galvanised materials. Also effectively cleans **SCALE** and rusty water stains. Suitable for use on all coins*

### **Instructions for use on coins**

Even relatively prolonged immersion over several days has no significant effect on sound metal, thus giving the conservator complete control over the process – however frequent checks should be made until the metal has returned to the required condition. The totally benign nature of the product eliminates work and health hazards associated with common de-rusting systems such as those based on phosphoric and hydrochloric acids. Normal ventilation and common-sense hygiene procedures should be observed, with gloves and protective clothing advisable.

Following treatment, metal surfaces are stabilised for up to 14 days, giving ample time for applying long-term protection (such as Renaissance micro-crystalline wax polish, which confers a tough – but reversible – glass-clear lustrous finish).

Bi-metallic electrolytic effects between dissimilar metals are insignificant in treatment periods of up to 48 hours. There is no attack on zinc coatings, excepting greatly prolonged immersion.

Treatment is most effective at temperatures between 10°C and 20°C. Colder solutions slow the action still further – a useful quality when objects are left immersed over a weekend. Contrast this safe, gentle handling of metals with the more vigorous, often deleterious action of mineral acids.

Storage and treatment vessels of mild steel, porcelain, rubber, polythene or other plastics are suitable. Galvanised, tin, zinc or lead-lined tanks are NOT suitable.

After use of the solution, separate it from any sediment by siphoning into a clean container and top up occasionally with fresh solution. The product remains effective for many weeks.

## **Pre-Lim Surface Cleaner**

*Gently abrasive paste for non-scratch cleaning of metals and many sensitive fine-art surfaces.*

### **NOT TO BE USED ON SILVER OR GOLD OR OTHER PRECIOUS METALS**

Pre-lim is widely used in the professional restoration of arms and armour, sculpture, brass and copper exhibition cookware, ceramics, and automobile paintwork. It is highly suited to the conservation and preservation of coins.

Formulation is based on blended Neuburg silica chalks in a water/white spirit emulsion. In normal use the product is not a health hazard.

Pre-lim's cleaning/burnishing action is achieved with extremely fine control using a soft rag and light pressure. After a few minutes of air-drying, residual chalky deposit is easily rubbed away with a clean rag, leaving surfaces dry and silk smooth.

To ensure that cleaned surfaces, especially metals, remain clean and bright, protect them with our glass-clear Renaissance micro-crystalline wax polish (see section following Vulpex Liquid Soap) for a long lasting and visually enhancing finish.

When stored in its air-tight container at room temperature or colder, Pre-lim has an excellent shelf life.

As is customary in professional restoration, a discreet test is advised to ensure that Pre-lim is suitable for specific projects.

## **Vulpex Liquid Soap**

Potassium Methyl Cyclohexyl Oleate

*Non-acid...non-foaming...non-corrosive...non-hazardous...germicidal*

Vulpex liquid soap is a safe cleaner for practically everything from paper to stone. It is suitable for all coins.

Since its introduction in 1970, its extraordinary versatility has made Vulpex a popular and indispensable medium in all branches of professional restoration and conservation of fine-art objects and historic property.

It has been used with eminent success in the safe and controllable cleaning of materials ranging from feathers, costumery, leather, carpets and furniture to oil paintings, armour, precious metals, shell, marble and stone.

Vulpex attacks and emulsifies dirt, fats, fatty oils, mineral oils, waxes and hydrocarbons with great speed and efficiency. The dirty emulsions are remarkably stable, thus easily disposable. Micro-fine cracks harbouring dirt are subject to a deep-cleansing action rarely achieved with normal commercial cleaners.

Compared with harsh, acid-based cleaners, alkaline Vulpex is not harmful to health or property. A final rinse or wipe with clean water neutralises the surface, leaving behind nothing to create future conservation problems.

Vulpex is supplied as a dense concentrate and must be diluted before use. For normal aqueous cleaning, one-part Vulpex to six or seven parts cold tap water (by volume) is sufficient. More water can be added if the soiling is light

Since Vulpex is a highly effective de-greasant, hands should be protected against the loss of natural oils by wearing gloves or the subsequent use of a lanolin hand-cream. Eyes should be protected from splashes.

## **Renaissance Wax Polish –Information and Application**

Renaissance wax polish is a unique blend of micro-crystalline waxes which come from the refining processes of crude oil. 'Renaissance' is our registered trademark for the polish, originally formulated in the British Museum's Research Laboratories. With the Museum's authorization, Picreator has manufactured and marketed the polish world-wide since 1968.

The polish is specified and used everywhere by a huge range of museums, historic collections, and restorers in every kind of specialization. It has become a widely accepted conservation material of museum quality and performance.

Renaissance wax can be used with complete success on any surface, from white paper to stone – woods, metals, marble, leather, ivory, ceramics etc. It is an excellent choice for the preservation and conservation of all coins. The wax enhances and protects all kinds of museum / fine art objects. It imparts a tough, glass-clear film with an attractive lustre and is highly resistant to finger-marking, environmental pollution, abrasion and weathering in exposed locations.

Renaissance wax has white spirit (turpentine substitute) as its solvent carrier in a carefully balanced product and must not be further diluted with any solvent. In its can, the wax is a solid, with no free liquid, despite the relatively low solids content. The formulation was designed for ease of application and thin, even films.

Renaissance wax is best applied to COLD surfaces (or at room temperature). With certain exceptions in the professional restoration of bronzes, pre-heating surfaces tends to drive off the solvent in the polish, making it laborious to apply evenly.

Before waxing, ensure that surfaces are dry, clean and free from grease. Our Vulpex liquid soap is a highly efficient (see above), deep-searching cleaner for all types of surfaces. It produces a stable emulsion with dirt and grease

and, when rinsed finally with clean water, leaves nothing harmful behind.

Whichever cleaning product is used, rinsing to remove all traces of it, followed by thorough drying with absorbent paper, cloth or even a hot air dryer, is important to finish the pre-wax process. Any moisture trapped under the wax, or between wax layers, can create unsightly 'blooming'. On metals it may cause rusting.

If moisture is trapped under the wax or if the wax seems to have been unevenly applied, buffing the area with a rag moistened with paraffin will normally correct these problems. A final rub-over with a clean, soft rag will restore full lustre.

Surface waxing is best done by hand with a soft, clean cloth (microfibre or toweling), working on the whole coin at a time. Apply the wax thinly and evenly. If allowed to rest for more than a minute or so, the wax will dry and harden into a matt film.

With a second (clean, dry) cloth, polish the wax gently to its full lustre. Subsequent waxings of the coin an hour or so later, can be buffed out more vigorously, the first coat having formed a good 'anchorage'.

Carved surfaces which could trap the wax in unsightly solid white deposits (e.g., well struck coins) must have the wax brushed into an even film.



*The full range of conservation and protection products manufactured By Picreator Enterprises Ltd*

**PICREATOR ENTERPRISES LTD**  
Manufacturers of Products for Fine-Art Restoration & Conservation



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