

Cleaning those varieties.

About cleaning coins

Somehow people's vision when you use the word "cleaning" is getting a wire brush and giving your 1930 penny a good spruce up. Cleaning to me is removing the crud that has accumulated on the face of a circulated coin. With coins that do not have value by condition, but are just a collectable by error or variety, well, out go the "rules". I see no harm in even stripping the coin back to the parent metal if it is badly corroded or marked. With varieties the whole point with the coin is to be able to show the feature or difference whether it be a mintmark or lettering.

The one thing you should not do is "polish" coins. Polishing a surface is just scratching it with finer and finer grit compounds so that light is highly reflected and the surface looks "shiny". For a coin that has a grade around extremely fine and is just soiled, do not touch the surface with anything harsher than your skin. Such a coin will not have any corrosion or serious encrustations by definition, so all you need to do is remove grease or dirt.

A swim in the washing up detergent usually does the trick with a copper or silver coin. Gently rubbing the coin in the hands helps. Be careful! Remember that the coin or the liquid may have particles of grit mixed in and firmly scrubbing will scratch the coin like sandpaper and you will be back to polishing!

For some coins that are graded higher than extremely fine I would suggest not to touch them. Any mechanical action can wear away the points of the design that give the coin a portion of its grade rating. Both mechanical and chemical action can affect the surface condition that is the "bloom", the "brilliance", the "patina", the "lustre the "streaking" or whatever you want to call the effect that gives a coin the beauty that that assists the grade. The cleaning process also needs to be neutralised so that whatever chemical reaction has started, does not continue.

The Big Guns for Copper coins!

On lower grade copper coins where a large amount of muck or corrosion needs removing you bring out the "big guns". Here one uses abrasive or chemical force! This can range from brushing or scrubbing the coin in detergent or solvent though to soaking the coin in a chemical stripper to remove hard baked on scum or verdigris. The handiest brushes to use are old toothbrushes, which give you a range of bristle stiffness to choose from. There is a huge range of household and hardware cleaners to choose from, as well. The problem with many cleaners is not leaving a worse gunk layer behind. The most successful cheap chemical to treat a coin with verdigris and grot is plain old lemon juice.

By this I mean juice directly by picking a lemon and squeezing, not the artificial flavoured stuff in a bottle!

Concentrated lemon juice is very active and gets stuck into verdigris like a charm. The basic yellow solution will change to green as verdigris is removed. It also gets stuck into the basic metal as well, so a bit of judgement is required as to how long a coin is left in the solution. The good news is lemon juice is relatively safe to handle, but wear gloves and eye protection! The process takes days to complete so the coin can be monitored and removed easily for a bit of a scrub up to speed up any hard to shift areas of crud. A coin treated this way will emerge as clean and stripped as a baby out of the bath and then after being neutralised in plain tap water will stabilise and commence to re-tone.

Remember that this chemical action strips ALL the oxides off the surface so there is NO patina left! The coin comes out with a slightly "pickled" surface and then can be treated or left to see what happens.

Some actual examples

Take a look at the first coin, a 1916 halfpenny (upper coin images). Both reverse and obverse are shown. It appears pitted, covered with a crust of grot, corroded and with spots of green verdigris. A well and truly grotty coin straight from the bottom of the scrap bag.

Now look at the second coin, also a 1916 halfpenny (lower coin images). Not too bad. It has un-even toning on both sides but has good rims and a fair amount of detail with little wear. The reverse presents at about fine to fine plus with no major damage to fields, design, or rim. The obverse presents about the same with a near full band on the kings' crown with 6 distinct pearls. The king's robe is quite detailed. There is a touch of verdigris pitting about the letters "OMN". All in all not a bad little coin. The news here is they are the same coin!



The Process with the 1916 Copper coin

I washed the coin in the kitchen sink in the washing up water. This allowed some of the dirt to loosen up and showed that the grot consisted mainly of cemented dirt, a hard paint like substance and green verdigris. I felt that this coin did not need harsh stripping, as there could possibly be a good surface with patina under the muck.

I painted the coin with a water-soluble paint stripper. This was applied with a tooth pick already softened in water, without actually pressing too hard on the coin surface. I worked the soft end of the toothpick into all the crevices on both sides and with both mechanical and chemical action removed the foreign substances from the faces. By this time the patina of the coin started to lift so I washed the coin in hot water and pat dried with a towel.

The final step was to lightly oil the coin faces with machine oil and then with my finest toothbrush carefully work into the remaining trapped grease and darkest stained areas and brush the oil out. The coin was then patted with a cloth to remove excess oil. One could work the coin further to remove the corrosion and improve the toning, but the point is made. A coin that looks hopeless may actually be a nice coin underneath crying to be let out!

Silver coins

I rarely do any more to silver coins than clean in detergent if they are graded fine to extremely fine. Overall, most coins should be left as is. In particular a very worn coin from fine down to very good may be rendered useless if cleaned. Dirt accumulated around the edges of what is left of the lettering and the outlines of the design give a border of contrast and help “lift” the features.

We have two broad types of silver coins; the earlier coins with almost pure silver and the post 1936 coins with 40% copper. The earlier pure silver coins as a rule do not corrode and seldom need cleaning. A good wash is all that is required to remove dirt. Certainly with worn coins it is best to leave them as is, the dirt can add to the contrast on the coin face and cleaning will just make the coin look worse.

The process with a corroded Silver Copper Coin

The post 1936 silver coins can corrode badly. I took an example of a corroded 1948 coin worked it over, and the results you can see from the photos. The grade of the coin is very good to about fine. The coin has oxides of both main metals on the surface the fields are badly pitted (upper coin images, next page).

I used a solvent to shift the dirt and then simply scraped the field surface of the coin with a tiny flat chisel. The coin was left with a surface pitted like the moon, but at least all the lettering and detail can be seen now. The coin would look a bit better if the whole surface was “pickled” and dulled off to a more matte finish. You would have to be desperate to work a poor coin like this over but the photos show what can be achieved



The process with a full Silver coin

This 1925 Florin (upper coin images) is in fine condition and is just dirty. I washed the coin in hot detergent and patted it dry. I then lightly oiled the coin and using a softened toothpick as a mop worked the face of the coin in a swirling motion. I stayed at each area long enough for the swirls to visibly mark the coin surface as the dirt was removed.

The coin was then brushed clean with a fine toothbrush worked in radial strokes from the centre out, just enough for the swirl marks to be replaced by radial marks. The whole point of the action was to try and even out the field of the coin without reducing the contrast between the images of the faces and the field.

Any further work on the coin would just be polishing. Is it worth the effort? Probably not, but look at the photos (lower coin images) and judge for yourself if you would bother.



Stripping a Copper coin

Finally we get to the copper coin that is horribly stained, corroded and dirt encrusted. There is nothing to do but strip back with a chemical and see what happens. I picked a 1944 halfpenny simply because it was worth doing, being a low mintage coin. If it turned out good enough it could go into a halfpenny date set. In the end I think we could say the coin has gone from poor and horrible, to about fine and average acceptable.



The pairs of images above show the coin, in the original state with dirt and green oxides, and at the end the process. The coin was placed in my favourite lemon mixture, straight from the lemon tree. I use shallow ceramic ten cm bowls to contain the mixture, a single lemon gives enough juice to adequately cover the coin. After a day the top scum and green muck had floated free. I removed the coin for rinse and gave it a good old scrub with a hard toothbrush and then dropped it into the mix again. After two more days the mixture had turned quite green and the coin came out pretty much stripped of all oxides and dirt.

The coin was then rinsed, oiled with machine oil and given a good old scrub again up with a fine toothbrush. There is some nasty corrosion on the obverse side where metal is lost over the letters IND:IMP. The reverse does not look too bad at all. Once more I know which state of coin I would rather have in my date set!

Stripping and toning a damaged Variety coin.

Every now and then you find a damaged coin of low mintage or specific variety that may have the appearance improved by cleaning and toning. This is a practice which should be confined to low grade coins with surface damage. The coin shown below, a 1925 penny has been buried in ground with subsequent corrosion, also has been affected by fire. Both sides of the coin are scarred all over with small pits. The reverse has a bleached brown dry heated appearance, while the obverse has been blackened and scarred by flame and hot material touching the exposed surface. Before I received the coin it had the worst damage cleaned off so at least you could see which coin it is! Looking through all the carnage, the grade of the coin from wear would have been a fine to very fine. By appearance, you would grade it about fine at best.



The first step in reclaiming this coin was to soak it in the lemon juice bath and see how much of the oxide debris could be removed. The result of this was to remove a lot of the scale and blackening. This process made the coin appear worse. The coin looks flatter, the pitting and some scars are now more obvious but a more uniform surface has been uncovered for the next step, plating. Plating achieves a uniform metal face upon which the toning can be applied and serves to “fill in” some of the smallest pits and defects.



The coin was copper plated very slowly in an electrical bath and a thin layer of copper was applied. The appearance of the coin (next page) is now much more uniform but still has varying colour in patches that discolour the copper plate.

The coin was then carefully toned with a liquid mixture that darkens the copper plate, by first soaking whole and then hand applying to selected areas to achieve a uniform result. This particular coin was darkened to a colour deeper than a coin of this age usually presents. The coin was left soaking in distilled water to stop further chemical reaction. It was then lightly buffed to smarten it up.

The result was a handsome looking coin of better appearance. The pitted surface of the fields is still apparent but more of the struck features stand proud by added contrast and a lot of the distracting marks have vanished. The grade of the coin has not changed a dot, still being a

nice fine looking coin, now in both senses of the word. Look at the final result below, compare to starting point at the beginning, and judge for your self!



Finally

Please take note; all of these cleaning and restoring methods use corrosive acids, alkalis and detergents. Extreme care should be taken when handling and storing these mixtures. The same sort of care should be taken as though you are working in a chemical laboratory. Use proper clothing, gloves and eye protection. Lemon juice is a nasty corrosive liquid and probably the mildest of the range of chemicals you will use. Oddly enough all of the chemical liquids and powders needed are available from your autoshop, supermarket, pool store, hardware store or garden nursery

I will not go into any more detail as to which particular process or chemical substance may be used for the various stages or treatment. However a small amount of research on the Internet or in a library will disclose the methods and materials that may be used. Also there is a fair amount of trial and error in all of the processes depending on which substances and methods are used.