



# North York Coin Club

Founded 1960

MONTHLY MEETINGS 4TH Tuesday 7:30 P.M. AT  
Edithvale Community Centre, 131 Finch Ave. W., North York M2N 2H8

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## Member :

Ontario Numismatic Association  
Royal Canadian Numismatic Association

President .....Bill O'Brien  
1st Vice President .....Henry Nienhuis  
2nd Vice President.....  
Secretary .....Henry Nienhuis  
Treasurer .....Ben Boelens  
Past President .....Nick Cowan

## Executive Committee

Director .....Roger Fox  
Director .....Paul Johnson  
Director .....Andrew Silver  
Junior Director .....  
Auctioneer .....Dick Dunn

Auction Manager.....Paul Johnson  
Editor .....Paul Petch  
Receptionist .....Franco Farronato  
Draw Prizes .....Bill O'Brien  
Social Convenor .....Bill O'Brien

## THE BULLETIN FOR APRIL 2016

### PRESIDENT'S MESSAGE

Welcome again to all fellow numismatists and everyone receiving this monthly bulletin. The weather today is finally more seasonal as Mother Nature has turned the thermostat up above twenty degrees and we are all outdoors enjoying a fantastic evening. I noticed that a lot of the local watering holes have their patios overflowing with sun worshippers ... or maybe they are just people whom like beer.

I first want to persuade all members to become more proactive and help build up our club's membership. A growth in membership is critical to the continued vitality of the club. The introduction of "new blood" and ideas to the club would be very constructive. We all must do our part, make the effort and bring the club size back to our heyday when there was standing room only at some meetings. I know this may sound a little optimistic, and I'm no math wizard, but if every member brings just one guest to a meeting and they join, we would double the size of the club. There would be so many people attending our meetings that we may have to seek out a larger meeting room. You might think I have my rose coloured glasses on, but better than a pessimist thinking the club will fold any year now. Seek out a friend, colleague, neighbour, or even your wife and bring them to a meeting where we can hook them up with one of our new mentors.

Speaking of mentors, Phillip Simms, who was recently appointed chairman of the "buddy program", was happy to report that many volunteers have signed up to be mentors. If you remember, the purpose of the program is twofold. The club wishes to make the visitor's experience of attending a meeting

a meaningful one and help them gain the information they are seeking. The club buddy will offer insight into the hobby, providing valuable, reliable information and nurture interest with the goal of getting a new member and developing a confident numismatist.

I believe there is only one table left for our annual coin show, which is being held this year on Saturday May 28<sup>th</sup>. It's in the Banquet Room at Edithvale Community Centre on Finch Avenue in North York, the same place as all previous years. The price of the last table is \$40.00 so don't delay and reserve it today. Doors for the show open to the public at 9:00 am and close at 3:00 pm. See the club's treasurer Ben to reserve that last table.

I am happy to report that the full meeting auction that was held March 22<sup>nd</sup> was a huge success. I will have to pencil that into the calendar for next year, as that seems to be a popular event. The prices realized from the auction appear later in the bulletin, and the few dollars we made on commission will help pay for a couple of meeting nights at Edithvale. Thank you for your participation!

A summer highlight on the numismatic calendar is the R.C.N.A. annual convention, this year in Ottawa from July 19-24<sup>th</sup>. It may seem to be a long way in the future but hotel vacancies in the capital are always at a premium, so make your plans to attend today. With the bourse floor, an auction, educational symposium, a youth programme, convivial activities plus special interest meetings too numerous to mention, this will be an event to centre a summer vacation around. Ottawa is only a short trip away and right here in Ontario where your vacation dollar will go further

### NEXT MEETING TUESDAY, APRIL 26

**We start gathering in the Banquet Room on the first floor of the Edithvale Community Centre, at 7:00 p.m. with meeting start scheduled for 7:30 p.m.**

The feature for our April meeting is a visit from our old friend Ron Cheek and his talk entitled, "Coins of South Viet Nam."

His presentation will describe the coins of South Viet Nam, a very limited series of only 17 pieces, issued from 1953 to 1975. These will include coins of the short-lived French puppet State of Viet Nam and the Republic of Viet Nam (South Viet Nam). As usual, the numismatic items will be presented in their historical context. Ron will conclude with the story of how he ended up with one of only 36 known specimens of the last coin of South Viet Nam, a coin that was never issued.

Don't forget to bring along your recent finds or special treasures to share with us during the show and tell!

**Please remember to bring your auction lots so we can have a really fine auction at this meeting. Also, we appreciate all donations to our supply of draw prize material.**

than down south. Most of the information about the convention is available on-line now, so follow the web site pointer in our Coming Events section.

Until we meet again on the 26<sup>th</sup>, get out there and find an individual that you think would like to become a North York Coin Club member.

*Bill O'Brien*

**NEWS OF THE MARCH 2016 MEETING**

The 620<sup>th</sup> meeting of the North York Coin Club was held on Tuesday, March 22, 2016 in the 1<sup>st</sup> floor Banquet Room at the Edithvale Community Centre. It was hammered to order at 7:30 P.M. with our President, Bill O'Brien, in the chair and 26 members and 2 guests in attendance.

Member Ben Boelens was present when his name was drawn to receive the on-time attendance draw prize of \$4.00. The draw will reset to \$2.00 for the April 26<sup>th</sup> meeting.

Bill asked members present if they had noticed any errors or omissions in the minutes of the February meeting as published in the March newsletter. With no corrections noted Phillip Simms made a motion to accept the minutes, which was seconded by Norman G. Gordon. Motion carried. Treasurer Ben Boelens then reported the club finances.

Paul Petch asked for the floor to report on the status of our Coin Show on May 28<sup>th</sup>. Paul mentioned that there was only a small number of tables left and reminded everyone that the limited 18 tables usually sell out and suggested they book their tables quickly to avoid disappointment.

Phillip Simms asked for the floor to introduce an initiative that Phillip had brought to the attention of the Executive at their last meeting. Phillip will chair a "Numismatic Buddy" committee consisting of volunteers that would be willing to help mentor new members in particular collecting areas. Phillip will approach new members to gauge their interest and then introduce them to an appropriate "Buddy." He is looking for members who are willing to act as mentors in their area of expertise.

Henry Nienhuis, Area Director for the ONA brought up the subject of the upcoming ONA convention, taking place in Kitchener from April 8 to 10. Members were asked if they were interested in acting as our club's delegate at the convention. With no takers Henry was asked to represent the club.

Mark Argentino asked for the floor to report on some research he had undertaken on Marvin Kay's behalf. Dr. Kay celebrates his wedding anniversary each year by assembling a themed collection of numismatic items with the current anniversary's number. This year is their 60<sup>th</sup> wedding anniversary and so he is looking for items with a denomination of 60. Mark had spent a number of hours searching the Internet for these and found 24 separate items with 60 as the denomination; Mark then passed on his research to Marvin.

With the business portion complete we then moved on to the special event of the meeting, our second annual Auction Night. Paul Petch, our acting Auction Manager had done an excellent job of cataloguing the over 100 items that were consigned to him. Paul Johnson, our usual auction manager who was just returning after a few months absence following a nasty fall in his icy driveway, assisted. Our Auctioneer, Dick Dunn, was joined by Andrew Silver and Mark Argentino in their roles as runners for the event.

Part way through the extended auction session, Bill then called for our customary refreshment break from 8:35-8:45 pm.

Lucky draw numbers were called at various times while the auction took place. Lucky draw winners for the evening were- Ben Boelens (2), Phillip Simms (2), Tony Hine, Mark Argentino, Franco Farronato (2), Bill O'Brien (3), Hezi Shami, Henry Nienhuis, and Len Kuenzig. The club earned \$24.00 through the sale of the draw tickets! Our acting auction manager, Paul Petch, reported that receipts from the auction added \$134.85 to the club coffers.

There being no further business, the meeting adjourned at 9:20 P.M.

The club executive would like to thank members for supporting the club through the purchase of draw tickets and draw prize donations. Please consider supporting your club through a donation of numismatic material or other items. (Don't forget to mention your donations to the club secretary so that your support can be recognized in the minutes and newsletter.)

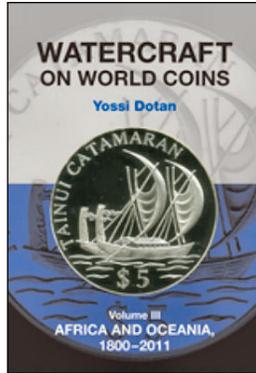
Our next regular meeting will take place on Tuesday, April 26, 2016, in the 1<sup>st</sup> floor Banquet room of the Edithvale Community Centre.

**MARCH AUCTION – PRICES REALIZED**

Lot	Reserve	Sold	Lot	Reserve	Sold
1	\$6.50	\$6.50	54	\$5.00	\$18.00
2	\$6.00	\$9.00	55	\$35.00	\$35.00
3	\$9.00	\$10.00	56	\$30.00	\$35.00
4	\$8.00	\$8.00	57	\$25.00	\$30.00
5	\$2.00	\$2.00	58	\$60.00	\$75.00
6	\$3.00	not sold	59	\$5.00	\$5.00
7	\$5.00	\$5.00	60	\$25.00	\$31.00
8	\$4.00	\$6.00	61	\$15.00	\$15.00
9	\$3.00	\$4.00	62	\$275.00	not sold
10	\$20.00	\$25.00	63	\$275.00	not sold
11	\$12.00	\$12.00	64	\$125.00	not sold
12	\$7.00	\$7.00	65	\$100.00	\$100.00
13	\$3.00	\$5.00	66	\$1,100.00	not sold
14	\$25.00	not sold	67	\$400.00	not sold
15	\$1.50	not sold	68	\$90.00	not sold
16	\$7.00	\$7.00	69	\$80.00	not sold
17	\$16.00	\$16.00	70	\$40.00	\$50.00
18	\$22.00	not sold	71	\$40.00	\$70.00
19	\$22.00	not sold	72	\$2.00	\$2.00
20	\$11.00	\$16.00	73	\$2.00	\$8.00
21	\$15.00	\$15.00	74	\$2.00	\$5.00
22	\$5.50	\$7.50	75	\$5.00	\$5.00
23	\$3.50	\$3.50	76	\$10.00	\$12.00
24	\$5.50	\$7.50	77	\$10.00	\$25.00
25	\$3.50	\$3.50	78	\$10.00	\$10.00
26	\$2.00	\$4.50	79	\$5.00	\$25.00
27	\$2.00	\$4.00	80	\$15.00	not sold
28	\$5.00	\$9.50	81	\$10.00	\$25.00
29	\$15.00	\$23.00	82	\$10.00	\$30.00
30	\$5.00	not sold	83	\$10.00	\$10.00
31	\$15.00	\$17.00	84	\$10.00	\$10.00
32	\$5.00	\$12.00	85	\$10.00	\$35.00
33	\$5.00	\$7.00	86	\$1.00	\$10.00
34	\$5.00	\$6.00	87	\$25.00	\$33.00
35	\$10.00	\$10.00	88	\$20.00	\$30.00
36	\$2.00	\$4.00	89	\$10.00	not sold
37	\$5.00	\$8.50	90	\$25.00	not sold
38	\$2.00	\$5.00	91	\$6.00	\$8.00
39	\$2.00	\$5.00	92	\$10.00	\$20.00
40	\$60.00	\$60.00	93	\$20.00	\$20.00
41	\$1.00	\$1.00	94	\$25.00	not sold
42	\$2.00	\$3.00	95	\$2.00	\$15.00
43	\$1.00	not sold	96	\$380.00	\$380.00
44	\$1.00	\$1.50	97	\$400.00	not sold
45	\$1.00	\$1.00	98	\$7.00	\$20.00
46	\$19.00	\$25.00	99	\$10.00	\$13.00
47	\$14.00	\$20.00	100	\$10.00	\$12.00
48	\$12.00	not sold	101	\$10.00	\$15.00
49	\$12.00	\$14.00	102	\$10.00	\$10.00
50	\$12.00	not sold	103	\$15.00	\$15.00
51	\$9.00	not sold	104	\$50.00	not sold
52	\$14.00	\$17.00	105	\$15.00	\$18.00
53	\$8.00	\$15.00	106	\$30.00	\$50.00

## BOOK REVIEW

by Marvin Kay, MD,  
FRCNA, LM #424



## WATERCRAFT ON WORLD COINS, VOLUME III AFRICA AND OCEANIA, 1800-2011

By Yossi Dotan.  
(Published by Alpha Press—UK, USA, Canada)

At long last, the third and final volume of this epic reference work has arrived. What started as the author's attempt to get his young daughter interested in the coins he brought back from his business trips turned into a years-long research project describing ship coins from around the globe.

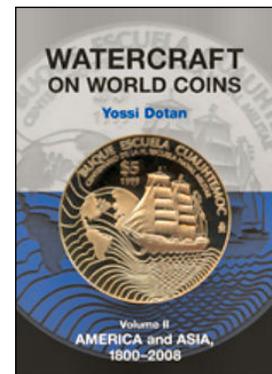
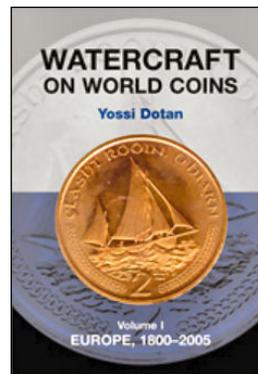
In the 446 pages in Volume III, Dotan describes, in great detail, ship coins from over 80 countries and colonies. From Australia to Zambia, from Angola to New Zealand, there are numerous black and white photographs accompanied by detailed descriptions of ships ranging in size from huge ocean liners (Liberia, 10 dollars, 1999) to birch bark canoes (Cook Islands, 50 dollars, 1993). There are coins depicting modern warships, such as the Bismark (Liberia, 5 dollars, 2008) and ancient warships, such as Lord Nelson's HMS Victory (Ivory Coast, 1500 francs, 2009).

The vast majority of the coins are the customary circular shape. But there are some that are very different formats. There is the rectangular planchet from Malawi depicting the USS Coral Sea. Then there is the vertical oval planchet from the Zambia series honouring world explorers. The most unusual planchet is from landlocked Uganda. Its denomination is 5000 shillings; it is shaped like a map of Australia! I suspect that these unusual planchets were made for collectors and not intended for daily circulation.

Dotan offers an extensive bibliography for readers searching for more extensive details about a particular country, its coinage or the watercraft shown on that coin. For this third volume he also made more use of the Internet.

Finally, this trilogy is brought up-to-date with a huge listing of ship coins that were struck after the two previous editions were printed.

This reviewer congratulates Dotan for his two decades of research.



## CLASSIFIEDS

### WANT TO TRADE WORLD COINS?

I am looking to exchange duplicate world coins with other collectors. So far I have had some good experiences trading coins. Please contact me at my e-mail address [boelens40@gmail.com](mailto:boelens40@gmail.com) or at 905-890-9484.

**WANTED:** A North York Coin Club formation medal in bronze dated 1960 with Lady Justice and North York coat of arms on the reverse. Please contact Paul Petch at [p.petch@rogers.com](mailto:p.petch@rogers.com) or phone 416-303-4417.

**WANTED:** for my personal collection tokens from the Knapman Beach, or later called Burlington Beach, or Canal Amusement Park (1903-1978). Other related items would also be considered. Contact me at [wsobcoins@hotmail.com](mailto:wsobcoins@hotmail.com) – Thanks, Bill

## North York Coin Club Annual Coin Show

**Saturday May 28<sup>th</sup>**  
9:00 a.m. until 3:00 p.m.  
Banquet Room at the  
Edithvale Community Centre  
[131 Finch Avenue West](http://131FinchAvenueWest.com)

FREE Admission and plenty of  
FREE parking, all types of collectibles and  
featuring coins, paper money, tokens, both to buy and sell.

Everyone is welcome and for further information  
please contact:

Paul Petch at: [p.petch@rogers.com](mailto:p.petch@rogers.com) OR  
Phone 416-303-4417 OR  
go to [www.northyorkcoinclub.ca](http://www.northyorkcoinclub.ca)



## BAD MONEY: ANCIENT COUNTERFEITERS AND THEIR COINS

Coin Week Ancient Coin Series by Mike Markowitz

### *Mundus vult decipi, ergo decipiatur*

“The world wants to be deceived, so let it be deceived.”

— attributed to **Petronius**, 1st-century Roman satirist

Around 650 BC, on the eastern shore of the Aegean Sea, coinage was invented. Very soon afterward, counterfeit coinage appeared, and it has been with us ever since. Counterfeiting has been called the world’s “second oldest profession”<sup>1</sup>.

### There were two basic ways of counterfeiting ancient coins.

The first was to cover a base metal core with a thin layer of precious metal and then strike it between engraved dies. If the coating was seamless, the dies of good quality, and the weight of the finished piece close enough to the official standard, such coins might pass as genuine. They are known as **fourées**, from a French word meaning “stuffed.”



The earliest Lydian coins look like metal nuggets (*electrum*, an alloy of gold and silver) with faint ridges (“striations”) on one side and rough punch marks on the other. Amazingly, there are counterfeits of even these primitive pieces.

Some fourées of tiny early electrum coins<sup>2</sup> were struck with the very same dies used to produce official issues. This has been taken as “proof” that mints simultaneously produced genuine and “counterfeit” (official fake?) coins. Perhaps the ruler’s need for cash exceeded the supply of precious metal. Other interpretations are possible; perhaps these dies were stolen or “borrowed” by moonlighting mint workers.

### The Greeks

The Greek city of **Syracuse** on the island of Sicily issued some of the most widely admired ancient coins of the fifth century BCE, notably a series of tetradrachms bearing a *quadriga* (four-horse chariot) on the obverse and the head of **Arethusa**<sup>3</sup> encircled by four swimming dolphins on the reverse. High-quality ancient counterfeits of these coins were produced, and they are quite collectable: one example sold for over US\$2,500 in a recent auction<sup>4</sup>.



*Athens. Fourée Tetradrachm (16.8g) ca. 460-404 BC. This example is plated, but only visible on the edge.*



The second way was to make **clay molds** from an original coin, and then pour molten metal into the molds, usually leaded copper alloy. Ceramic molds could be mass-produced cheaply, so low-value copper coins could be counterfeited profitably. There was a chronic shortage of small change in ancient economies, so even poor

quality fakes were accepted in markets for lack of anything better. Authorities tended to ignore such forgeries, even when they enforced savage penalties against counterfeiting precious metal coins.

### The First Fakes

Fourées are even older than coinage itself—plated base metal bars have been found that were made to imitate ingots of precious metal used as currency before the introduction of coins.



The “owl” tetradrachms of **Athens** enjoyed a reputation as good silver and circulated widely in the ancient world. Imitations were so common that in 375 BCE the city enacted “**Nikophon’s Law**,” establishing official coin testers in the *agora* (public market):

*If anyone brings forward [foreign silver currency] which has the same device as the Attic, [if it is good,] let the Tester give it back to the one who brought it forward; but if it is [bronze at the core] or lead at the core, let him cut it across [immediately] . . . if the Tester does not sit at his post, or if he does not test according to the law, let the [official] beat him fifty lashes with the [whip]. If anyone does not accept whatever silver currency the Tester has approved, let everything that he offers for sale on [that] day be confiscated.<sup>5</sup>*

The Tester would carefully inspect suspected coins, weigh them against the official standard (an “Attic” or Athenian tetradrachm was supposed to weigh 17.24 grams), and perhaps make test cuts on the edge with a small chisel to see if there was a plated core.

Many surviving owls bear such test cuts, which greatly reduce their value to collectors. Some counterfeit owls, even with noticeably deficient weight, managed to survive intact and be collectable today — a 12.44 gram example sold for \$300 in a recent auction<sup>6</sup>.

The **Peloponnesian War** (431—404 BCE) between Athens and Sparta drained the Athenian treasury. In 406 BCE, Athens was forced to mint “money of necessity”: containing a little silver, plated over a copper core. When peace returned the economy gradually recovered and by 393 BCE Athenians could exchange their emergency coins for good silver.

## Romans

Like so many other aspects of their culture, silver coinage was an idea that the Romans adopted from the Greeks, beginning about 290 BCE. Counterfeiting inevitably came along with the innovation.

**Pliny “the Elder”** (Gaius Plinius Secundus, lived 23-79 CE, died in the eruption of **Mt. Vesuvius**) noted that some Romans of his era collected high-grade counterfeits:

*It is truly marvellous, that in this art, and in this only, the various methods of falsification should be made a study: for the sample of the false denarius is now an object of careful examination, and people absolutely buy the counterfeit coin at the price of many genuine ones!<sup>7</sup>*

A noteworthy counterfeit from Pliny’s time is the rare **“Judaea Devicta”** denarius of **Vespasian**, issued to celebrate the defeat of the Jewish rebellion. Most of the specimens that appear on the market are ancient fourées—an example with only a few breaks in the silver sold for \$2,200 in a 2011 auction<sup>8</sup>.



*A counterfeiter’s die ca. 101 BC. Iron obverse die for AR Denarius. Dimensions: overall length 21mm; diameter, 24mm at face, tapering to approximately 26mm at base.*

*Of a cylindrical form. Weight 70.89 grams.*

*Bronze face of cast impression of obverse of denarius depicting Roma, wearing winged helmet, ornamented with gryphon’s head, the visor in three pieces and peaked; X (mark of value); mounted on iron shank.*

A handful of ancient counterfeiters’ dies used to strike denarii have survived to command high prices on the antiquities market; the example illustrated went for \$4,000 in a 2014 auction<sup>9</sup>. There are even fake ancient counterfeiter’s dies (used to strike modern fakes of ancient Roman coins—a topic we will explore in a future article)<sup>10</sup>.

*From the beginning of metallurgy, the craftsman had to choose among various methods for covering a base metal surface with thin layers of precious metal(s). The aim of both the legitimate artisan and the counterfeiter was to find a technology which permitted the minimum use of precious metal, while at the same time ensuring that their layers adhered as closely as possible to the base core to provide resistance to wear over long periods of use (Gadzac, 126).*

It appears that many ancient counterfeiters used **“fire gilding”**<sup>11</sup> to apply the coating.

Mercury readily forms a very soft alloy (called an “amalgam,” it has the consistency of butter) with gold or silver. This was smeared evenly over the surface of the base metal core, which was then heated in a furnace to drive off the mercury as a vapor, leaving the precious metal firmly bound to the surface. An example is a gold plated *quinarius*<sup>12</sup> of **Augustus**, described by the cataloguer as “amusing,” that sold for \$254 in a recent auction<sup>13</sup>.

## Collecting Fakes

A favorite coin from my own collection is a counterfeit gold *semissis* of **Theodosius II**, purchased in 2002 for \$275—less than half of what a genuine example of similar grade would have cost. The weight (2.12g) is a bit short of the 2.25g standard, and the base metal core shows through the gold on the edge—perhaps where it was filed or clipped in antiquity.

Remarkably, the coin survived!

The obverse die is well executed, but some letters were engraved backwards on the reverse die and needed to be recut. Reverse dies wore out more quickly, and were usually assigned to less talented apprentices.



Many museums, dealers and old-time collectors have a “black cabinet” of known (or highly suspected) counterfeits, ancient and modern. On [CoinArchivesPro.com](http://CoinArchivesPro.com) (a database of ancient coins that have appeared in major auctions over the past two decades) the search term “counterfeit” produced 177 hits as of 3 January 2016. “Fourée” generated 105 hits, and the German equivalent “*subaerät*”<sup>14</sup> returned 513 results. The **British Museum** collection database listed 584 entries under “coin -forgery.”

Ancient counterfeits are a special case, since they are authentically ancient and therefore of considerable historical interest. When they come on the market, they are usually quite inexpensive compared to their official counterparts.



## Notes

- <sup>1</sup> [http://www.worldalmanac.com/blog/2007/11/the\\_second\\_oldest\\_profession.html](http://www.worldalmanac.com/blog/2007/11/the_second_oldest_profession.html)
- <sup>2</sup> 1/24 staters weighing about half a gram.
- <sup>3</sup> The nymph who presided over the city's vital freshwater spring. [https://en.wikipedia.org/wiki/Arethusa\\_\(mythology\)](https://en.wikipedia.org/wiki/Arethusa_(mythology))
- <sup>4</sup> Roma Numismatics Ltd., Auction 6, Lot 438, 29 September 2013
- <sup>5</sup> The text survived on a marble tablet found in the agora in 1970 (Stroud, 159).
- <sup>6</sup> CNG Electronic Auction 348, Lot 237
- <sup>7</sup> *Natural History*, Book 33, Chapter 46 (John Bostock, *transl.*). Online at <http://www.perseus.tufts.edu/>.
- <sup>8</sup> Goldberg, Auction 65, Lot 4092 (6 September 2011). For comparison, a genuine example, UBS Numismatics, Auction 52, Lot 208 sold for over \$5,000 (11 September 2001).
- <sup>9</sup> Triton XVII, Lot 518 (7 January 2014)
- <sup>10</sup> Gitler, et. al. (1999)
- <sup>11</sup> <https://en.wikipedia.org/wiki/Gilding#Fire-gilding>
- <sup>12</sup> Worth one-half of an aureus, the gold quinarius was rarely issued.
- <sup>13</sup> Nomos AG Obolos 2 Sale, Lot 207 (14 June 2015)
- <sup>14</sup> From a Latin word meaning "bronze underneath."

## References

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## LICENCE TO 3D PRINT MONEY

by Laura Griffiths from the [tctmagazine.com](http://tctmagazine.com) Internet blog

*Perhaps you have seen news stories or documentaries of cutting equipment working on its own creating machined parts. This is Numerical control (NC) and it is the automation of machine tools that are operated by precisely programmed commands under computer control, as opposed to controlled manually by hand wheels or levers, or mechanically automated by cams alone. The process starts with a block of material that is cut away until only the desired shape is left. This is the opposite of the new technology of 3D printing, in which successive layers of material are formed under computer control to create an object. You start with nothing, but through additive manufacturing the desired shape is created. Here is a story about how the technology is being applied to the creation of medals that are impossible to otherwise create.*



***“The key with precious metal 3D printing is finding the right applications.”***

Cooksongold’s Direct Precious metal 3D printing has already been applied to create several unique pieces of jewellery, which were highlighted in the recent PRECIOUS Project, a £471,000 research and development project into the additive manufacture of precious metal jewellery.

Cooksongold, part of the Heimerle + Meule Group, has a long history of manufacturing precious metal products for the jewellery and watchmaking industries. Last year in collaboration with EOS, the company launched the Precious M 080, an advanced manufacturing technology that allows users to create complex jewellery and watch components in a range of Advanced Precious Metal Powders; 18k gold, 950 Platinum and 925 silver.

In its most recent project the technology was utilised to tackle a different kind of industrial manufacturing—at the mint. Cooksongold already supplies coin blanks to many mints around the world, which then strike their own images onto the coins. With that, the precious metals supplier decided to set itself the challenge of printing the world’s first truly 3D image directly onto the face of an existing blank coin using a different alloy.

*The value of 3D printing speaks the highest volumes when it is used to produce the coveted ‘impossible objects.’ Direct Precious Metal 3D printing has best demonstrated this in the jewellery sector where the process has opened up unique design and weight-loss possibilities. So what happens when you introduce that level of innovation to a completely different traditional industry like coin making?*

To achieve this, the build platform was first milled to house the existing 18k yellow gold coin blank. Using a CAD image of the “crown” design, the image was 3D printed in 20-micron layers using 500g of 18k white powder directly onto the coin. The precious metal 3D printing process melted the powder directly to the surface of the coin ensuring strong adhesion between the metals. Utilising the unique production process meant it was possible for the coin to have undercuts and display a truly 3D image that is simply not possible using traditional stamping techniques.

The build time took just one hour to complete and then a further 30 minutes to post process. Due to the lack of support structures, the coin was removed with ease and post-processed using conventional automated and hand polishing techniques. The finished piece weighed 44.6g. By splitting the coin blank down the middle, the team were able to confirm that their first effort demonstrated “fantastic adhesion” between layers of the two alloys.

### Two Sides of the Coin

Following the success of the first case study, Cooksongold decided to experiment with the possibility of printing on BOTH sides of a fine gold coin, only this time using platinum.

Using a similar process, the build platform was milled to house the gold 28.1mm diameter, 2.00mm thick coin blank, plus the 5.3mm high relief of the “crown” image. Using a CAD file the crown image was 3D printed onto the back of the coin and then repeated on the reverse. With minimal finishing, the entire process took 140 minutes to complete.



*Successful adhesion between alloys*

Along with the ability to combine two metals, the second innovation shown in these studies is the freedom to produce a 3D image with a much higher relief than conventional stamping processes allow. Whilst a standard coin features a shallow relief of around 1.00 or 2.00mm, Cooksongold were able to achieve a relief of 5.3mm with 3D printing.

Cooksongold recently showcased the results of these prints to at the world's largest coin fair, World Money Fair in Berlin. Members of the coin making industry were particularly excited by the potential to print hollow structures directly onto the surface of a blank therefore reducing weight and material consumption dramatically.

"This is the key with precious metal 3D printing, is finding the right applications," David Fletcher, Business Development Manager at Cooksongold, explained. "Printing directly onto the coin is the perfect example, there are no supports required and so it's something that's very well suited and it's the same with the jewellery. If the designer has really thought about the production process they're going to use then they can produce things that they can't imagine from any other production process that's available today. It really is key, designing for 3D printing."

### Platinum is 3D Printing Perfect

The potential to use precious and notoriously difficult materials is an appealing prospect for coin makers and jewellers alike, particularly in the production of commemorative and custom pieces.

David has been quoted singing the praises of platinum before but once again he iterates that "platinum is the holy grail of precious metal 3D printing" which is why this year at the Baselworld event in Switzerland, Cooksongold will launch the availability of its Platinum material and partnership with the Platinum Guild. Traditionally, platinum is very difficult to cast and there are only a select few casters around the world that can do it successfully. However, it has significant advantages in the 3D printing process where its lack of conductivity reduces energy consumption. The real challenge is producing the material itself. The ability to 3D print platinum has the potential to open up new product lines in the jewellery and luxury products industry where the density and weight of platinum has often restricted its use. With platinum on the 3D printing market, that could be about to change.



*Platinum  
double sided coin*

## “CANADIAN MINTAGE AND CASH CIRCULATION” IN 1826

by R.W. McLachlan and John MacTaggart

*This article, written by Robert Wallace McLachlan, appeared in The Numismatist for March, 1916. In it he draws attention to a book by John MacTaggart relating that gentleman's memories of three years he spent in Canada. Among MacTaggart's comments is information on circulation coinage.*

*The excerpt that McLachlan presented in March 1916 was partially reprinted in the Canadian Numismatic Journal for December, 1958, but without McLachlan's introduction.*

In the year 1826 the British commenced, as a military highway, the Rideau Canal, which connects the Ottawa River at "Bytown," now Ottawa, with the St. Lawrence at Kingston.

Lieutenant-Colonel John By, of the Royal Engineers, who was in command of the operations, appointed Mr. John Mactaggart, a civil engineer, as clerk of works, and in this capacity he superintended the details of the works from 1826 to 1828, until laid up with malarial fever, when he found it necessary to return to England.

The following extract from a letter addressed to Sir George Murray, Secretary of State for the Colonies, by Alexander Macdonell, Bishop of Upper Canada, clearly proves Mr. Mactaggart to have been a keen observer:

"Sir—The warm zeal which you have developed in the Canadas induces me to recommend the bearer, Mr. Mactaggart, to your notice, as, perhaps, the ablest practical engineer and geologist, and the properest person that has ever been in these Provinces for exploring the natural productions and latent resources of the country."

Mr. Mactaggart was a keen observer of the manners and customs of the people and of the conditions of the country, and noted what he saw. He published the conclusions of these observations in a work of two volumes of over 350 pages each, entitled, "Three Years in Canada: An Account of the Actual State of the Country in 1826-7-8-1829."

In these books he gives a better and clearer description of the country during the early days of the nineteenth century than is to be found elsewhere. His account of the condition of the currency of Canada, although told in a gossipy or colloquial way, is so interesting to numismatists that I have thought it well to give it in full in *The Numismatist*:

## Canadian Mintage And Cash Circulation by John MacTaggart

The money in circulation is chiefly what is called dollar bills, being provincial bank-notes and Yankee half-dollars, which are about the size of half-crown pieces; silver coins having eagles, stars, and emblems of liberty stamped upon them. British coins are very rare, and are eagerly inquired after; a sovereign is worth 24s. currency. Money matters are of a perplexing nature; a Stock Exchange broker would be baffled, for some time, to manage them properly, the exchanges and premiums vary so much. The troops are paid in army sterling, with dollars valued at 4s. 4d. — with merchants, 4s. 6d. £100 sterling is £115 7s. 8 1/4d. currency, and £100 currency is £86 1s. 4d. sterling. On a bank bill of exchange for £100 sterling, I have paid £125 12s. currency.

There are numerous of shillings in circulation, but being the mintage of all nations, few can tell the exact value of them, unless weighed as old silver, which is never done, except one has a quantity of them. Who can be bothered with weighing single shillings, as we require them for casual payment? and more than that, we cannot do it everywhere, were we willing; for where is a sensitive pair of scales to be had in every shop, with the necessary drachms for balancing the matter? and then to carry a weigh-beam about would be troublesome. While the French keep gabbling about quinze sous, and trente sous, which are perplexing to comprehend; every sort of a copper piece is an halfpenny. I have no less than 120 different kinds, the greater part of them old copper coins of Britain, and merchants' tokens all over the world. If a lot of farthings be taken into a smithery, and receive a blow from the sledge-hammer on the anvil, they will then be excellent Canadian coppers, or halfpennies. Some attention, by those who ought to give it, if any such there be, should be bestowed on the money business of Canada. In the trade of sovereigns and British coin, considerable profits are, and might be made. I am surprised to find so few regular, trading Jews in this business. Take over a bagfull of coins, and they may be disposed of to much advantage, and keep the Yankee dollars out of the market; for the very coins of a realm, like the songs, affect its character. The emblems on the current coins of Canada help to make Yankees of the Colonists. At the same time, it would be difficult to establish a Canadian mint; the Americans must coin for us there, so much the more pity. Rich men are by no means plentiful; indeed, a £20,000 man is very rare. Ladies with fortunes are, therefore, not in Canada, so fortune-hunters may seek for game nearer home. There are banks in the chief towns: rags and rag-cooks, as our doughty Cobbett has them and their bills. The American system of banking is indeed curious. Whenever a canal, road, bridge, &c., or other large work is going on, a bank is started beside it; not a branch bank of some large establishment, as in Britain, but a bank purely for the business of that work alone, whatever it may be—as the Erie Canal Bank. In these dens of knavery, contractors can so manage their labourers and artists with flash credit, that payment in full can never be effected; and the contractors themselves are so led by the nose, by the agents of the work, and the bankers, that they are often cheated of large amounts; but there are few complaints heard, not a murmur will come from the lips of Jonathan. It is a truth that their public works are constructed without any one knowing who paid for them, and therefore they are public works indeed, and may well be exempted from tolls and taxes. A regular set of rogues employed together is a scene worthy the contemplation of a mannerist.

An American contractor on the Rideau Canal paid a visit to the States, and returned with a budget of Auburn bills, seemingly banknotes; these he flashed about everywhere, and some of the unknowing were a little deluded. He also brought with him a sleigh and span of horses, not to be matched in the country for elegance. While eating our bread and onions at dinner one day, he drove up to the humble cottage, and requested me to take a drive with him. Away we went delightfully, for the sleighing was fine, and pulled up at the Columbian Hotel, en passant, where we jumped out to taste a little of something, but more evidently with the intent of showing off. While cutting an important swell through the halls of the hotel, before a number of people, he pulled out a bunch of Auburn bills, and, without my paying much attention, pushed them into my hands, saying, "Take these, Mac, my boy: I guess you'll never want money while one of them here bills is in your pocket." "No, no, my good fellow," I replied, returning them to him; "that big dam you are building must not have been a blind gauger." He took the hint, the story took wing, and I afterwards met it in various parts of the country. America is not a laughing nation; a hearty laugh is not to be heard, except amongst the Canadians; the crafty, chatty laugh is frequent. The tears of laughter never bedewed the Yankee's cheek; they are too full of plots for giving way to this, and "the loud laugh that bespeaks the vacant mind," as the poet says. However, the Auburn bills created some fun in the wilderness of Rideau. All the laborers on the canal were paid in Yankee half-dollars; the commissariat furnished these to the contractors, brought up in boxes from Montreal. It was curious enough to see the contractors crawling through the woods with their dollar-bags on their backs. Poor fellows! The trouble Government found in making ready cash payments involved many of them in great distress.

The vouchers required so many signatures that they were difficult to be obtained, as one officer was here, and another there, over the whole extent of the line; but this difficulty is unknown where the work and the, officers are at one place. Had the contractors been people who had had plenty of money of their own, then the Government might have taken its own time to pay then for work performed; but being poor, the case was different, and much distress arose from this cause. Sometimes the whole of the necessary officers, clerks, &c., forming a moveable Somerset House, as it were, would go through the line, and make payments according to progress and measurements; but this plan, again, was attended with much expense. In other large works, not conducted by the Government, an agent is deputed to pay the money, so that distress arising from the procuring of signatures is avoided.—This voucher-hunting business, as we called it, did much injury to the character of all persons connected with the public works, and to the canal itself. We were blamed because ready payments, according to the system of accounts, could not be made, and for the works being neglected by the contractors hunting up and down in quest of names, that they might have the military chest opened by producing the required documents, and the money drawn out. Government requires so many checks, that her very securities become bewildering; and accounts, which at first are simplicity itself, become filled with various perplexities. We managed, however, to keep them correct.

## COMING EVENTS FOR SPRING AND SUMMER 2016

**Apr. 22 – 23, Toronto,** Toronto Coin Expo, Toronto Reference Library, 789 Yonge St., 2nd Floor. Hours: Fri. and Sat. 10 a.m. to 5 p.m. Admission \$6, under 16 free. *This is a great venue in Canada to buy, sell & trade. Appraisals with internationally renowned dealers in coins, banknotes, tokens, medals, militaria, gold, silver and jewellery.* Partnering with Geoffrey Bell Auctions; auction April 21-22. Contact Jared Stapleton, email [torontocoinexpo@gmail.com](mailto:torontocoinexpo@gmail.com), telephone 647-403-7334. Website: <http://www.torontocoinexpo.ca>

**Apr. 24, Brampton,** Rotary Club of Brampton Coin and Trading Card Show, Century Gardens Recreation Centre, 340 Vodden Rd. E. Hours: 9 a.m. to 4:30 p.m. Admission is \$3, under 14 free and free parking. *Buy, sell, trade and appraise at more than 40 tables of dealers, including a Children's table. Funds raised for Children's Charities.* For more information contact B&W Coins & Tokens c/o Willard Burton, email [willardb@bwcoin.com](mailto:willardb@bwcoin.com), telephone 905-450-2870.

**Apr. 24, Pickering,** Ajax Pickering Stamp Club Stamp & Coin Show, Pickering Recreation Center, 1867 Valley Farm Road 36th annual stamp & coin show. Hours: 9.30 a.m. to 3.30 p.m. *Free admission, free parking. Club & youth tables. Food available.* For more information contact Bill Bottan, email [billandbernice@sympatico.ca](mailto:billandbernice@sympatico.ca), telephone 905-668-6185.

**Apr. 30, Timmins,** Timmins Coin and Stamp Show, McIntyre Community Centre, 85 McIntyre Road downstairs in the Lion's Den. Hours 10 a.m. to 4 p.m. The Timmins Coin Club, and the Timmins Stamp Club, are proud to jointly host their third annual show. *This is Ontario's most northern annual coin show and is well attended by collectors around Northeast Ontario. It features several dealers,*

*silent auctions, exhibit, club tables and door prizes. Need collecting supplies, Canadian and world coins, banknotes, trade dollars, tokens and Canadian and World stamps?* Free admission & parking. For more information, email [nifinder@hotmail.com](mailto:nifinder@hotmail.com), telephone 705-288-3277.

**May 1, Windsor,** Windsor Coin Club Spring Show, The Caboto Club, 2175 Parent Ave Hours: 10 a.m. to 4 p.m. Admission is \$1, children under 16 are free when accompanied by an adult. *Plenty of free parking.* Website: <http://windsorcoinclub.com>

**May 7, Guelph,** Guelph Spring Coin Show, Colonel John McCrae Legion Branch 234, 57 Watson Parkway South Hours: 9 a.m. to 3p.m. Admission \$3, under 16 free. *Free level parking, fully accessible. Legendary lunch counter, free draw for gold coin.. Coins, banknotes, tokens, Canadian Tire money, medals, books and supplies at more than 35 dealer tables. Featuring some of Canada's top numismatic dealers. Club-sponsored Kid's Table for under 14; buy, sell, trade or evaluate.* For more information contact Mike Hollingshead, email [cholling@uoguelph.ca](mailto:cholling@uoguelph.ca), telephone 519-823-2646. Website: [www.southwellingtoncoinsociety.com](http://www.southwellingtoncoinsociety.com)

**May 13 - 15, Mississauga,** National Postage Stamp and Coin Show, The International Centre, 6900 Airport Road Show times: Fri. 11 a.m. to 6 p.m.; Sat. 10 a.m. to 5 p.m.; Sun. 10 a.m. to 3 p.m. Admission only \$3 on Friday and Saturday, Free on Sunday. *Canadian Coin News and Canadian Stamp News is pleased to present its first National Postage Stamp and Coin Show featuring dealers from across Canada and abroad, both buying and selling. Free parking.* Dealer inquiries: [info@trajan.ca](mailto:info@trajan.ca). For more information contact Mike Walsh, email [info@trajan.ca](mailto:info@trajan.ca), telephone 1-800-408-0352. Website: <http://www.canadiancoinnews.ca>

**May 28, North York,** North York Coin Club Annual Coin Show, Edithvale Community Centre, 131 Finch Ave. W. Hours: 9 a.m. to 3 p.m. *Free admission, free parking, all sorts of collectibles and featuring coins, paper money, tokens, etc.* For more information contact Paul Petch, email [coinshow@northyorkcoinclub.com](mailto:coinshow@northyorkcoinclub.com), telephone 416-303-4417. Website: [www.northyorkcoinclub.com](http://www.northyorkcoinclub.com)

**June 4, Kingston,** Kingston Coin / Stamp / Militaria Collectors Show, Military Communications and Electronics Museum, 95 Craftsman Blvd. Hours: 9 a.m. to 4 p.m. *Free admission and parking. Come buy, sell, trade and learn. While you are there enjoy the museum.* For more information contact Sandy Lipin, email [sandylipin@gmail.com](mailto:sandylipin@gmail.com), telephone 613-542-6923.

**June 12, Brantford,** Brantford 55th Annual Coin Show, Branlyn Community Centre/School, 238 Brantwood Park Road. Hours: 9 a.m. to 3 p.m. *Free admission, free parking. Over 80 dealer tables. Free evaluations. Breakfast and lunch available from outdoor food truck. Kid's table for those under 18. Wheelchair accessible.* For more information contact Cassidy Stroud, email [brantfordcoinclub@hotmail.com](mailto:brantfordcoinclub@hotmail.com), telephone 519-427-6158.

**June 25 – 26, Toronto,** TOREX – Canada's National Coin Show, Hyatt Regency Toronto on King, 370 King St. W. Featuring Canada's finest dealers in Canadian, ancient, and foreign coins, paper money, coin and paper money supplies and reference books. TOREX, Canada's longest running collectors' show (since 1962), is the best place to buy, sell, trade and evaluate your coins! For more information contact Brian Smith, email [brian@torex.net](mailto:brian@torex.net), telephone 416-705-5348. Website: <http://www.torex.net>

**July 19 – 24, Ottawa,** 2016 Ottawa RCNA Convention, Delta Ottawa City Centre, 101 Lyon Street North (between Queen St and Albert St) hosted by the Ottawa Numismatic Society [www.ons-sno.ca](http://www.ons-sno.ca). The annual convention will feature a number of events including a show and bourse, auction by Geoffrey Bell Auctions, seminars, meetings, sight-seeing tours etc. Convention hotel rooms are going fast. For more information contact Paul Johnson, email [info@rcna.ca](mailto:info@rcna.ca), telephone 647-401-4014 or for Program of Events details or on line registration visit the RCNA Website: <http://www.rcna.ca/2016>

*Listings are courtesy of Canadian Coin News Coming Events*