



ONTARIO NUMISMATIST

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EDITOR'S MESSAGE

I am pleased to advise that this is another issue chock-full of articles. Most deal with numismatics of Ontario and/or are written by ONA members.

However, we have also included a few articles going beyond Ontario that were judged as being "interesting" by a few ONA members that the articles were shown to.

The CNA held a very successful one-day seminar at Humber College recently. Twenty-nine students signed up to hear the 7 instructors do their stuff. We were pleased to see a number of ONA members there as instructors (Brian Cornwell, Paul Petch, Chris Boyer, Scott Douglas, John Regitko), moderator (Paul Johnson) and students (including ONA area director Tom Rogers and YN Thomas Machaj, among many others).

The neighbor on one side of me passes the National Enquirer to the neighbor on the other side of me. Lately, the second neighbor has been in the habit of passing it on to us.

I recall many times looking at the headlines while waiting in the check-out line at the supermarket, reading about the Martian space-ships being observed heading straight for earth. I don't ever recall reading that they have landed.

Now that I have free access to the National Enquirer, I will be able to read when the Martians have finally landed (you would think that with their apparent technology to travel great distances through space, that they would have landed long before now). I would then be able to see if any published interviews reveal the type of money they are using. If not, I commit to interview the Martians personally and report back to you.

Chocolate bars were a form of money during World War II here on earth. Would it be strange for me to suggest that Martian money is...Mars Bars?

Continued on next page...

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MEMBERSHIP FEES

Regular Membership - \$15 per year
Husband & Wife (1 Journal) - \$17 year
Junior (up to age 18) - \$5 year
Club Membership - \$20 year
Life Membership - \$450
(Life Memberships are accepted only
after one year of regular membership)

Send Membership Applications (with cheque
payable to the ONA) to the ONA Treasurer.

Now that renewal time is upon us, I note that the membership application form of a number of clubs includes the statement "I have never been expelled from a club."

It is interesting to note that a convicted burglar, con artist, bank robber or murderer is not singled out and, we can only assume, are therefore okay for acceptance into membership since it makes no reference to any of these occupations. But heaven help you if you lie about your expulsion from another coin club!

In December, expect to receive a bonus bulletin detailing the rich 40-year history of the ONA. The way it is going, it's going to be at least 70 pages.

Happy collecting!

John Regitko
ONA Editor

RENEWAL TIME IS HERE!

If you wish to continue to receive the award-winning
Ontario Numismatist, renew your ONA membership now.
See the renewal membership application form enclosed.

DO IT NOW!

Mark your calendar now!

ONA 2003 CONVENTION

April 12 - 13, 2003

In Beautiful Downtown Guelph, Ontario

General Chairman: Mike Hollingshead

Treasurer: Bruce Raszmann

Publicity Chairman to the Numismatic Press: John Regitko

Dealers: If you have not signed up yet for your bourse table, contact the
Bourse Chairman: Ken Wilmot, P.O. Box 76, Sebringville, ON N0K 1X0

MEMBERSHIP REPORT

WELCOME



The applications for membership which appeared in the last issue of the ONA Numismatist have been accepted. We welcome James Armstrong, Frank Ditner, James Williston, Daniel Gosling and Michael Turrini.

NEW APPLICATIONS

The new applications for membership received, which will apply to the calendar year 2003, will be published in the January issue.

Bruce Raszmann
Membership Chairman

C L U B S E R V I C E S R E P O R T



We are pleased to summarize some of the VCR tape videos that are available from the ONA Audio Visual Lending Library. VCR tapes can be borrowed by any ONA member or ONA member-club free of charge. The material is normally sent via Canada Post, however, because of its bulkiness, it will not fit through a regular mail slot. Someone should be there during normal delivery times to accept it, therefore, a post office box or a commercial service such as a Mail Boxes Etc. location is ideal. The only cost involved to the borrower is postage in both directions. Contact Ken Koch, ONA Audio Visual Lending Librarian, 310 Queen St. South, Suite 311, Kitchener, On. N2G 1K2, or via e-mail at kenkoch@sympatico.ca.

“SPECIALTY COLLECTING” VCR TAPES AVAILABLE FROM THE ONA

Note that we have not included videos in this listing dealing with error coinage which was featured in a previous write-up involving the production process.

“COLLECTING CREDIT CARDS” (#V-26; Produced by ANA; 45 minutes)

This video shows the earliest form of credit in the U.S., charge cards often referred to as credit tokens, and charge-a-plates. Unusual credit cards are shown, covering the development from paper and cardboard cards with punched computer slots to plastic cards, and current cards with holograms and magnetic strips. Hotel, department store, Playboy Club, gasoline company and car rental credit cards are covered. Cards from Canada, the U.S., England, Australia, Japan and Thailand are shown.

There are many Canadian connections. We find out that the speaker, Ken Hallenbeck, purchased Jack Veffers' collection of 750 credit cards, while credit cards belonging to ONA member William H. McDonald, the late Al Bliman and the late Lloyd Carney are also featured. Even J. Douglas Ferguson's Playboy Key credit card is shown.

“PHONE CARD COLLECTING IN AMERICA” (#V-25; Produced by Long Beach Coin Exposition; 34 minutes)

Learn about one of the former fastest growing areas of collecting in the world from Murray Church, publisher of “Money Card Collector” magazine. Mr. Church was formerly Vice-President of Communications at the Royal Canadian Mint, Ottawa, before moving to Sidney, Ohio to take charge of “Money Card Collector” magazine for Sidney Press, the same people that own Coin World.

Find out about the history of these cards, what is involved in acquiring these mediums of exchange and which ones are most collectible.

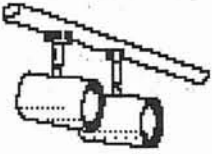
The only problem with this video is that we actually do not get to see too many phone cards. Rather, he talks about what makes a popular card (i.e. Disney and comic book characters), the aftermarket and what the manufacturer should do to assure good distribution. It is quite informative.

“MAKING ANCIENT COIN COLLECTING FUN” (#V-32; Produced by ANA; 33 minutes)

An ex-history teacher, Bob Robbins, tells the story of ancient times through coins with plenty of anecdotes about the famous personalities that appear on a number of well-known ancient coins.

This lecture is both educational and entertaining, and is designed for both the beginning collector as well as the experienced collector. Because of the light-hearted presentation, no one will get bored with heavy detail, just interesting tidbits of history such as who built the Coliseum or who invented the toilet.

We find out about the necessity of analyzing the weight, fabric and style of a coin, including research in reference books, to determine the dates on ancient coins. You will learn that an Emperor's title is renewed annually, that important victories and events are included in the wording of legend of the coin and the inclusion of the year of councilship allow us to date coins, even down to the exact month of issue.



SPOTLIGHT ON BUSINESS CARDS

ONA PRESIDENT HAS UNIQUE BUSINESS CARD

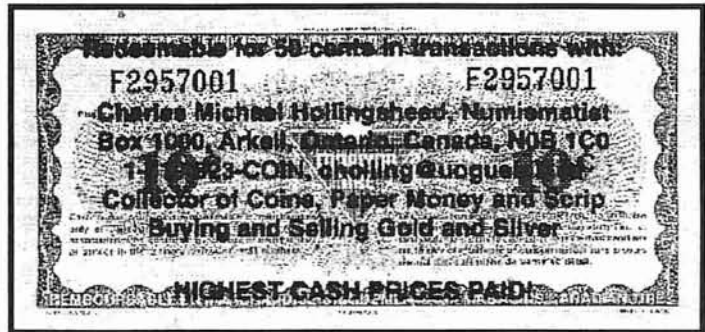
by John Regitko



A number of collectors have created their own numismatic collectibles. For example, the wooden money collectors arrange to strike wooden tokens commemorating birthdays or anniversaries, or to wish people a Merry Christmas or Hanukah. By the same token (no pun intended), token collectors issue similar well-wishes except in metallic form.

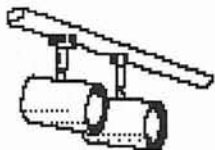
Beyond these personal commemoratives or token of well-wishes, another group of numismatic collectibles exist in the form of business cards. These promote the collector's or dealer's interests. Wooden nickel collectors have issued their own because they are reasonably inexpensive. Token collectors have issued their own metallic tokens, even though the cost of dies is considerably higher than the dies required for wooden tokens.

Jerry Remick has issued a number of different tokens over the years not only commemorating CNA Conventions, Christmas or other major events, but also as a "business card." CNA President, Tom Kennedy, issued a token a number of years ago promoting the fact that he collects numismatics of Canada. Likewise, Rick Craig and Ted Boxall have issued metallic tokens promoting their collecting specialties. All 4 examples are illustrated above.



Mike Hollingshead, ONA President, has taken his favorite collectible, namely Canadian Tire Money, and turned it into a promotional business card.

He took various denominations of Canadian Tire Coupons and over stamped both the face and the back as illustrated above. He actually took a quantity of regular CTC coupons to a local printer and had them overprint the face with "SEE REVERSE" as well as x-ing out the denomination in the four corners. The back was imprinted with his name and contact information as well as what he is interested in acquiring. The promotional sentence of "HIGHEST CASH PRICES PAID!" is also included, as is the fact that these coupons are redeemable for 50 cents.



S P O T L I G H T O N
 T R A N S P O R T A T I O N
 T O K E N S O F T O R O N T O

ERROR TOKENS OF THE TORONTO TRANSIT COMMISSION

By John Regitko, ONA member #LM083

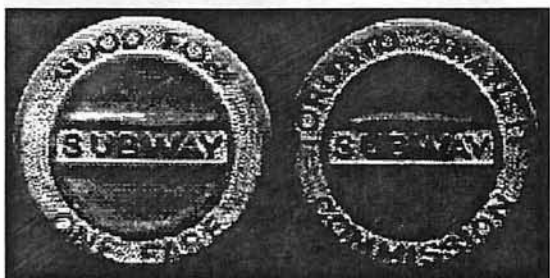
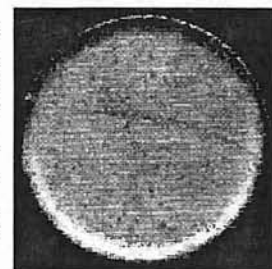
Over my 41 years of collecting, my specialties have been the collecting of virtually anything odd such as emergency monies, replicas, political satire notes and errors produced by the Royal Canadian Mint.

As a side line to my unusual interests, I managed to find or acquire a number of error transportation tokens issued by the Toronto Transit Commission. I am pleased to provide a simple explanation of how these errors occurred. Note that the explanations could just as easily apply to similar coin errors struck at the Royal Canadian Mint in Ottawa or Winnipeg, at the U.S. Mints or virtually any other mint, both private and government-run, anywhere in the world.



Blanks are manufactured exactly the same way as they are for coins struck at the Royal Canadian Mint (RCM). Round disks are “punched out” of strips of metal of the required thickness and metal, so that they come out looking like a slug (illustrated at left).

These pieces are then processed through a machine that “turns up” the rim to give it a high border (right) that, once it is struck, will enable it to be stacked...unlike the U.S. Jefferson 5 cent pieces.

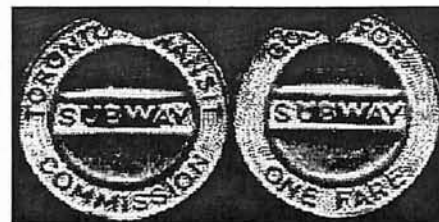


If a token that does not have the rim upturned, should accidentally get mixed in with the ones that do and it gets struck, it produced a somewhat funny-looking token. Because there is only so much pressure as the dies come together onto the blank and, therefore, there can only be so much flow of metal, the metal does not get “squished” sufficiently into the outer (collar) die. The end result is a token that appears to have some of the metal filed off around the outside on both sides of the token (left).



Sometimes the strip of metal does not advance the full amount for the subsequent punching out of blanks. Therefore, it overlaps a portion of a previously punched-out section of the strip and produces an incomplete blank called a curved clip (left).

Although most of these imperfect blanks are spotted in the quality-control checks, a few do get released into circulation.



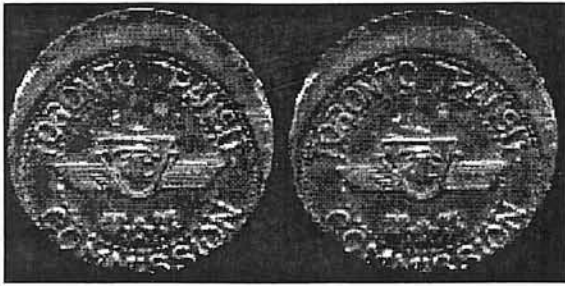
I am quite fortunate in also having a few of the bronze and aluminum subway tokens with curved clips in my collection (above left, and right).



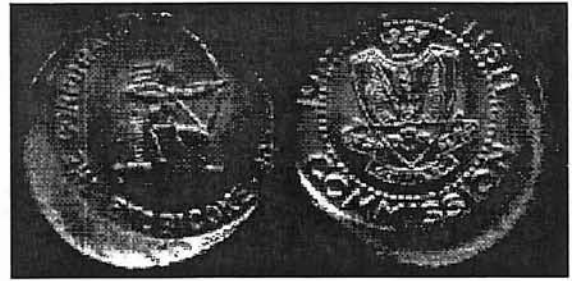
As well, my collection includes another clip that is known as an elliptical clip (left). The nicest clip in my collection is a major elliptical clip (right).

Elliptical clips occur the same way as curved clips above, except that the cookie cutter clips a previously cut out blank that did not drop into the hopper before the cookie cutter cuts a piece off it.

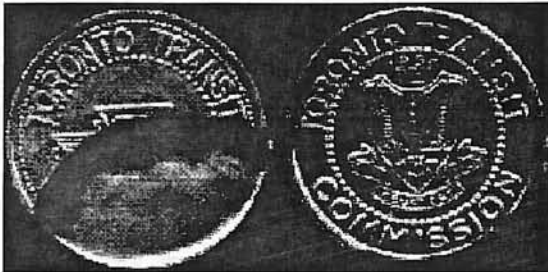




Instead of being struck on centre, a token can be struck when it is located off-center between the upper and lower dies (left). My collection also boasts a scarcer off-center issues to commemorate the Etobicoke extension of the Bloor Subway (right).



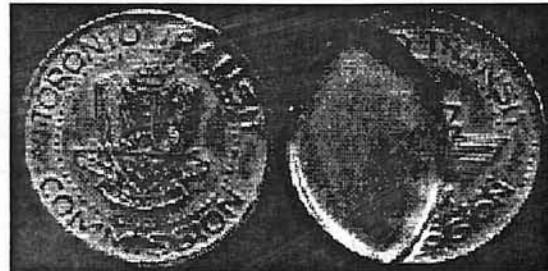
My collection also boasts both brass (above left) and aluminum (above right) tokens with partial brockages.



When a blank token enters the striking chamber of the minting press and another blank overlaps it, the result is called a partial brockage overlapped by a blank planchet.



My collection boasts both brass (above left) and aluminum (above right) tokens with partial brockages.



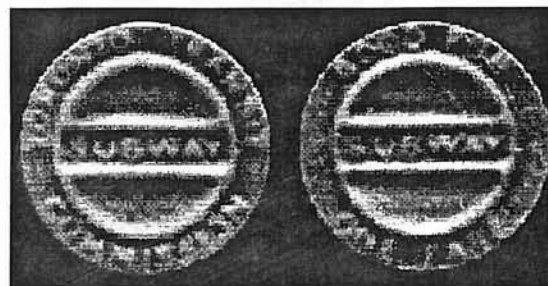
I feel indeed fortunate that I have been able to acquire a number of these beautiful errors over the years, including another piece that was about 60% overlapped by another blank (left).



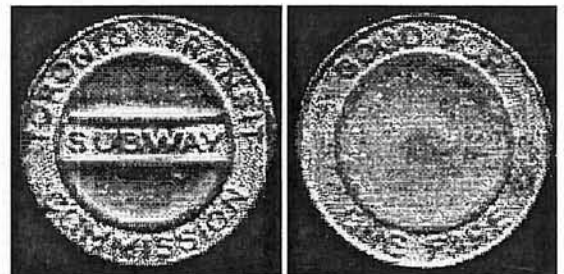
Close-up of the partial brockage section of a short-use May 1968 Borough of Scarborough subway token, overlapped by a previously struck token.

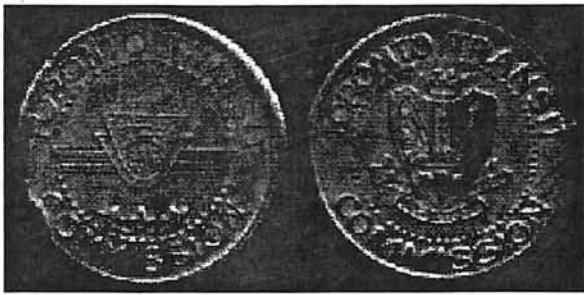
If a blank being struck in the press is overlapped by an already struck token, it is called a partial brockage overlapped by an already struck planchet (above).

If the wrong planchet can get fed into the minting press or the wrong blank is used as a set-up piece to test the dies, you could wind up with a token struck on a blank intended for another issue of tokens (left).



Grease and rags are used with minting presses. It would not be impossible to have some impurity wind up on top of the blank when it is being struck. The result would be a weak strike, usually on one side only, with a normal, solid strike on the other side (right).





After a die has been used for a considerable period of time, pounding thousands and thousands of times against metal blanks, there is a possibility that a piece of the die could chip off. When a blank is struck with this broken die, there is no pressure on the blank at that point and nothing to keep the metal from being squeezed out. This defect is called a



CUD by error collectors (above). (I have seen coins that were struck with the beginnings of a piece of the die starting to break off, and by viewing enough of the coins out of a bag, one could see the progressive deterioration of the die until the piece of die finally broke off. Before the piece of die breaks off, the result is called a die crack or die break. However, after the piece of the die is broken off, it becomes known as a CUD.)

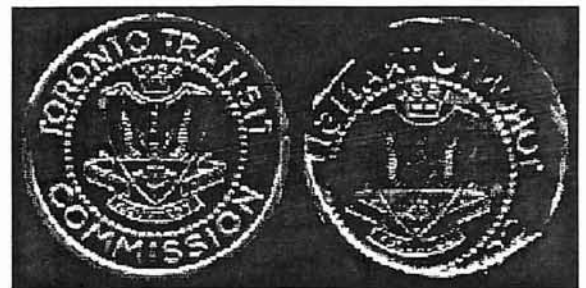
The close-up at right shows the same token that was struck with a die that had pieces broken off near the rim. CUD errors are extremely rare, especially those that can readily be seen with the naked eye since the minting press operator can usually spot a repetitive problem like this.

Sometimes, after a blank is struck, instead of the now-struck piece being ejected, it attaches itself to the upper die. Remember, with the force of the upper and lower dies striking the blank under many tons of pressure, the heat and flow of metal could force the metal of the now struck token to tightly flow into the incused design of the upper die and stick to it. When a new blank is inserted into the collar die and the upper and lower dies come together again, instead of the upper die striking the new blank, the token that is attached to the upper die is now acting as the upper die (the side that is exposed is the design that was struck on it previously from the BOTTOM die). When the top token (acting as the upper die) strikes the new blank, the design that is actually the normal bottom design is impressed on the blank. Since the exposed "die" is normal (as opposed to a reverse image as would be on the die itself), the new token will have the design struck in it incused. The letter and design is, therefore, reversed and incused.



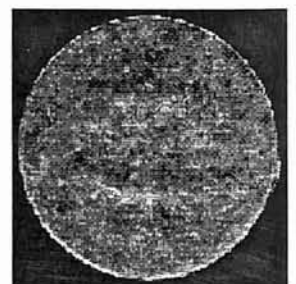
The result of the above scenario is a perfectly struck upper side on the piece that was stuck to the upper die (far left) and a slightly squished bottom design (near left) due to it hitting new blanks entering the striking chamber. (The reason this piece is not perfectly round is that the blank is an elliptical clip blank.)

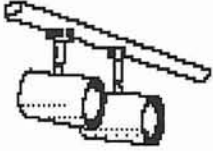
The bottom of a new blank will be struck normally by the bottom die (near right). However, the top of the new blank will have been struck by the previously struck token and, therefore, have all its design incused into the metal (far right). Obviously, this piece was one of, if not the first token struck by the token acting as the upper die, because the incused design is so sharp and clear and not squished out.



To find one or the other of the above two pieces might be extremely unusual, but to have both pieces in the hands of one collector is what makes it infinitely much scarcer. And here is another bonus: when you press the two pieces together, it is a perfect fit, so much so that for about 75% around the rim, you would swear that it is one piece thanks to the flow of metal. The joint of the two pieces can only be seen over the remaining 25%. It is one of the best errors that I have ever owned!

If the upper token continues to strike new blanks, it will get flattened more and more with each subsequent strike. After a while, the upper die will have its design all squished and strike pieces that will look like the example at right: all flattened.





SPOTLIGHT ON THE NOTES OF THE CITY OF TORONTO

by W.H. McDonald, ONA member #1388

We wish to thank Bill McDonald, a former President of the Canadian Paper Money Society (CPMS) and the International Bank Note Society (IBNS), for this informative article on the notes of the City of Toronto, including the history of the formation of the City itself. Our appreciation also to the late Jack McBride for supplying the artwork for the illustrations, thanks to the printing facilities of Pioneer Village, for the City of Toronto notes as used in this article. This article first appeared in the bulletin of the Toronto Coin Club.

INTRODUCTION

The origin of great capital cities is unusual and as varied as the cities themselves; the beginning of the City of Toronto must be amongst the most unusual. Who could have foreseen how a city, that is now in excess of 2 million people, would develop from the rather mundane beginning on July 20, 1793, when 100 men of the Queen's Rangers crossed Lake Ontario from Niagara-on-the-Lake and went into camp on the shore somewhere near the southern end of Bathurst Street. With them, they brought a special two-room tent or canvas house which Lieutenant-Governor Simcoe had purchased from the estate of Captain Cook, the world explorer. This tent was duly made ready for the arrival of Mrs. Simcoe on the schooner Mississauga a few days later and shortly became the first residence of the Provincial Lieutenant-Governor. Thus, began the capital of Upper Canada and later Ontario.

Life was hard and facilities primitive in the new settlement to an extent difficult to conceive in this day and age. For instance, on September 1st, 1793, the Honorable Peter Russell, Receiver-General, wrote to his sister at Niagara as follows "the Governor and Mrs. Simcoe received me very graciously, but you can have no conception of the misery in which they live; the canvas house being their only residence; in one room of which they lay and see company, and in the other end, the nurse, children squalling, etc. An open bower covers us at dinner, and a tent with a small table and three chairs serves us as a Council room. The town occupies a flat about 50 yards from the water. The situation, I believe, is healthy as the ground is perfectly dry and consists for the present of 4 ranges of squares, each court containing 5 squares, and each square 2 rows of houses, 4 in each row. When this plan is to be carried into execution, the Lord only knows, for no attempt has been made yet by any intended inhabitants except Mr. Robinson, who is making preparations."

York, as the new capital was to be called, by special decree dated August 26, 1793 in honor of the British victory over the French in Holland, was thus established. But what were the circumstances under which, rather precipitously, a new community was to be carved out of the wilderness. Such circumstances form a very important chapter of early Canadian history and can only be touched upon briefly in this article.

The Act of 1790-91 known as the Constitutional Act, gave Canada representative institutions and recognized the two different dominant races, placing them in separate regions under laws, customs and cultures which each desired. However, while the two provinces were separated with respect to administration, their financial affairs were more or less fused together and other matters of common concern such as transportation, defense, etc. were also jointly provided for. The first Lieutenant-Governor of Upper Canada was John Graves Simcoe, who was the retired Commander of the Queen's Rangers. He reached Kingston in the summer of 1792 and came on to Niagara-on-the-Lake, the temporary capital of the Province, the next spring.

He was most concerned that the new Province be established on a sound economic basis and proposed to form a type of industrial army, independent from the troops of the line. This corps was to be employed in the construction of public works which he knew would be needed to help establish the capital and for other similar purposes.

Governor Simcoe understood clearly that if the new Province was to prosper, sufficient capital would be needed and immigration would have to be encouraged. There seems little doubt that he had firm views on the responsibilities of his office and the primitiveness of his early surroundings in no way reflects a lack of sophistication to his approach to these responsibilities.

Governor Simcoe's choice of the Toronto location for the new capital was not without some forethought. The location had been well-known for some time and indeed appears to have been the site of French forts and posts as early as 1720, when Sieur Douville built the first post. In 1749, Fort Rouille was established under the direction of Governor Le Comte de la Galissonniere. In 1750, the Chevalier de Portneuf increased substantially the size and fortification of Fort Rouille. At this time, it consisted of a double oak stockade with quarters for a military guard from 12 to 15 men, a house for the storekeeper, a warehouse and a bakery. However, in the troubles of 1759 when Fort Niagara was threatened by the English, Fort Rouille was evacuated and burned and the personnel withdrawn to Fort Niagara.

Even before the French came, Toronto was the site of an Iroquois village named Teiaiagon. The origin of the word Toronto is uncertain, although it clearly is of Indian origin. The name first appeared in the form Tarantou in Nicholas Sanson's map of 1656 and was applied to the Lake Simcoe region at the northern end of the "Tarantou portage," which was the route up the Humber River to Lake Simcoe. Later, the designation applied to the mouth of the Humber which lies immediately to the west of the City of Toronto proper. This point was the natural entrance to the Huron country during the period of French rule in Canada. By 1690, the Iroquois had been replaced by the Mississauga and Toronto became a centre of the fur trade. It then became possible for the French to build near the "Toronto portage," as indicated.

Growth of the fledging capital of York was rapid. Simcoe, as mentioned earlier, recognized the two pressing needs of the Province - people and capital. The country could not be maintained as a political entity without people and the resources of the country could not be exploited without men and money. Although growth was steady in the next few years, life in the new town in a young colony was not easy and much of the population was poor and in a dispirited state. However, wages were high, notwithstanding that public as well as private capital was scarce. An interesting facet of early life was in the character of the coins extant. They were not plentiful even though there was considerable variety and exchange in kind was common. Under 236 Geo. III, c.1 (1796), (Provincial Parliament of Upper Canada), the British guinea, the Portuguese johannes and moidore and the American eagle were legal tender in gold, and the French pieces of 4 livres, 10 sois, of 36 sols and of 24 sois Tournois and the American dollar were legal tender in silver.

By 1819, the population of York had grown to 1200 exclusive of the military establishment and while there were only three brick houses in the town, it was growing and consisted of all the essentials for life in early Canada, including the first St. James Church, dockyards, mills, marketplaces and similar facilities. Settlement of the rest of the Province was keeping apace; at Port Talbot on Lake Erie, a major settlement was underway, all along Lake Ontario small settlements were springing up and while such colonization was unorganized, it nevertheless, laid the ground work for much of the growth which was to follow. Commercial activity was increasing as well and a greater need for capital resulted by the early 1820s in the establishment of the first Canadian Bank.

CITY OF TORONTO NOTES



The Town of York had become the City of Toronto in 1834 and by 1837, had a population of almost 11,000. There was a great need for capital to finance the building of roads, the laying of sewers and other improvements. One of the methods adopted to raise such capital was the issuing of paper money. One dollar or 5 shilling notes (illustrated on previous page) were issued in 1837, 1849 and 1851.



Two dollar or 10 shilling notes (illustrated above) were issued in 1837, 1843, 1845, 1848 and 1851. Four dollar or 20 shilling notes (illustrated below) were issued in 1849 and 1850.



On March 23, 1848, the value of notes outstanding was £14,592 and the Finance Committee recommended the issue of £13,500 more. By 1851, the Chamberlain reported notes outstanding of £19,632 and notes redeemed of £14,403. Apparently, the notes issued had exceeded the statutory limit set in 1848 by £5,945. Thereafter, the balance of the notes were redeemed and the City followed the policy of selling debentures to meet capital outlays and setting up a sinking fund to retire them at maturity.

CONCLUSION

When we look at Toronto today and relate it to Toronto of approximately 105 years ago when the first paper money of the first bank was put into circulation, it is tempting to think of what will happen in the next 150 years. There can be little doubt that the paper money which will be in use then will not bear much resemblance to that in existence today.

(Editor's comment: William McDonald is a Past-President of the Canadian Paper Money Society (CPMS). We have praised the quality and content of their publications on previous occasions. If ONA members would like additional information about the benefits of belonging to CPMS and their membership fees, they can be reached at P.O. Box 562, Pickering, Ont. L1V 2R7 or via e-mail at cpms@idirect.com, or go to www.nunetcan.net and click on CPMS.

CLUB SERVICES REPORT



We are pleased to summarize some a few more VCR tape videos that are available from the ONA Audio Visual Lending Library. VCR tapes can be borrowed by any ONA member or ONA member-club free of charge. The only cost involved to the borrower is postage in both directions. Contact Ken Koch, ONA Audio Visual Lending Librarian, 310 Queen St. South, Suite 311, Kitchener, On. N2G 1K2 or via e-mail at kenkoch@sympatico.ca.

We expect to publish information about a number of new VCR tape releases shortly. They will be incorporated in a booklet listing all VCR tapes from the ONA audio visual lending library. The booklet will be distributed to all coin clubs throughout Ontario as soon as it is printed.

“ODD & CURIOUS” VCR TAPES AVAILABLE FROM THE ONA

“GERMAN INFLATION - 1919-1923” (#V-21; Produced by Long Beach Numismatic Expo; 37 min.)

The Treaty of Versailles after World War I was a disaster for Germany. The war reparations it was forced to pay were unreasonable and contributed to the extraordinary hyperinflation that occurred from 1919 to 1923. In this video, you will see examples of German money prior to the inflation, bank notes that filled a wheelbarrow just to buy a loaf of bread, how notes were overprinted as they were devalued and how merchants were forced to improvise to stay in business. Examples of coins made from leather, coal, and other strange materials are shown. You will see denominations of currency never before seen in the world, such as Trillion Mark notes (that's one thousand billions, or a million millions). Or how about a 10,000 Mark aluminum coin?

An interesting piece of history told by the varied and unusual numismatic material.

“WORLD WAR II NUMISMATICS” (#V-20; Produced by Florida United Numismatists; 43 minutes)

This video covers a presentation given at an educational seminar at a FUN Convention.

Emergency Coinage covers the 1943 U.S. steel cent, the Canadian 1943 chromium plated steel 5¢ piece, Swedish iron coins, Japanese aluminum coins and coins struck at the London Mint for Iceland. *Occupation Coinage* covers Nazi coins made for Czechoslovakia in silver (rare), for Hungary in aluminum, for Belgium in zinc and for Denmark in iron. The U.S. struck a zinc plated steel 2 franc piece for Belgium in 1944.

Paper currency is broken down into *Overprints* (by Germany, Japan and the U.S.), *Invasion Money* (Philippines, Malaya, Netherlands East Indies and Oceania), and *Allied Military Currency* (printed by both the U.S. and Russia for use by soldiers in Germany, Austria, Japan and France, and by Germany for French West Africa). Some *Guerrilla Currency* of the Philippines was backed by the U.S. and redeemed after the war. The British 10 Pound notes counterfeited by Germany are also covered. An interesting look at a period that produced some unusual money.

“ODD & CURIOUS MONEY: PAPUA NEW GUINEA” (#V-20; Produced by ANA; 53 minutes)

Charles Opitz collected odd and curious mediums of exchange for 35 years. He has published two books on the subject. This lecture describes his first hand experiences in Papua, New Guinea involving local forms of money.

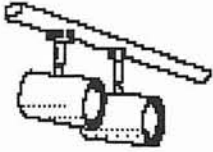
In this video, you will see and learn where odd and curious money is found in Papua, New Guinea, types of feathers and beetles used on ritual head dresses, birds of paradise that are used as money, the “money pole” used at weddings, how brides are purchased, and the use of boar's tusks and dog's teeth for necklaces. Examples of stone axes, cowrie shells, pigs teeth, turtle shells and other forms of primitive money are shown.

“THE COWRY SHELL” (#V-13; Produced by Canadian Numismatic Association; 8 minutes)

A number of years ago, Paul Johnson, CNA Education Chairman, ask John Regitko to make a presentation on Odd & Curious Monies. This presentation examines the popularity of the lowly Cowry Shell vs. other forms of “money” used over the past two thousand years. For example, money that could be used for survival such as cocoa beans, arrow heads, fish hooks and bullets are compared, as is “addictive” money such as salt, tea, tobacco and opium.

The video wonders why money that was around for 2000 years (i.e. brass rings from 1500 B.C. to 500 A.D.) would not beat out the lowly shell. We also find out that it was used virtually around the world and was the world's most valuable medium of exchange since time immemorial, being valued of 3 for a male slave.

Qualities of “good” money are discussed to convince the audience that the Cowry Shell indeed has all the right ingredients of good money.



SPOTLIGHT ON STORE COUPONS

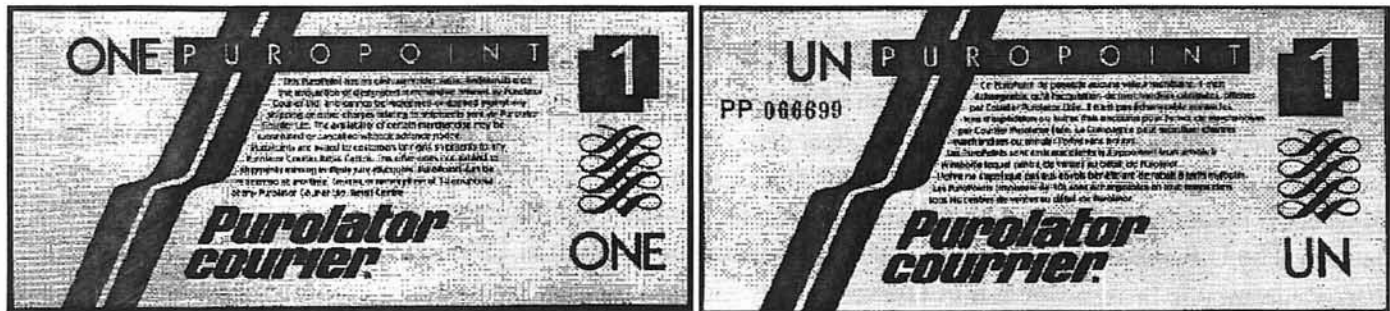
PUROLATOR'S PUROPOINT COUPONS AS GOOD AS CASH

by John Regitko, ONA member #LM083

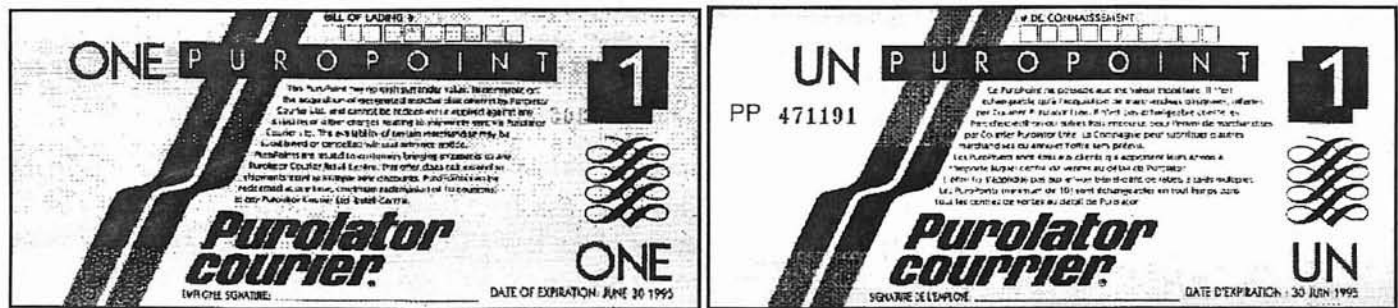
When I owned All-Comp Supplies & Services, we shipped parcels via Purolator Courier to customers anywhere in Canada. During a period in 1994 and 1995, Purolator handed out Puropoint coupons when a parcel was taken to one of their drop-off points, called retail centers. Since my office was a short block away, the small parcels were taken to their outlet in the Sheppard Centre at the corner of Yonge St. & Sheppard Ave. in North York. Purolator saved the cost of picking up the package, I gained a Puropoint.

When 10 or more Puropoint coupons were accumulated, they could be cashed in for Sears Gift Certificates in \$5, \$10, \$20, \$50 or \$100 denominations, one dollar's worth of Sears gift certificate for each Puropoint. The gift certificates you received were the identical kind that you could purchase at all Sears stores.

I have been wearing socks for the past 8 years that I obtained for free, simply for going for short walks to drop off the packages. And talk about luck. When I went to Sears with a quantity of Sears gift certificates looking for both brown and black socks, they had marked down my size from \$3.99 to \$2.99 to \$1.99 and, finally to the price I bought them for, namely 99 cents (when an item does not sell for 6 months or more, Sears has a policy of deep discounting to move inventory).



The first series of Puropoint coupons (above) were issued in 1994 without expiry dates. Even though there is no expiry date, they are no longer redeemable since the wording in fine print indicates that the merchandise can be substituted or cancelled without advance notice. They are printed in English on one side (above, left) and French on the other (above, right). They were printed on at least 4 different colours of bond paper (beige, pink, yellow and light blue). A serial number appears on the French side only. All serial numbers carry a prefix of "PP" and a 6-digit number.



The next series were handed out during the first half of 1995 and carry an expiry date of June 30, 1995. Space was allocated on both the English (above, left) and French (above, right) sides for a bill of lading number as well as an employee signature. The serial numbers all appear to be in the PP-400000-series.

BILL OF LADING #:

DE CONNAISSMENT:

COURIER
 EMPLOYEE SIGNATURE: _____ DATE OF EXPIRATION: JUNE 30 1995

COURRIER
 SIGNATURE DE L'EMPLOYÉ: _____ DATE D'EXPIRATION: 30 JUIN 1995

Close-up of English side (top left) and French side (top right) bill of lading portions and English and French employee signature and expiry date portions (left).

The third series (illustrated below) were handed out in the second half of 1995 and carry an expiry date of December 31, 1995. These are identical to the previous series, except for the expiry date. Note that it again included a place for a bill of lading number and employee signature on both sides.

BILL OF LADING #:

ONE PUROPOINT 1

This Purpoint has no cash value. Redeemable on this coupon for any goods merchandise selected by Purolator Courier Ltd. and subject to receipt of approved bill of lading or other charges relating to the goods. Purolator Courier Ltd. has no liability of return merchandise that is returned or damaged after delivery to the customer. Purolator Courier Ltd. is not responsible for any loss or damage to goods in transit. Purolator Courier Ltd. is not responsible for any loss or damage to goods in transit. Purolator Courier Ltd. is not responsible for any loss or damage to goods in transit.

Purolator courier

EMPLOYEE SIGNATURE: _____ DATE OF EXPIRATION: DECEMBER 31, 1995

DE CONNAISSMENT:

UN PUROPOINT 1

PP 757575

Ce Purpoint ne possède aucune valeur en espèces. Il est échangeable sur ce coupon pour les marchandises sélectionnées par Purolator Courier Ltd. et sous réserve de la réception d'un bon de transport ou d'autres charges relatives aux marchandises. Purolator Courier Ltd. n'est pas responsable de la restitution ou de la dégradation des marchandises après leur livraison au client. Purolator Courier Ltd. n'est pas responsable de la perte ou de l'endommagement des marchandises en transit. Purolator Courier Ltd. n'est pas responsable de la perte ou de l'endommagement des marchandises en transit. Purolator Courier Ltd. n'est pas responsable de la perte ou de l'endommagement des marchandises en transit.

Purolator courier

SIGNATURE DE L'EMPLOYÉ: _____ DATE D'EXPIRATION: 31 DÉCEMBRE 1995

COURIER
 EMPLOYEE SIGNATURE: _____ DATE OF EXPIRATION: DECEMBER 31, 1995

COURRIER
 SIGNATURE DE L'EMPLOYÉ: _____ DATE D'EXPIRATION: 31 DÉCEMBRE 1995

Since Puropoint coupons were redeemed for Sears gift certificates, they are as much a medium of exchange as the gift certificates themselves. Gift certificates are, of course, a recognized branch of numismatics since they can be used to make purchases just like you can with credit cards or cash.



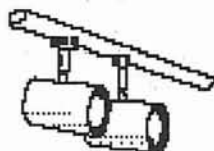
SPOTLIGHT ON
 CANADIAN
 COIN DESIGNS

A CHRISTMAS COIN DESIGN?

by John Regitko, ONA Member #LM083

First of all, can you figure out what is different between this 1964 Canadian cent and a regular cent?

Then can some of you old-timers remember what it was used for? The answer is on page 198 (back page).



SPOTLIGHT ON COUNTERFEITING

In a previous *ONA Numismatist*, we wrote about the audio visual tape that is available for loan to members and clubs about J.S.G. Boggs, entitled "The Money Man." A mini survey of members of the audience at local club meetings that were showing the program brought forth nothing but positive comments for the movie and its main character. They stated that they had found the subject interesting, Boggs himself very likable and were impressed with his chutzpah, and gave high marks to the husband-and-wife team, the Haas family, who produced, directed and edited it. Don't let the length of 60 minutes scare you from showing it at a club meeting.

We wish to thank the Studio of J.S.G. Boggs of Brandon, Florida, for providing the following write-up that delve into the life of Mr. Boggs. Other articles, including court briefs, are available on the artist's Web site: www.jsgboggs.com.

J.S.G. BOGGS - LIFE SIZE & IN COLOUR

by Sandra Smith ©Visible Language, 1995 Rhode Island School of Design, Providence, Rhode Island



J.S.G. Boggs is an artist who has consistently employed the image of money in his art since 1984, when he first accidentally "spent"⁽¹⁾ a drawing of a one dollar bill. More recently, he intentionally printed and "spent" 900 one dollar Boggs-Bills which he "paid" to the organizer of a coin collectors convention, Florida United Numismatists (F.U.N.) Inc. F.U.N. then "paid" the Boggs-Bills to staff members and to a trade journal, Bank Note Reporter, for a full-page advertisement. The madness seems to have been contagious, for Bank Note Reporter then started handing them out as "change" to people who then went out and "spent" them in the greater world of the public-at-large.⁽²⁾

To fully appreciate the meaning of such gestural performance work, and the seeming public disobedience that followed, it is necessary to review the circumstances from which it emanates.

Boggs is a fine artist working in the realm of interactive-performance art, having come to the genre not by intent, but by happenstance. The series of events, best chronicled by Lawrence Weschler,⁽³⁾ began in a cafe in Chicago on a May afternoon in 1984, when Boggs absentmindedly drew several loosely rendered visual elements on a napkin with a Bic pen.

At that time, Boggs was working on a series of paintings focusing on numbers, and the grouping of sketches executed on the napkin included four distinctly individual numeral 1s, one in each of the four corners. Geometric-abstractions combined with floral patterns formed two horizontal and two vertical bands along each edge, with a slight margin of white remaining. In his mind, Boggs recalls, "The composition became a picture frame in the landscape format. The space in the middle was empty except for a big brown coffee drop in the middle on the right hand side." Boggs remembered a friend's phone number, memorized earlier when no pen was at hand, and jotted it down just above the transparent, splash-rippled edges of the coffee drop.

Boggs recalls having thought of the coffee drop as a dark sun within the landscape format, and toyed with ideas of land formations to place beneath it. But his mind wondered and a different choice was made—a large human face in the middle. All the while, he kept twirling the point of the pen across the surface to remove the glutinous ink and fiber build-up from the pen tip, creating "little hairs all over...and a hairy ball" in the left center space. Seeing the phone number he had jotted, he wrote his friend's name, Maureen, in cursive above the lower left decorative band, and printed her address in the thin space above, just beneath the "hairy ball." Having enjoyed the relaxing, free flow of the cursive, he wrote his own name above the lower right band.

1. There is evidence that Boggs had been drawing "currency" as early as 1969. In a photograph of his bedroom, an image of his interpretation of a United States one dollar bill floats upon a wall completely covered with drawing and painting. Other photographs reveal that the entire room, all four walls, as well as the ceiling, were covered with pencil, crayon, and paint.

2. The quotes in this paragraph around words ordinarily applied to the transfer of currency indicate that such words do not have the same meaning when they are used to refer to the transfer of Boggs-Bills. Although exchanged in transactions, Boggs-Bills are never offered as the real currency of any country. For readability, such quotes will not be used hereafter.

3. Weschler, Lawrence, 1988. "Boggs' Bills." in Shapinsky's *Karma, Boggs' Bills*. San Francisco: North Point Press.

The entire sketch would probably have been consigned to duty as a bookmark, or perhaps even employed to wipe the coffee and sticky sugars from his lips, whereupon it would have been crumpled and thrown away, had it not been for the intervention of the waitress serving him.

The waitress interpreted the randomly composed elements of the drawing as a one dollar bill, and her admiration of the work led to a series of linguistic misunderstandings which resulted in a legal barter transaction wherein the drawing was proffered as settlement of a debt of ninety cents for coffee and a doughnut. Still, the unusual exchange would most probably have been recalled later only as a humorous incident, had not the waitress consummated the exact assignment of value by insisting that Boggs take a dime in change, adamantly refusing to accept the differential value as a tip.

A lingering fascination with assignment and depiction of value was born, and ultimately combined with deep concerns regarding the nature of universal and individual visual language over time. More questions arose than answers, and Boggs continued to explore the natures of both, using images of paper money as a stable reference point of departure.

Though legal issues were brought up in jest, Boggs dismissed such comedic references as little more than the monetary-art equivalent of pre-adolescent bathroom humor. Ironically, he was not the only one who wasn't laughing. Boggs was first arrested for counterfeiting, due to his drawings, in England in 1986, finally being acquitted by a jury in 1987.

Throughout 1988, Boggs traveled extensively, spending drawings throughout Europe and America without official incident. Having studied print-making under the artist Stephen Holm in Florida, he began employing print techniques to facilitate the transactions. To ensure that this expansion of his work did not create any further misunderstandings with government officials, Boggs went to Washington, D.C., for a meeting with Roy Nedrow, then director of the United States Secret Service Counterfeiting Division, to discuss the changing nature of his art.

Boggs requested the meeting without fear of misunderstanding. The United States Secret Service had been asked to prosecute co-jointly with the Bank of England in 1986 in regard to seven drawings bearing a likeness to U.S. currency bills confiscated by Scotland Yard. The Secret Service had not only declined, but ordered the drawings returned to the artist. It is important to remember these seven U.S. currency drawings, as shall be seen.

The meeting went much as he had expected, with concerns on both sides discussed openly and intelligently. The Secret Service, finding no immediate danger from either the drawings or the limited edition multiples, appraised Boggs of the swift retribution he would receive were he to succumb to the seduction of genuine counterfeiting, and assured him non-intervention as long as he resisted the ill-gotten gains of crime.

Boggs continued his work vigorously, exercising due care, but without thought of further misunderstanding, only to be arrested again in Australia in 1989. Though the Australian Dollar Boggs-Bills being spent there were predominantly printed, lawyers on three continents quickly brought the case to a close, proving for a second time that Boggs was neither a criminal, nor a con-artist. Boggs left Australia feeling that the issue of his intent had been settled once and for all. But now, exhausted from endless court appearances, he began to wonder if his faith in common sense was but wishful thinking.

Though the case was thrown out of court in Australia, with damages awarded, the United States Secret Service began raiding his various U.S. studios, residences, and museum exhibitions⁽⁴⁾ in 1990 and continued to do so in 1991, and 1992, confiscating over 1,300 paintings, drawings and prints, as well as items of personal property such as address books, matchbooks, and (this is not a joke) his boxer shorts.

More importantly, and perhaps most revealing of all, on the last raucous visit to his studio in Pittsburgh, in 1992, the Secret Service also confiscated the exact same seven drawings of U.S. currency bills that, in 1986, they had determined to be legal and ordered returned to Boggs in London. And yet the law had not changed.

Visible Language is the title of the publication you are reading, but it is visual language that is the focus of this essay. Boggs is truly speaking visually. In order to understand what is being said, visually, the context of the set of statements expressed must be understood.

4. *Catalog. 1990. smart money (HARD CURRENCY). Tampa, Florida: Tampa Museum of Art.*

The law had not changed

Thousands of pages of text have been written regarding these works of art and the case in question, and there isn't room here, nor desire, to fill page after page with legalese. The law in question has but one function, to prevent counterfeiting, and the curious wording can be simplified without loss of meaning, with one single clarification.

Sections 474 and 504 of U.S. Code, Title 18 are the relevant passages. Translated into English they state:

It is illegal to make illustrations in the "likeness and similitude"... of U.S. currency...unless they are much larger or much smaller than U.S. currency... and only rendered in "black and white."

As Boggs-Bills are the same size as the currency they refer to, and they are in color, it might appear, by the letter of the law at least, that they are illegal, no matter how inane that might be. But that excludes both the issue of "likeness and similitude" and the seemingly unmentioned issue of "intent."

What constitutes an illustration might keep academics busy for years to come, but that seems infinitely more approachable than the horrific task of arriving at a precise definition of "likeness and similitude." Thankfully, the law itself has granted a pardon from such a hellish task. As a matter of law, likeness and similitude means: that which is calculated to defraud an honest person of average intelligence and ordinary observation, exercising due care.⁽⁵⁾

Clearly, recognition of intent is there, as it is throughout almost all western law. It is improbable that one could "calculate" without it. Since Boggs puts both his name and thumb-print on each of his multiple-works, it stretches the imagination beyond even the most unreasonable limits that his intention could be construed to be fraudulent. But who is to decide?

Clearly the United States Secret Service made a determination that seven drawings bearing a "likeness" to U.S. currency were legal in 1986, only to find the very same drawings in violation of the law in 1992.

Again, the law itself saves us the aggravation of semantic imprecision. "Whether the printings are sufficiently completed or similar to genuine currency is generally a question of fact to be submitted to the jury."⁽⁶⁾

That the government has refused to allow Boggs anywhere near a jury is an interesting fact. Among the more than 1,300 items seized from Boggs at his Pittsburgh studio and his office at Carnegie Mellon University were: matchbook covers, a plastic shopping bag, magazines, video tapes, a calculator, postcards, receipts, "real" money, and the artist's underwear.

These items were not made by Boggs, but are routinely confiscated by the U.S. Secret Service as a matter of policy. That this practice is illegal would surely come to light if any challenge were brought before a jury.

The law firm of Arnold & Porter, who represents Boggs, has written thousands of pages of legal documents since 1992, at a cost of nearly \$500,000, to ensure Boggs will have his voice. The U.S. government has likely spent more than twice that amount since 1990 to still that voice. It is estimated that both amounts will double before this case is resolved, most probably before the Supreme Court.

It is a pity that the government is so illiterate in terms of visual language. Whatever might be said in all the words now written or remaining to be written on reams of paper will never speak so eloquently as this single image, expressed and contained on dollar-bill-size paper.

In 1993, a Federal judge ruled against Boggs' first plea for protection under the first and fifth amendments, and in 1994 allowed government lawyers to delay the ruling of record which would allow Boggs and his lawyers to file an appeal. Unquestionably headed for the Supreme Court, yet stuck in legal limbo, Boggs has responded with—LIFE SIZE & IN COLOUR.

As any lawyer worth salt would explain in legalese, "res ipsa loquitur"⁽⁷⁾

5. Black, Henry Campbell, Joseph R. Nolan and Jacqueline M. Nolan-Haley. 1990. *Blacks Law Dictionary*. 6th ed. St. Paul, Minnesota: West Publishing Co.

6. Devitt, Hon. Edward J., Hon. Charles B. Blackmar and Kevin F. O'Malley. 1990. *Federal Jury Practice and Instructions/Criminal*, 4th ed. Vol. 2. St. Paul, Minnesota: West Publishing Co.

7. "The thing speaks for itself."



THE MONEY MAN - A FILM REVIEW

The following review of "The Money Man" by John Hawkinson appears on Boggs' official Web site. This was written in January 1993, following the release of the movie, soon following the seizure in December 1992 of over 100 of Boggs' works of art (or counterfeits? You decide!).

by John Hawkinson, PANIX Public Access (jhawk@Panix.Com)

MONEY MAN is a documentary film about an artist, J.S.G. Boggs, who draws money. Boggs draws his "notes" (as he calls them) with the same face as regular U.S. currency with his thumbprint on the back, though with a unique device of some sort (such as a different picture or three, and his own signature). He goes around trying to sell his notes to people in exchange for services/goods/whatever. Boggs believes that his notes aren't meaningful unless a transaction is completed (i.e., the note is spent). He attempts to convince people (store clerks, restaurant managers, etc.) that his notes are works of art, and that they should be accepted in lieu of real money. In one instance, he pays for a \$90 dinner with a \$100 Boggs note and receives his change back. A few days later, a collector of Boggs' notes attempts to buy it from the restaurant manager for \$200 (unsuccessfully). Collectors of Boggs work try to obtain both the actual note he used to make a purchase, as well as the change and receipt Boggs received from the purchase, thus owning the complete transaction. Boggs himself saves the change and receipt from each transaction for later sale. In the previous example, the aforementioned collector pays Boggs \$200 for the receipt and change. Boggs has some rather unfortunate run-ins with the Secret Service, as they believe that his works of art are counterfeit. In the movie, Boggs goes to Washington D.C. to attempt to retrieve twelve of his notes which had been confiscated by the Service. Boggs has been arrested in both England and Australia and was acquitted both times (in fact he won a substantial award in a wrongful arrest suit in Australia). The film, which is very entertaining, documents a selection of Boggs' escapades, and follows him in his attempts to utilize his notes, as well as in his attempts to fight the Secret Service. Perhaps the most fascinating part of this film is the fact that it's all true. Director Philip Haas has created a documentary which seems almost comic, yet paints a realistic and enjoyable picture of a fascinating artist and his own unique brand of art. This film deals with an interesting side of the intellectual property issue. After all, in the computer world we hear all about whether software or algorithms should be considered intellectual property (and therefore copyrightable). Boggs addresses this issue from another side where he attempts to distinguish between his art form and real currency. Unfortunately, real life is not all fun and games. Last month (December, 1992), Boggs' apartment in Pittsburgh was raided and about 1200 items were seized. Boggs' next project is to place \$1 million worth of bills into circulation. This film was also apparently broadcast on the BBC last week.

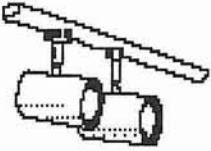
MONEY MAN shows a refreshing outlook on the grim world and makes you take a closer look at every bill that passes through your fingers. -- John Hawkinson jhawk@panix.com

A number of Ontario coin clubs have shown "The Money Man" at meetings and the reaction of the audience was always extremely positive. We encourage any ONA member club to borrow it for showing at an upcoming meeting, or have individual members borrow it for showing at home, hopefully with friends over coffee. VCR tapes can be borrowed by any ONA member or ONA member-club free of charge. The only cost



involved to the borrower is postage in both directions. Contact Ken Koch, ONA Audio Visual Lending Librarian, 310 Queen St. South, Suite 311, Kitchener, On. N2G 1K2 or e-mail him at kenkoch@sympatico.ca.

Don't let the 60-minute length scare you off from showing it at a club meeting. Audiences that the ONA Club Services Chairman polled didn't mind the length at all because they found it so interesting and entertaining.



SPOTLIGHT ON COUNTERFEITING

NAZI COUNTERFEITS - "OPERATION BERNHARD"

By the late Major Sheldon S. Carroll

We are pleased to present a paper by the former Chief Curator of the National Currency Collection, Bank of Canada, Ottawa, on the largest counterfeit operation of all times. The speech was given at a Banquet of the Toronto International Coin Fair when your ONA Editor was its owner/manager.

"Operation Bernhard" was the code name for the greatest counterfeiting operation of all times. It is the story of the Nazi efforts to flood Europe with counterfeit British pound notes in order to break the economy of Britain and hasten their own victory. It is a fascinating story in many ways. Not only was it the largest counterfeiting operation ever achieved both in the number of notes produced and the total value of those notes, but it brought together the largest and most expert staff ever assembled in one place at one time. They turned out the most perfect counterfeits ever produced and not one of the counterfeiters was ever punished although we know the names of all of them.

The idea of using counterfeit money during wartime as a weapon against the enemy is not a new one. In 1480 (a dozen years before Columbus discovered America), Gallazeo Sforza, Duke of Milan, was at war with Venice. He produced counterfeit Venetian coins in large quantities and seriously injured the economy of Venice.

During the American Revolution, the British were quick to counterfeit the Continental currency of the rebellious colonies. These helped to hasten the day when these notes would give rise to the expression "Not worth a Continental."

During the French Revolution, the British and their allies produced great quantities of counterfeit French assignats. I have not seen a British counterfeit of the assignats but we do have in the Bank of Canada's foreign paper money collection, one of the counterfeit assignats produced by the Belgians.

Napoleon had counterfeit British pound notes produced and had them put into circulation through neutral ports such as Hamburg and throughout England with the help of French secret agents.

The prime mover in the Nazi plan to have history repeat itself was a German engineer named Alfred Naujochs. He had joined the Nazi S.S. in 1929 and when the Nazis came to power in 1933, he entered the Nazi Secret Service under Reinhard Heydrich. In 1941, Naujochs proposed the plan to Heydrich who was enthusiastic about it and gave his approval. The carrying out of the project was entrusted to Captain Friedrich Walter Bernhard Kruger, who was in charge of the Secret Service office which produced forged Swiss and Swedish passports. It was from Capt. Kruger's third name "Bernhard" that the operation eventually got its code name.

The first problem to be solved was the production of the bank note paper. Since 1725, the Portrel family of Laverstoke, England has supplied the Bank of England the white linen paper used in making pound notes. Their production methods are one of the world's most closely guarded secrets. At first, the Nazis feared that the British notepaper might be made of some special reed from one of the British Colonies in Asia, which would make the supply problem very difficult, if not impossible. But careful analysis of hundreds of genuine shredded pound notes revealed that the main ingredient was linen. Several tons of pure linen was ordered from Turkey. A special and secret department was set up at one of Germany's top manufacturers of quality paper, the Spechthausen paper factory not far from Berlin. The first run of paper was produced but the texture was wrong. Repeated efforts failed to produce paper that had the right feel. Then the thought struck them that the British might be using second hand linen rags rather than new linen. So, the Nazis used the new Turkish linen to wipe factory machines and then laundered it. The result was perfect. The next problem was the watermark. The British pound notes have an elaborate watermark, which covers most of the note with a series of parallel undulating lines interrupted in three places where the denomination of the bill in numerals and letters appears.

The wire mesh that is used to impress the watermark into the pulp had to be made with a tolerance of one-fiftieth of an inch.

The next problem was the built-in traps that every country uses in making its currency. These are minute markings that hurried counterfeiter overlooks. It might be an extra fold in the flowing garment of Britannia in the upper left-hand vignette or it might be an additional curlicue in the Spencerian curves that surround the words "Bank of Canada." They solved this problem by projecting pound notes on screens to a magnification of 20 times and had the projections studied by different engravers separately, so that what one man missed, another would notice. In such magnification, all of the tiny marks emerged and were copied by the engravers. How they solved the numbering and dating problem has never been revealed. The serial numbers and the date series must jibe and they, in turn, must be used with the correct signatures.

Until the summer of 1942, the operation proceeded slowly while various private firms were trying to solve the paper and engraving problems. Finally, when the correct formula for the paper was found, the work was turned over to the old paper firm of Schleicher & Schull. The firm of Gebrueder Schmidt of Berlin produced the proper type of ink. The machinery firm of Rudolf Stenz supplied the printing machines.

Now that the technical problems were solved, it was time to select a location and assemble a staff for mass production. The site selected was the concentration camp at Sachsenhausen, 25 miles northwest of Berlin. Barrack 19 was cleared out and a ten-foot high wall of barbed wire was built around it. A special detachment of "Deathhead" S.S. guards was brought in to guard the barracks. The regular camp guards were forbidden to enter the compound. All guards were warned by Major Kruger that anyone who talked or even hinted to anyone about the work that went on in the barracks would be sent immediately to the Russian front which, for the German soldier in World War II, was the most feared punishment short of death.

The production crew was now assembled. They were hand picked Jews from concentration camps all over Germany, Czechoslovakia and Poland. Their civilian occupations and professions varied widely but they all had useful talents. There was an engineer, a stereotypist, a dentist, an upholsterer, two photographers, a mathematics professor, a bank clerk, a physician, a printer, two hairdressers and so on. They were told that they were no longer accursed Jews but co-workers in the triumphant Nazi-march to world domination. In order to gain their willing cooperation, they were given food rations comparable to that of German workers in heavy industry, they were permitted to read daily newspapers, they received a cigarette ration, were allowed to have a radio in their quarters and were provided with a small amount of recreational equipment. The unfortunate victims cooperated from the start. They realized that by being selected for this work, they were saved from slow starvation in a concentration camp or death in a gas chamber. They were also told that after Germany won the war, they would not be exterminated but for their services, work would be found for them on special government projects.

As the project developed, other workers were added to the staff until their number reached approximately 300. The staff was organized into a printing office, a photography section, a phototype section and a general office. Never in the history of the world had been a counterfeiting operation with such a large staff, such fine equipment and such a low overhead. By December of 1942, the plant was ready to roll and the paper mill began to deliver 12,000 sheets of banknote per paper month. Each sheet would provide eight banknotes in denominations of 5, 10, 20 or 50 Pounds. Monthly production, therefore, varied from 480,000 Pounds to 4,800,000 Pounds, depending on which denominations were printed.

In January of 1943, a new member joined the staff. He was Smolianoff, a Russian Jew and the only professional counterfeiter in the lot. Smolianoff had an international reputation among the police forces of Europe. He applied the finishing touches to the engraving plates and production began. The 5 Pound note accounted for 40% of the production and the 10, 20 and 50 Pound notes each accounted for 20% of the output.

After the notes were printed they were allowed to dry for a week. Then the examination squad took over. Each note was compared to a genuine note of the same denomination in a well-lit box with a glass top. The notes were divided into four categories:

Group 1 - were the very best notes. They were to be used in neutral countries and by German spies operating in enemy countries.

Group 2 - were used to pay off Quislings and collaborators in occupied countries.

Group 3 - was to be dumped over England by German planes in the hope of disrupting the British banking system.

Group 4 - were unusable and considered as junk.

The good notes were carefully pierced with a pin in the upper left corner to make them look older. For generations, English bank clerks have pinned notes together. Then the notes were thoroughly mixed so that consecutive serial numbers would not be together. In the shipping room, the edges of each bundle of notes were roughed with a file to produce the appearance of handmade paper.

The problem of profitable distribution was a difficult one at first. Paying of spies, saboteurs and Quislings with the notes was fine because it helped to conserve the diminishing supply of foreign exchange but it did not bring any money into German hands.

Eventually, a master distribution network was set up by a financial genius, Frederick Schwend, who operated under the name of Major Wendig. Schwend or Wendig was a charming man, who before the war had been engaged in various commercial adventures in many parts of the world including China, Russia and the United States. Schwend very quickly organized a network of agents throughout the neutral countries. They were mainly hotel managers in Sweden, Switzerland, Portugal, Spain and several South American countries. Everyone along the line got a percentage. Large quantities of the notes were used to buy up arms, which the Allies parachuted, to Serb, Croat and Italian partisans. In the neutral countries, the notes were used to buy up gold coins and ingots, diamonds and other precious stones and U.S. dollars. Plans were made to have Count Cravi (Mussolini's son-in-law) take over the distribution of Pounds of the notes in South America. He was to take with him an initial shipment of 250,000,000 Pounds of the notes. However, he was shot by the Italian secret police before he could leave the country.

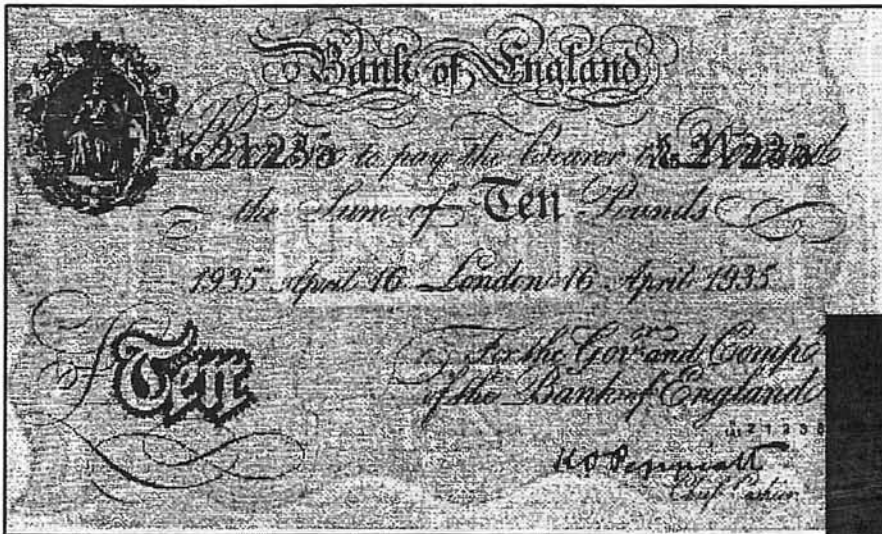
By April of 1943, the Bank of England learned of Operation Bernhard and ceased to issue notes of 10 Pounds or higher and commenced withdrawing those already issued. However, this did not reduce the acceptability of the Nazi counterfeits in neutral countries for no one could tell them from genuine notes.

Towards the end of 1943, it was decided to broaden production to include U.S. \$100 notes. Work proceeded slowly and the first good notes were not produced until early in 1945. Only a few thousand were made before the war came to an end.

By the Spring of 1945, the war was going so badly for the Nazis that it was decided to move the counterfeiting operation to Austria, near Salzburg where Hitler had the crazy idea that it might be possible to hold out indefinitely. The whole operation was loaded into a great convoy of trucks and the move took place. Operations in Austria never got underway. In April, many of the printing plates, all unused paper and 50,000,000 Pounds worth of poorer quality notes were burned. The remainder of the loaded trucks was moved to Ebensee, which is near a very deep lake called Toplitzsee. Here, the remaining printing plates and packing cases of notes were sunk into the deep water. The war was over. The staff of Operation Bernhard were freed by American troops and quickly scattered to the four corners of Europe. Many of them are still alive today.

For several years, rumors floated around that part of Austria that a tremendous fortune in British pound notes was lying at the bottom of a lake in the mountains. The cases of notes were finally recovered by the Austrian government in July, 1959 – 15 truckloads of worthless money.

Operation Bernhard had produced 600,000,000 Pounds worth of counterfeit notes. It is believed that not more than 50,000,000 Pounds of this was successfully put into circulation.



Below is a photograph of forged notes recovered from Lake Toplitz after World War II.

Photograph reproduced from the book "The Moneymakers International" by K. Kranister, Black Bear Publishing.

British banknotes were difficult to forge because of the intricately patterned watermark used in the special paper. During World War II, Hitler ordered the production of perfect imitations of British banknote paper complete with watermark, in a top secret operation. This paper was then used to produce very high quality faked British pound notes as illustrated above (photo from "The Moneymakers International" edited by K. Kranister, Black Bear Publishing).



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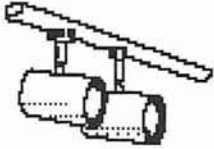
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ATTENTION COIN SHOW ORGANIZERS!

In the January/February issue of the *Ontario Numismatist*, we will publish a complete listing of the shows that are scheduled for Ontario.

If you think we may not be aware of your show, please e-mail or write the ONA Editor. This is a free listing.



S P O T L I G H T O N L O V E T O K E N S

COLLECTING LOVE TOKENS

By Chris Boyer (ONA Member #1543)

Looking for numismatic items that can be worn, seldom come on the market, and are interesting parts of history? Then love tokens may be for you!

According to coin expert Alan Herbert, a love token is an after-strike modification to a coin. He defines a love token as “a struck coin which has had the design on one or sometimes both sides ground or abraded off and replaced with a set of initials or a name, or pairs of initials or names, usually with additional decorative engraving.” He further goes on to point out in his book *Minting Varieties and Errors* (House of Collectibles, 1991) that love tokens “are a very popular collectible, as they were a popular form of coin alteration in the 18th and 19th centuries. The suitably engraved coin was often presented as a gift to a loved one. Values depend on the amount and quality of the engraving work.”

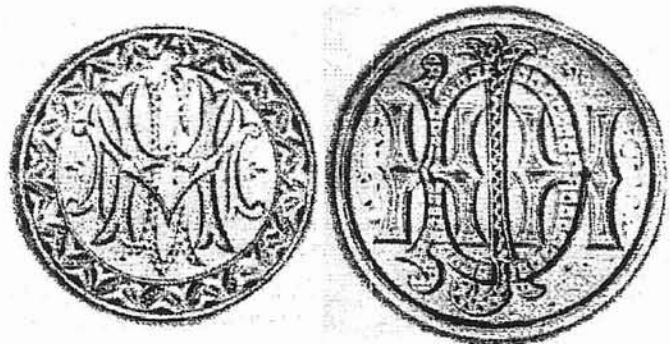
Mike Hollingshead, the current president of the Ontario Numismatic Association and collector extraordinaire, is one such collector of these unusual items. At a club meeting where he was guest speaker, Hollingshead pointed out that love tokens were a popular form of jewellery from the late 1700s to around the turn of the last century. The pieces were usually made from silver coinage, so had some intrinsic value already. Jewellers would grind and then engrave initials and other decorations on at least one surface of the coin, which could then be presented as a token of affection. Hollingshead’s collection contains an array of Canadian and United States coinage, with a few British pieces thrown in for good measure.

Why did love tokens fall out of favor? The advent of photography and the locket signaled the end of the love tokens’ popularity, around the beginning of the 20th century. People preferred to wear a gold or silver locket with the picture of one’s sweetheart, rather than wear a pendant, brooch, necklace or even bracelet made of coins engraved with a loved one’s initials. So, finding a love token may immediately take a collector back a century or more into history.

What sort of coins were used for love tokens? Well, Hollingshead’s collection represents a wide variety of denominations, including five-cent silver coins, large cents dipped in a gold wash, fifty-cent pieces and more, although the five- and ten-cent denominations seem to be the most common. As for his United States pieces, they too run the gamut, and include a Morgan silver dollar and a half-eagle (five-dollar gold piece). Fifty-cent pieces seem to be the least commonly used.

Hollingshead is one of a handful of collectors in Southern Ontario who seek these items for their collections. He spoke of a United States collector who is actively attempting to complete a collection of love tokens engraved with the initials “AA, AB.... right up to ZZ”. No small feat, to say the least!

In terms of value, love tokens can roughly be valued at ten dollars apiece and upwards, again depending on the coin(s) used and the quality of the engraving. One collector in the crowd was quick to point out that modern bracelets, for example, would easily command a fee of \$25 per coin from a jeweller today for the engraving work. Given that love tokens are seldom seen on the market and are made from coins about 100 years old or more, one can only estimate what some of these jewellery items might fetch on the market.



These tokens are on a Victorian 50-cent piece (left) and a trade dollar (right). However, all denominations were used and some specimens can even be found on gold coins. (Editor’s comment: We wish to thank Paul Petch for providing scanned illustrations for this article, taken from the Jeffrey Hoare Auctions Inc. numismatic catalogues.

But it is more than the market value of love tokens that make them desirable collectibles. It is the history that they represent which make them attractive. While it is often difficult to retrace the donor and recipients of these items, it is interesting to imagine under what circumstances they were given. A loved one gone away on a long voyage...perhaps going off to war...the possibilities are legion.



The love tokens pictured above are from the United States and are engraved on silver dollars, minted in the mid- to late 1800s. The collecting of these pieces has become a special branch of token collecting with the value of each piece being determined by the quality of the engraving and the intricacy of the design and condition. Scans by Paul Petch from the Jeffrey Hoare Auctions Inc. catalogue.

HOBO NICKELS

A similar type of engraved coin is the Hobo nickel. This interesting part of Americana was popular in the depression era when hobos (from the words “hop aboard”) would take a U.S. Buffalo nickel and engrave a farcical image onto the coin using whatever tools were on hand. Then the hobo might turn around and exchange the hobo nickel for a meal, accommodation, or a little profit by selling the would-be piece of art for a quarter. Original hobo nickels today can fetch several hundred dollars. Modern hobo nickels or “neo-bo’s” are a popular collectible. There is even a club dedicated to the collection of hobo nickels. For \$10 (\$5 for juniors) U.S. funds, you can receive three issues of *Bo-Tales*, issued by the Original Hobo Nickel Society. They can be reached at P.O. Box 1409, Malvern, PA 19355.

While no club exists specifically for the collection of love tokens per se, the Token and Medal Society (T.A.M.S.) is an organization which encompasses the collection of a wide variety of unusual items, like love tokens. Their bi-monthly publication, *TAMS Journal*, can be had by joining the society for \$25 U.S., by writing to the Token and Medal Society, Mark Lighterman, Secretary, P.O. Box 832854, Miami, FL 33283.

So the next time you’re on the bourse floor and see an engraved coin in a dealer’s inventory or even “junk box,” don’t dismiss it as a worthless defaced coin. Look beyond to its history and to a time when it was an important token of someone’s affection.

COLLECTING LOVE TOKENS

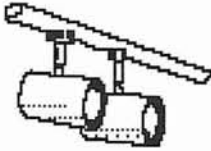
(While we are on the subject of love tokens, we are pleased to reprint an article by Bill Fivaz, published in the February 1999 bulletin of the North York Coin Club. The text for this article is based on the ANA’s Money Talks, Transcript No. 357, February 15, 1994.)

The Beatles sang, “Money Can’t Buy Me Love.” But it can buy...love tokens.

A love token is a coin which has had one side shaved off and initials, a name, or a scene engraved on it. This practice is believed to have started in England in the early 1800s, and spread to Canada and the United States during Victorian times. It seems that it was a custom back then, just as it is now, for a beau to give a gift to his lady friend to mark a special occasion.

Since coins were easily accessible and had an obvious value, it was common practice to take a coin to a jeweller and have it engraved. Maybe the man wanted just a name or, possibly, both their names and a date engraved on the coin. Often, a scene was carved which had a particular meaning to both people. But the most common engraving was initials - most of them very delicately done, and intertwined.

When completed, the gentleman gave the engraved piece to his lady as a token of his love - giving rise to the term “Love Token.” There are thousands of different styles and subjects - and because each is carved or engraved by hand, all are unique. They’re found on virtually every denomination of coin, from copper pennies to five- and ten-dollar gold pieces. Obviously, these higher value love tokens were from serious admirers and many are found with raised white-, yellow- and pink-gold initials.



SPOTLIGHT ON METALS USED IN COINS AND MEDALS

by Tony Clayton, Godalming, Surrey, England

Mr. Clayton is a retired schoolmaster, now a Physics, Mathematics and Chemistry Tutor. One of his hobbies is the collecting of coins, principally Canadian, UK and Roman. He has created a web page listing the metals used in coins and medals which we are pleased to reproduce, in part, below. His web site, www.tclayton.demon.co.uk/metal also lists the atomic number, density and melting point of each metal.

I thought it might be of interest to fellow numismatists to write a note on the various metals that have been used for coins and medals over the centuries. When I was at university I gave a talk to the college Science Society on the subject, and it was of interest to me as my first job involved carrying out research into alloys of such exotic materials as niobium, hafnium, tantalum, zirconium and titanium for superconducting, chemical and aeronautical applications. We also had some gallium, but somebody left it above a radiator and it melted!

Aluminium - The metal was first prepared by Oersted and Wohler in 1824. A very 'white' corrosion resistant metal (called aluminum in the USA) used for cheap coins in a number of countries, particularly in Europe where inflation had decreased the value of money. Recent examples include the tiny 1 peseta coin issued by Spain, and the 5 and 10 lire coins of Italy. The pure metal is very soft, and so does not wear well. It is an important alloying addition. There is an apocryphal story that the absence of the second letter "i" in the American spelling was the consequence of a signwriter misspelling the word when the first producer of aluminium started up in the US! After all, the Americans don't use the words sodum, potassum, chromum or titanum, do they?

Antimony - Known since ancient times. A silvery metal which is very brittle, and is easily crushed and powdered, and is thus an unlikely candidate for use in coins. It is easily cast (melting at 631°C), and gives a clear impression of the mould. Its main use is as an alloying addition used to harden lead. The only example that I know of the use of antimony for a coin is a 10c piece struck(?) in China in 1931. It is used alloyed with tin, copper or lead to produce white metal used in the manufacture of medallions.

Carbon - A small number of 'coins' were struck using coal during Germany's hyperinflation period in 1922 as Notgeld.

Chromium - First isolated in 1798 by Vauquelin. A hard white metal which is unsuitable for coinage, but which has been used to plate steel coins. An example of such use is the Canadian 5c pieces of 1944-45 and 1951-1954, which were nickel-plated steel with a surface plating of chromium to add wear resistance. A few medals have been struck in chromium. Chromium is an important constituent of the alloy Stainless Steel and is also used in smaller concentrations to impart hardness to steel. It is not usually used in its pure form as it has too high a melting point to cast easily, and is too hard to work.



Cobalt - First isolated in 1733 by Brandt. A steel-grey metal with a reddish tinge which is strongly magnetic. It is normally used as an alloying addition. 35 medals were made in this metal for a conference on cobalt, and are thought to be the only examples of this element's use in the pure form.

Copper - A soft reddish metal known since ancient times. It is rarely used unalloyed in modern coins, other than as a coating for other metals (modern US cents are an example), because it has relatively poor wear properties. The beautiful large British pennies of Queen Victoria from 1839 to 1859 were made of copper. One of the largest conventional copper coins that ever circulated is the Cartwheel twopence of 1797 produced by Matthew Boulton at the Soho Mint in Birmingham. Swedish plate money issued from 1644 to 1759 consisted of large lumps of copper cut roughly into squares weighing up to 6 pounds (3 kg) and 10 in (25 cm) across. They were issued because of a grave shortage of silver after a war with Denmark. I bet they wore a hole in your pocket! It is the main constituent of a wide range of alloys such as aluminium bronze, brass, bronze, cupro-nickel, gun



metal, Orichalchum, and Pinchbeck.

Gold - The most anciently known of metals, occurring as the native metal. Perhaps the most ideal metal for coins, as it is malleable and chemically inert, to the extent that gold coins discovered after long periods in the ground still maintain their lustrous appearance. As it is a soft metal, it is nowadays almost always used alloyed with copper to make it more durable, although gold-silver alloys have been used, particularly by Australia in the manufacture of sovereigns and half-sovereigns during the period 1855-1870. At present, just about the only gold coins minted are for bullion purposes, guaranteeing fineness and weight. Early English coins were made of pure gold, but a number of other alloys have been used, examples including Crown Gold and Electrum.



Hafnium - First isolated as recently as 1923 by Coster and Hevesy. Fred Zinkann has struck a few private pattern 'coins' in this metal, which has few uses except in the nuclear industry, where its high neutron capture cross-section makes it useful for control rods in some nuclear reactors. Hafnium is chemically very similar to zirconium with which it is normally found in nature. Indeed, zirconium ores always contain hafnium in a proportion of between .7 and 50%, and the need to remove hafnium from zirconium for nuclear applications is one reason for the high cost of the latter material.

Iron - First isolated in prehistoric times, for many years iron was not used as currency as it was heavy (before someone tells me that copper and gold are denser, I mean heavy in terms of its weight per unit value), brittle in the most commonly available cast form, and liable to rust. Iron alloys containing small levels of carbon are normally called steel. Iron coins were issued by Finland between 1943 and 1953, and also Bulgaria in 1943. To get round the corrosion problem in modern coins various coatings have been used, from copper (modern UK 'coppers') and brass (German 5 and 10 pfennig) to nickel and chromium (Canadian post-war 5 cents), nickel alone (Finnish 1 & 5 markkaa 1953-1962) or zinc (US cent of 1943). Some of these have actually got a steel rather than iron core.

Lead - Lead is a very soft bluish-grey metal, and so early lead coins do not survive too well. However, it has been used, particularly in southern India around the time of Christ, in China, and in Burma and Siam during the 19th century. Because it casts well and has a silvery appearance when new, it has often been used for forgeries, especially when plated to replicate gold coins. In Roman times lead was used for tesserae, which were tickets or tokens (also made in bronze) that were distributed by the emperor (amongst others) entitling the holder to either food or money. In its normal state, it tarnishes rapidly to a dark grey colour, and has very poor wear resistance.



Magnesium - First isolated by Black in 1755, a silver-white ductile metal 40% lighter than aluminium. It is an important alloying addition in many metallurgical applications, but it has not been used for a major national coinage issue, as far as I am aware. There have been some minor issues - the Jay and Marieli article refers to a 10 pfennig Lodz Ghetto issue. The Dow Chemical Company struck some tokens in Dowmetal, an alloy of this metal with 95% Mg, in 1933.

Manganese - First isolated by Gahn in 1774. A grey metal resembling polished steel. It is not used as a pure metal in coins or medals because it reacts with water, but often found in alloys. The WWII 5c pieces of the US were made from a 56%Cu 35%Ag 9%Mn alloy from 1942 to 1945 as nickel is a vital material in war. Why this particular alloy was chosen is unclear.

Molybdenum - First isolated in 1781 by Hjelm. An silvery-white element usually used as an alloying addition to steel and titanium alloys, although there are applications where the pure metal is used. It has not been used for circulation coins, although a small number of patterns have been made in this metal by Fred Zinkann.

Nickel - First isolated in 1751 by Cronstedt, an event commemorated by Canada in 1951 with a special 5c piece. Usually used in an alloy with copper (cupro-nickel) or iron (stainless steel), although the pure metal has been (and is) used a great deal, notably for the coins of Switzerland and Canada. It was first used in this form by Switzerland in 1881. The pure metal is magnetic, and is noticeably yellower than some of the silvery metals such as chromium and aluminium. There is some concern that some people are allergic to nickel.



Niobium - First isolated in 1801 by Hatchett. An expensive grey metal mainly used for superconducting applications in alloy form. The occasional medal has been made using this metal. This element used to be called Columbium (symbol Cb) in the USA. Trials using this metal have been carried out at the Sherritt Mint in Canada, and at the Philadelphia Mint in the USA.

Palladium - First isolated in 1803 by Wollaston. A scarce ductile metal of the platinum series which does not have quite the same economic importance of platinum at present. Some bullion coins have been made of this metal, the first being the 1967 ½ Hau from Tonga which was actually an alloy containing 2% ruthenium.



Platinum - First isolated in 1735 by De Ulloa. Discovered in Russia in about 1822, and used by that country during the period 1828 to 1835 for coins. Platinum is the most common of the platinum group of metals, and is ductile, making it relatively easy to make into coins. However, supplies are relatively limited, and the metal has a far more important use as a catalyst in chemical reactions. It is seen as a bullion metal as well as an important metal for chemical applications, and a number of bullion coins have been struck.

Rhenium - First isolated in 1925 by Noddack, Tack and Berg. Fred Zinkann has struck a fantasy coin in this very scarce white metal.

Silver - An attractive white metal extensively used for coins from ancient times to the present day, although the increasing value of the metal has meant that few countries now use it except for proof specimens. It is harder than gold, but is easily worked. Unlike gold, it tarnishes readily if there is sulphur in the atmosphere. In recent times it was normally used in alloy form. Mexico issues composite coins with a .925 silver centre. As far as I am aware, this is the only country using silver for circulation coins.



Tantalum - First isolated in 1802 by Ekeberg. A hard blue-coloured metal with a very high melting point. Too expensive and difficult to work for coinage, but once again Fred Zinkann has made a medal in this material.

Tellurium - First isolated in 1783 by Muller. A hard grey semi-metal, or metalloid, similar to selenium but not used for coinage. However, in an alloy with 11% copper, it has been used for a commemorative medal.

Tin - Silver-like in colour and very malleable, but too soft to stand up to wear, and the metal is more often used as an alloying addition in copper to make bronze. One such alloy, known as speculum, was used by the Belgic people of Gaul and Southern Britain during the two centuries before the birth of Christ. Farthings and halfpennies were struck in tin with a central copper plug in England during the 17th century. The intention was to try and deter forgers, but the experiment was not a success. The metal has two (or perhaps three) allotropic forms: 1) grey tin, stable below 13.2°C, which is a grey powdery substance, 2) white tin, stable from 13.2°C to 161°C, which is the normal white metallic form and 3) rhombic tin, stable above 161°C to the melting point, another metallic form, has been referred to in some sources. Thus, on an ordinary winter day, white tin should turn into a grey powder. In fact, this does not happen unless in extreme cold, but once some is formed, the transformation is more rapid, giving rise to what is known as tin-pest. I have heard it said that Napoleon's troops invading Russia in 1812 had tin buttons holding their trousers up, with disastrous consequences when winter set in! Tin was used for coins in Thailand in the mid 1940s, but then the temperature does not fall so low there. Japan used a tin-zinc alloy in 1944.

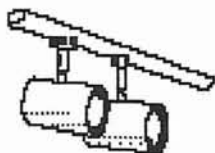
Titanium - First isolated in 1791 by Gregor. Titanium is a strong light metal that is corrosion resistant. It could be used for coins, and has been used to strike medals. However, there are problems in producing a sheet of the metal with a smooth enough surface for coinage purposes, and this increases the cost of producing coins in bulk using this metal. As the basic cost of the raw metal is high as well, other cheaper alternatives are more attractive to governments! I have a few tokens struck in this metal during trials at Imperial Metal Industries Ltd., Birmingham during the late 60's. Apparently, a new zinc-titanium alloy has been developed for coinage, but no information is available.

Tungsten - First isolated in 1783 by D'Elhuyars. Tungsten is a very hard and brittle metal at room temperature, and is consequently unsuitable for coinage. It is very dense (although not the densest material known), and has the highest known melting point of any metal. Despite these well-known properties, I am told that the US mint tried to make some patterns using tungsten. The dies did not make much of an impression. Fred Zinkann has made a pattern coin out of an alloy containing 5% Ni, 3% Fe with smaller quantities of copper and cobalt. The dies reputedly broke after three coins had been made.

Vanadium - First isolated in 1831 by Sefstrom. An element very similar to titanium. A token has been struck by Wah Chang Albany to demonstrate their ability to work in this metal, but no circulating coins have been struck in this poisonous metal.

Zinc - First isolated in 1746 by Marggraf. A lightweight metal which is cheap and can readily be made into coins. It does oxidise steadily and inexorably, and so is not a very satisfactory coinage metal in its pure form. Generally superseded by aluminium, zinc was used by the Germans for occupation coinage during the two world wars. The metal is an important constituent of brass.

Zirconium - First isolated in 1789 by Klaproth. Similar to Titanium, and used for flash bulbs and nuclear fuel-rod casings. No true coins have been struck in this metal, but a token has been struck by Wah Chang Albany to demonstrate their ability to work in this metal.



SPOTLIGHT ON METALS USED IN COINS AND MEDALS

by Tony Clayton, Godalming, Surrey, England

(In the previous three pages, we presented an article by Mr. Clayton about the metals used in coins and medals. We are pleased to reproduce below a write-up dealing with alloys used in coins and medals.)

ALLOYS USED IN COINS AND MEDALS

Aluminium Bronze Alloy - Copper-aluminium alloys, sometimes containing a small amount of manganese or nickel. They are yellow in color and hard wearing. A modern example of its use is with the 5, 10 and 20 centime coins of France. A variety called Nordic Gold is apparently being used for some Scandinavian coins, and for 10, 20 and 50 eurocent coins because it does not contain nickel. It has a composition of 89% Cu, 5% Al, 5% Zn and 1% Sn.

Barton's Metal Composite - Barton's Metal is in fact copper overlaid with a thick layer of gold, and was used in 1825 during the reign of George IV for pattern five pound and two pound coins.

Bath Metal Alloy - A type of cheap bronze used in the manufacture of some Irish and American tokens, and for some coins of the Isle of Man.

Bell Metal Alloy - A type of bronze normally used in the manufacture of bells, but also used in France at the time of the Revolution.

Billon Alloy - An alloy of copper and silver, with more than half copper. Large quantities of billon coins were produced in the Roman era, many with a silver wash. This alloy was also used by the French in the 18th century.

Brass Alloy - An alloy of copper and zinc, although the term is loosely used to include all copper alloys. Generally, the alloys used vary in composition from 3% zinc to 30% zinc, and vary in color from the red of copper to a bright yellow. Brass with a small quantity of nickel is known as Nickel Brass. Such alloys are used for the modern UK one pound coin. The Roman name for the brass alloy used in coins was Orichalchum. In Old English the Latin word aes was rendered as brass, thus the use of the word brass to mean money still found today, especially in Northern England. Many brass coins have been produced in modern times, although more complex copper alloys are normally used.

Bronze Alloy - An alloy of copper and tin, usually 80% to 95% copper. Most modern 'copper' coins are actually bronze, as pure copper is too soft and rapidly shows extensive wear. While bronze is usually copper colored, a high tin content will give a silver color, as in speculum. Bell Metal and Bath Metal are other types of bronze.

Crown Gold Alloy - Gold with 2 carats of alloy and 22 carats of gold so called from the gold crown of 1526 which used this alloy. Previously gold coins were made from almost pure gold. Crown gold is the standard used in the British sovereign which is still minted. The alloying metal is usually copper, although silver has been used.

Cupro-Nickel Alloy - Self-evidently an alloy of copper and nickel, it is one of the most common alloys used in modern coins. It is also called copper-nickel in the US by some. A related alloy called Alpaca also contains zinc. It is silvery in appearance, and in the UK was first used in 1947 where an alloy of 75% Cu and 25% Ni is used for most 'silver' coins. With this composition the coin shows no trace of the color of its main constituent. Other copper-nickel alloys have been used. The early US cents from 1857 to 1864 contain 87.5% Cu and 12.5% Ni, and so have a light yellow color, while the present-day 20p coin of the UK is made from an 84% Cu and 16% Ni alloy. Some modern cupro-nickel coins of Russia also contain zinc. The Franklin Mint in the US has developed a cupro-nickel alloy they call Franklinium.

Electrum Alloy - This naturally occurring alloy of approximately 75% gold with 25% silver and copper and other metals was used for the earliest coins struck in Lydia around 700 BC. The name electrum is also used for an artificial alloy such as used for coins in the Merovingian Dynasty of the Kingdom of the Franks around 600 - 700 AD. It might be argued that coins made at private mints in the US from native gold at the time of the gold rush in California are made from electrum.

Gun Metal Alloy - An alloy of 88 % copper, 10% tin and 2% zinc, used for making cannons. Not normally used for coins, although the famous Gun Money was produced from 1689 by James II for use in Ireland. It was cast in scrap metal from old cannons, bells, etc., and is unusual in having the month as well as the year of issue indicated. Imagine collecting Lincoln cents from 1909 to date if there were 12 different coins per year.

Manganese Bronze Alloy - Technically a nickel brass containing an additional amount of manganese. It is a copper alloy containing zinc, manganese and a small quantity of nickel which is used for the new US dollar. The composition used for the dollar is 88.5% Cu, 6% Zn, 3.5% Mn and 2% Ni overall, with a cladding of 77% Cu, 12% Zn, 7% Mn and 4% Ni.

Nickel Brass Alloy - A copper alloy containing zinc and a small quantity of nickel which is used for the UK 'brass' threepenny bit and the pound coin. The composition used for the threepenny bit was 79% Cu, 20% Zn and 1% Ni, and I have no reason to believe that the composition of the pound coin is any different.

Nickel Silver Alloy - A copper alloy containing 18-22% nickel, 15-20% zinc and sometimes manganese and other metals which is made with a wide variety of compositions. Sometimes known as German Silver or Argentan.

Orichalchum Alloy - A word used by the Romans to denote their brass, containing 80% copper and 20% zinc, approximately. The dupondius was distinguished from the 'as' by being in orichalchum rather than copper, as well as by having the emperor with a radiate crown, whereas the sestertius, also in orichalchum, was larger (1 dupondius = 2 asses, 1 sestertius = 4 asses, 1 denarius = 16 asses).

Pewter Alloy - Originally an alloy of tin with about 15% lead, and sometimes antimony and copper. Modern pewters are usually lead-free. Pewter coins include the 1757 1 kreuzer of Bohemia and a 5 franc French piece of 1831.

Pinchbeck Alloy - A cheap brass, mainly copper with some zinc, invented in the 18th century as a cheap imitation of gold. Used for medals rather than coins. Now known as Gilding Metal.

Potin Alloy - An ancient alloy of copper, zinc, lead and tin found in coins of Ancient Gaul. Unlike billon, it normally contains no silver, although some alloys containing silver have also been called potin, such as some from Egypt in the 1st to 3rd century A.D. Apparently, this alloy was also used in 1st century coins from southern India.

Silver Alloys Alloy - A large number of silver alloys have been used over the years. A silver-lead alloy has been used in Bhutan. Sterling silver (92.5% Ag) is usually alloyed with copper. This alloy was used for British silver coins up until 1920. In 1920, the silver content was reduced to 50%, with 40% Cu and 10% Ni. It was found that this alloy tarnished badly, going an unattractive yellow-brown color, so the alloy was changed to 50% Ag with 50% Cu. This in turn was changed to 50% Ag, 40% Cu, 5% Ni and 5% Zn in 1927, with a significant improvement in appearance.

Speculum Alloy - A silvery alloy of tin and bronze used in Gaul and Britain during the period around the time of Caesar's invasion.

Stainless Steel Alloy - A hard-wearing alloy of iron, chromium and nickel. The 50 and 100 lire coins of Italy use this material. Because it is a hard material, and thus fairly difficult to strike, you usually find that stainless steel coins have a fairly low relief. The alloy used by Italy is sometimes known as Acmonital, an acronym for Acciaio Monetario Italiano.

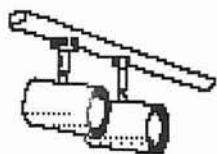
Steel Alloy - A general name given to iron-carbon alloys having smaller amounts of carbon than cast iron. Strictly speaking most modern iron coins are made of steel. Steel rusts very readily so it needs a coating when used for coins. Nickel and copper clad steel coins were in use in Bolivia from 1965 to 1987, when hyper-inflation led to a new series of stainless steel coins. Zinc coated steel was used for 2 Franc coins during the Allied Occupation of Belgium in 1944. They were made from the same blanks as the zinc coated steel US 1 cent piece of 1943.

Tombac Alloy - Tombac is a brass alloy famous in numismatic circles for its use by Canada in the emergency 5 cent coins of 1942 and 1943, but more generally known for its use in cheap jewellery. The particular alloy used by Canada was an 88% copper 12% zinc alloy.



Virenium Alloy - Virenium is a German Silver type of alloy containing nickel as well as copper and zinc with a magnetic element as a built in security device. It was first used by the Isle of Man. It has the composition 81% Cu, 10% Zn and 9% Ni. (I am indebted to Jurgen Smod and Louis Carlson for the latter information).

White Metal Alloy - A name given to a range of alloys usually containing antimony alloyed with tin, copper or lead to produce a white silvery metal used in the manufacture of medallions.



SPOTLIGHT ON METALS NOT USED IN COINS AND MEDALS

by Tony Clayton, Godalming, Surrey, England

The previous pages featured articles by Mr. Clayton, Physics, Mathematics and Chemistry Tutor, on the metals and alloys used in coins and medals. Since ONA members may be wondering what metals are NOT used for coinage, we are pleased to present the final installment in this 3-part series detailing the reasons some metals are not used. His web site, www.tclayton.demon.co.uk/metal also lists the density, melting point and atomic number of each metal.

The majority of these metals are either too reactive, too expensive or just too difficult to work to be used in coins and medals, although many are useful as alloying additions in industrial metallurgical applications.

Group One (These elements are known as the alkali metals. They are all silvery-white in colour, react vigorously with water, very soft, and react rapidly with air, and are thus totally unsuitable for coins): **Lithium** (softer than lead but harder than sodium or potassium, lithium is the lightest of all solid elements); **Sodium**; **Potassium**; **Rubidium** (ignites spontaneously when exposed to air); **Caesium**.

Group Two (The first group within this group is known as the alkaline earth metals): **Beryllium** (an expensive metal that if burnt creates very toxic compounds. Need I say more!); **Calcium** (a reactive and brittle metal, it is stable in dry air but reacts vigorously with water. Having such a coin in your hot sticky hand would have unpleasant consequences!); **Strontium** (a ductile white metal, more reactive than calcium); **Barium** (strontium and barium are chemically similar to calcium); **Cadmium**; **Mercury** (a liquid at room temperature! Hardly suitable for coins).

Group Three: Boron (A black opaque element harder than carborundum. Well-known as a neutron absorber used in alloy form for nuclear reactor control rods); **Scandium**; **Yttrium** (used in ceramic compounds to make high-temperature superconductors); **Lanthanum**; **Gallium** (this melts all too easily. It is also very expensive); **Indium**; **Thallium**.

Group Four: Germanium (The semi-conductor that was used for the first transistors).

Group Five: Arsenic (A highly poisonous element. Three allotropes exist, but the stable form at room temperature is grey and metallic in appearance, very brittle); **Bismuth** (a grey-white metal with a pink tinge, very brittle). All elements with a higher Atomic Number than bismuth are radioactive.

Group Six: (All metals in this group have been used for coins or medals.)

Group Seven: Technetium (There are no stable isotopes of this element which is not found in nature. It is a radioactive element, and it seems that there is a quantity in the Irish Sea at present. It is said to be the most expensive metal).

Group Eight: Ruthenium; Rhodium; Osmium; Iridium (These are all scarce platinum group metals. In addition, they are far more difficult to work than either platinum or palladium, the more common elements of the group, making production of coins or medals in these metals extremely difficult, if not impossible. Rhodium and iridium can be cold worked to a limited extent after hot-working, whereas ruthenium presents greater difficulties and osmium is virtually unworkable. Osmium and iridium are used in alloy form for hard-wearing fountain pen nibs); **Lanthanides** (a whole collection of very similar metals known as the rare earths. A mixture of these called Misch Metal is used for lighter flints); **Lanthanum**; **Cerium** (this is the most common of the rare earths. The others are Praseodymium, Neodymium [used in magnetic alloys], Promethium [radioactive], Samarium [used in magnetic alloys], Europium [I believe that europium oxide is the material used in TV's for the red phosphor on the screen], Gadolinium, Terbium, Dysprosium, Holmium, Erbium, Thulium, Ytterbium and Lutetium]; **Actinides; Thorium; Uranium** [uranium and thorium are both weakly radioactive, with such long half-lives that they are found in reasonable quantities in nature]. The remaining actinides are all radioactive.)



S P O T L I G H T O N
C A N A D I A N
C O I N D E S I G N S

A CHRISTMAS COIN DESIGN THE TWELVE DAYS OF CHRISTMAS

by John Regitko, ONA Member #LM083

On page 181, we illustrated a 1964 Canadian cent that was used in an oversized Christmas card by the late Hans Zoell, the father of Canadian error collecting. The card, printed on heavy white stock, is 12-1/2" wide x 18" overall. The illustration is 10" in diameter.

Below the illustration is the following poem written by Hans.

The Twelve Days of Christmas

On the first day of Christmas my true love sent to me a dollar for a coin variety.

On the second day of Christmas my true love sent to me two pennies dotted and a dollar for a coin variety.

On the third day of Christmas my true love sent to me three fish-scales, two pennies dotted and a dollar for a coin variety.

On the fourth day of Christmas by true love sent to me four tarnished nickels, three fish-scales, two pennies dotted and a dollar for a coin variety.

On the fifth day of Christmas my true love sent to me five golden pieces, four tarnished nickels, three fish-scales, two pennies dotted and a dollar for a coin variety.

On the sixth day of Christmas my true love sent to me six halves-a-gleaming, five golden pieces, four tarnished nickels, three fish-scales, two pennies dotted and a dollar for a coin variety.

On the seventh day of Christmas my true love sent to me seven shin-plasters, six halves-a-gleaming, five golden pieces, four tarnished nickels, three fish-scales, two pennies dotted and a dollar for a coin variety.

On the eighth day of Christmas my true love sent to me eight dimes-a-sailing, seven shin-plasters, six halves-a-gleaming, five golden pieces, four tarnished nickels, three fish-scales, two pennies dotted and a dollar for a coin variety.

On the ninth day of Christmas my true love sent to me nine wooden nickels, eight dimes-a-sailing, seven shin-plasters, six halves-a-gleaming, five golden pieces, four tarnished nickels, three fish-scales, two pennies dotted and a dollar for a coin variety.

On the tenth day of Christmas my true love sent to me ten rolled quarters, nine wooden nickels, eight dimes-a-sailing, seven shin-plasters, six halves-a-gleaming, five golden pieces, four tarnished

nickels, three fish-scales, two pennies dotted and a dollar for a coin variety.

On the eleventh day of Christmas my true love sent to me eleven graders grading, ten rolled quarters, nine wooden nickels, eight dimes-a-sailing, seven shin-plasters, six halves-a-gleaming, five golden pieces, four tarnished nickels, three fish-scales, two pennies dotted and a dollar for a coin variety.

On the twelfth day of Christmas my true love sent to me twelve counters counting, eleven graders grading, ten rolled quarters, nine wooden nickels, eight dimes-a-sailing, seven shin-plasters, six halves-a-gleaming, five golden pieces, four tarnished nickels, three fish-scales, two pennies dotted and a dollar for a coin variety.

GREETINGS AND BEST WISHES
FOR THE NEW YEAR

HANS ZOELL, BETTY KADANNEK
HOBBY PUBLICATIONS & MFG.