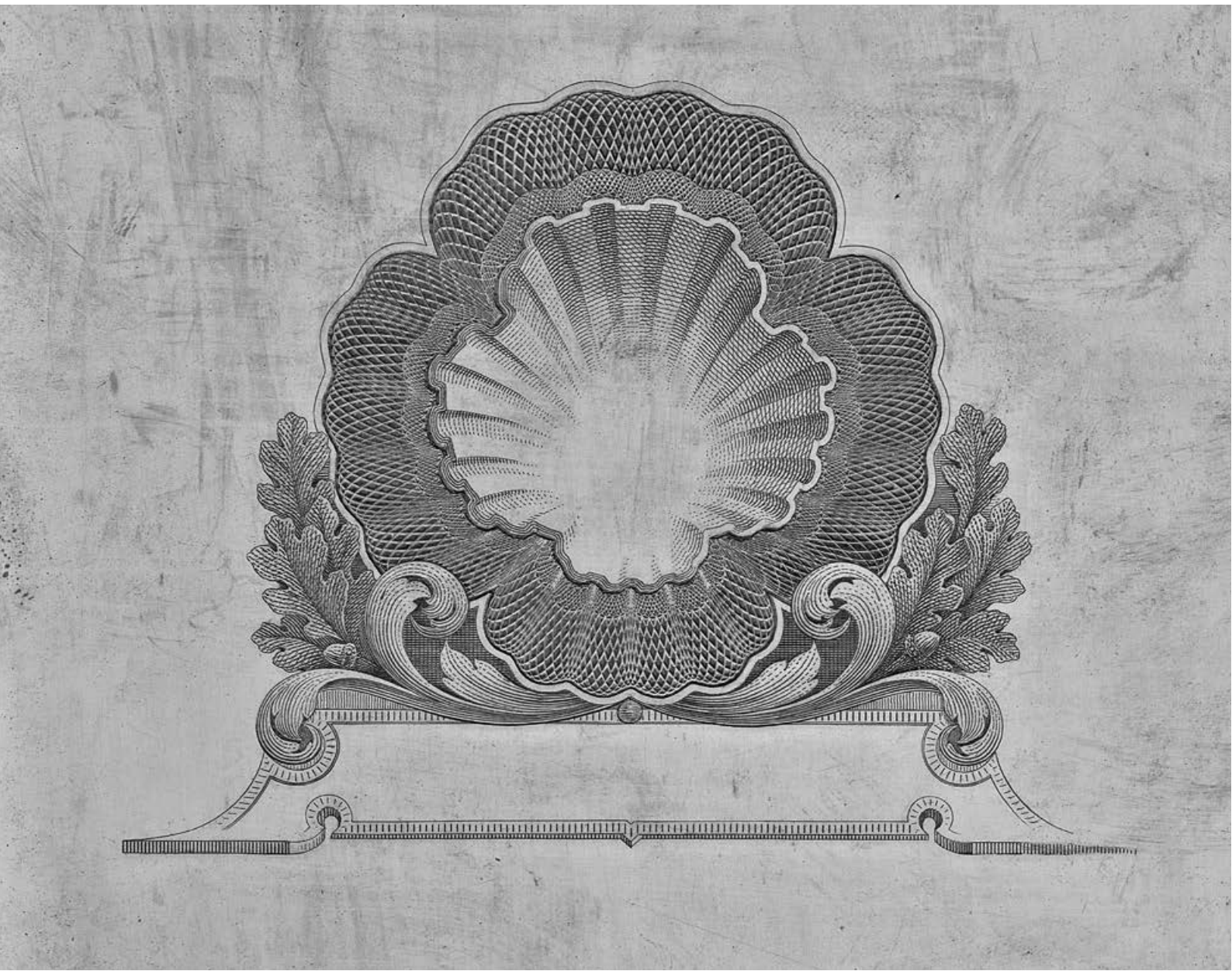
# FORGING VALUE: an etymology of monetary signification

It is typically claimed that the ornament on banknotes protects against counterfeit—making it difficult to forge and rendering conspicuous any attempt at alteration. Historically, however, and irrespective of whether the banknote is convertible (a promise that it can be redeemed in precious metal) or fiat (a promise that it can be exchanged for other banknotes), printed ornament has played a dual, and in some sense, duplicitous role with regard to reproducing value. Although this role is largely transparent in regulated nation-state economies, the engraved design must conjure up a visible authority on the banknote before it proscribes or prevents copying—it must present the initial proof of certified value to the sensibilities of those who exchange the note—to debtors and creditors who offer and accept it as payment and to everyone else amongst whom it circulates.

This research examines how graphic conventions came to establish confidence in and give fiat value to a printed impression that is notoriously ephemeral and infinitely reproducible.



In imitation of engraving: portrait on Australian $100 banknote.

## INTRODUCTION

The evolution of printed money's appearance has established a graphic repertoire of authoritative signs and configurations, that can be classified as either *iconic* (portraits of kings and tyrants, allegorical vignettes of prosperity and commerce), *textual* (decorated numerals and manuscript promises) or abstract (vegetal flourishes and geometric line-work and patterns). All three of these graphic types work toward elaborating what is, at its most basic, a nominal sum. Of the three it is the abstract, usually geometric, ornament that provides the most versatile and consistent means of signifying monetary value.

Precisely because they are not anchored to any historical period or to any specific location, the abstract elements of the banknote can be applied in almost any situation to connote monetary value and in addition to their geographic legibility (money is recognisable for what it is almost anywhere in the world) they have the tendency to migrate to other, lesser documents where they communicate the same legible signs of prestige. So it happens that the same geometric tracery does the job of certifying passports, driver's licenses, and university diplomas and also proclaims the importance of anything with pretensions to monetary value, such as (continuing down a scale of relative worth) manufacturer's warranties, lottery tickets, and discount coupons.

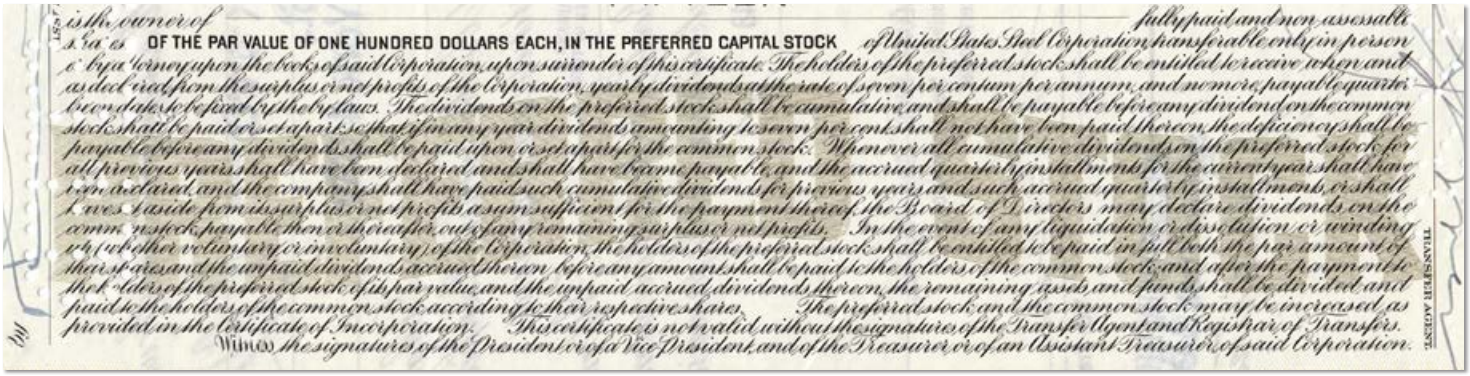
The subjects of this research are the textual and the abstract signs particular to monetary value—signs that have an ornamental provenance firstly in the flamboyant curlicues of 17th century penmanship and later in the precision of 19th century engraving machines.

## WRITING CURRENCY

The appearance of paper money in Europe emerged from the paperwork used in the course of mercantile exchange—contractual arrangements between named parties that were, to varying extents, negotiable. In mapping out how printed monetary signs have evolved over a period of about three centuries, it is necessary to consider how they functioned as a means of reinforcing negotiability and through it, the autonomy of the monetary token. The first financial paper instruments of of this kind involved signs derived from the styles and devices of hand-writing which emphasised and secured the obligations of the manuscript contract. These were gradually adapted to suit the needs of a printed instrument of credit that was released from the bounds of personal assignation. My research in this area begins with the flourished ornament on 17th century commercial papers and attempts to show how components of lettered pen-work formed impersonal abstractions that were refined over time as security logos. In this context, abstraction could be seen as an adaptation of the personal signature and its re-configuration as a repeatable ornament to facilitate the anonymous exchange of printed money.

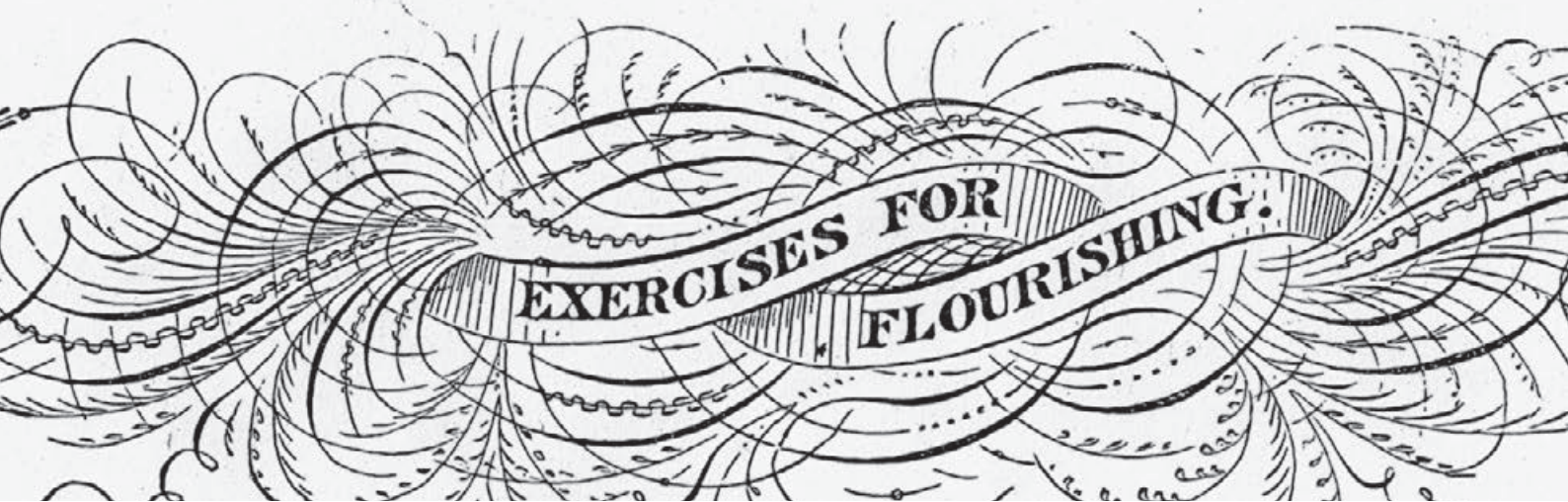
There are two lines of inquiry that could be taken into the question of how monetary signs evolved as an extension of a written, contractual form. The first concerns the ornamental flourish that was produced in decorative excess of the written letter form—a formation that came to embellish the monetary document as a kind of abstract *cartouche* or *paraph*. A second line of inquiry concerns the styles of script used to make words themselves, not just those that formed the promissory declaration on banknotes, but also the styles that served as conventional manuscript hands in commercial and financial communications and were used to write the indentures of monetary documents such as bonds and bills of exchange.

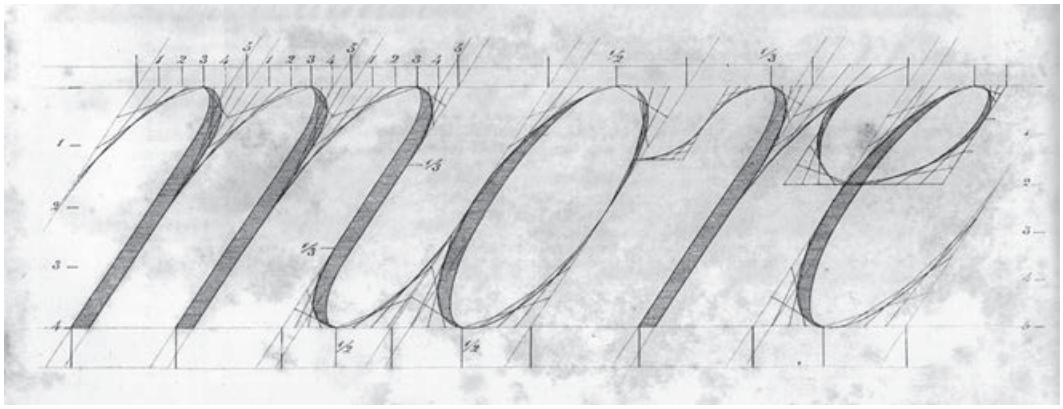

Drawing by Saul Steinberg.




Roundhand or 'copper-plate' used for the 'fine print' or covenants of the indenture on a United States Steel Corporation shares certificate from 1945.

Flourishing exercise by Professor D. Ames, editor of the *Penman's Art Journal*. Late 19th century.





The engineering of Roundhand characters, from Henry Dean's *Analytical Guide to the Art of Penmanship,* 1808.

## SCRIPT

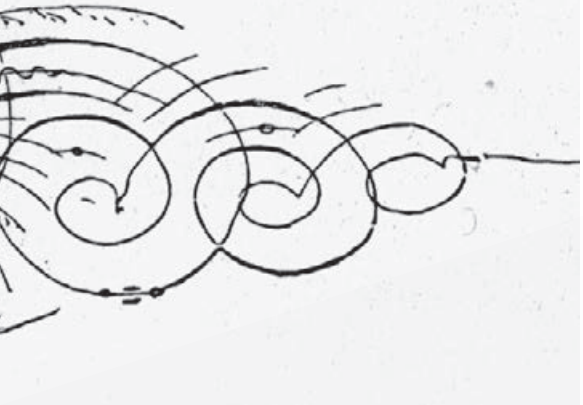
Pen-work of the 17th century writing masters consisted of manuscript styles originally translated for reproduction into engravings but which were then turned back into exemplary models for handwriting—a case of the printed reproduction surpassing the original.

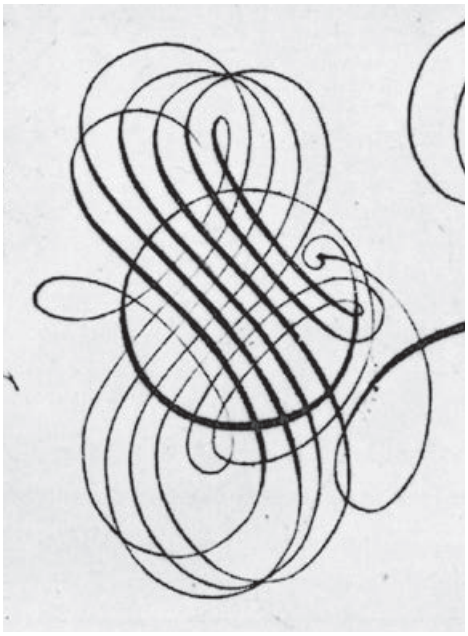
Three variations of the ornamental ligature of the letters "I" and "P" that prefix the phrase "I Promise to Pay..." from early 19th century English Country Banknotes.

By the 19th century the knowledge of a formal script such as English Roundhand (sometimes known as "copperplate" because of its reproduction in print) was considered an essential part of a businessman's education. It was a style applied to accounting ledgers and to commercial correspondence and until it was surpassed by the ubiquity of the typewriter, it gained international currency as a preferred business hand. In addition to being prevalent on commercial papers, variations of Roundhand styles guaranteed monetary securities such as promissory notes, running cash notes and cheques on which the letters formed the phrase "*I Promise To Pay*…".

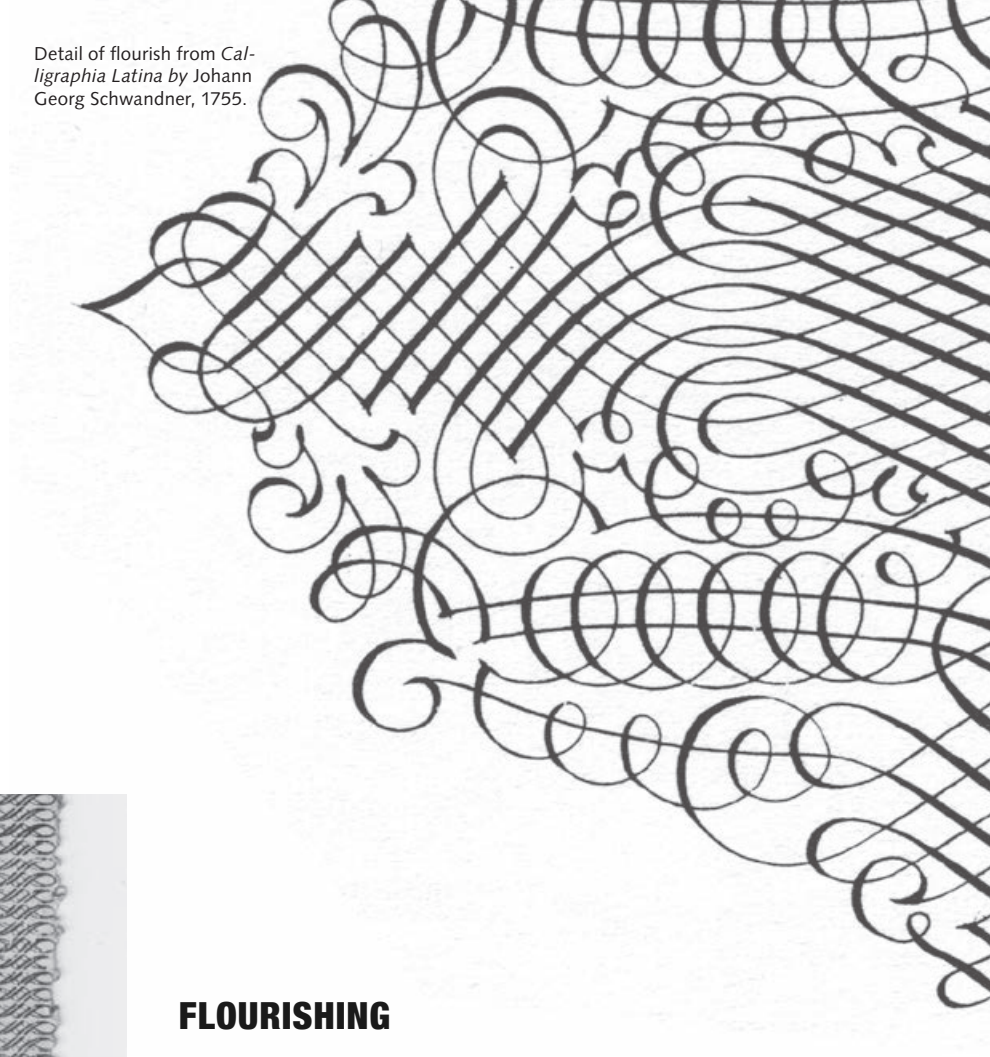
Originally an elegant script inherited by the British merchants from their Dutch counterparts, Roundhand lost much of its charm and character by being promulgated as a copy-book style. Many aspects of printed money's iconic authority come from the conventions of penmanship and the Roundhand script is still represented, for its historical monetary associations, on British and Australian banknotes.


Roundhand phrase practiced in a late-19th century copy-book.

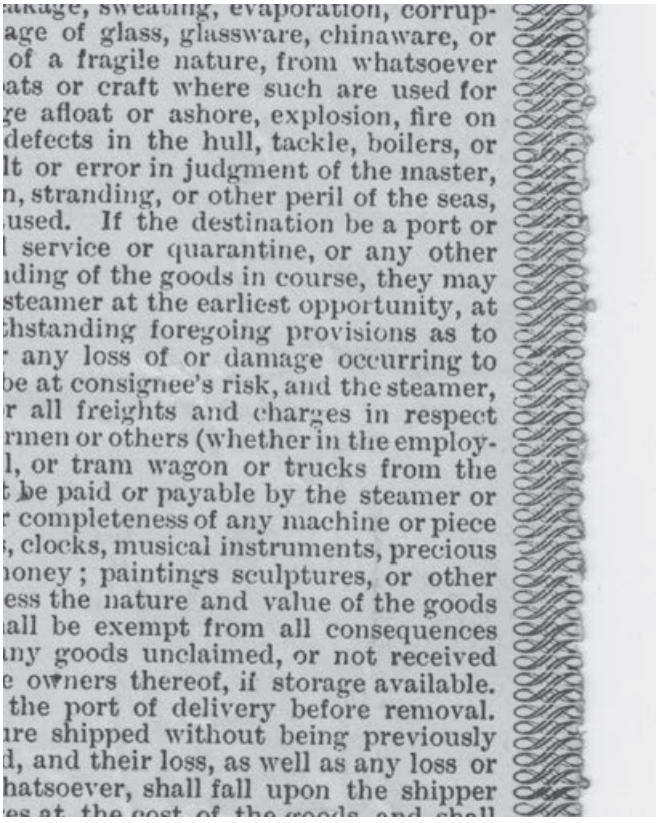




Detail of flourish by Marcello Scalzini from 1587.



Detail of flourish from *Calligraphia Latina by* Johann Georg Schwandner, 1755.



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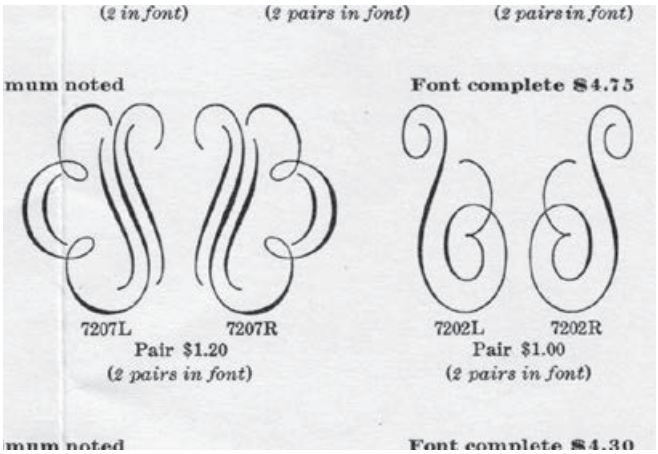
Type-check printed over a machine-perforated line. Shipping bill, early 1900s.




Advertisement from American Type Foundry specimen book c. 1920.

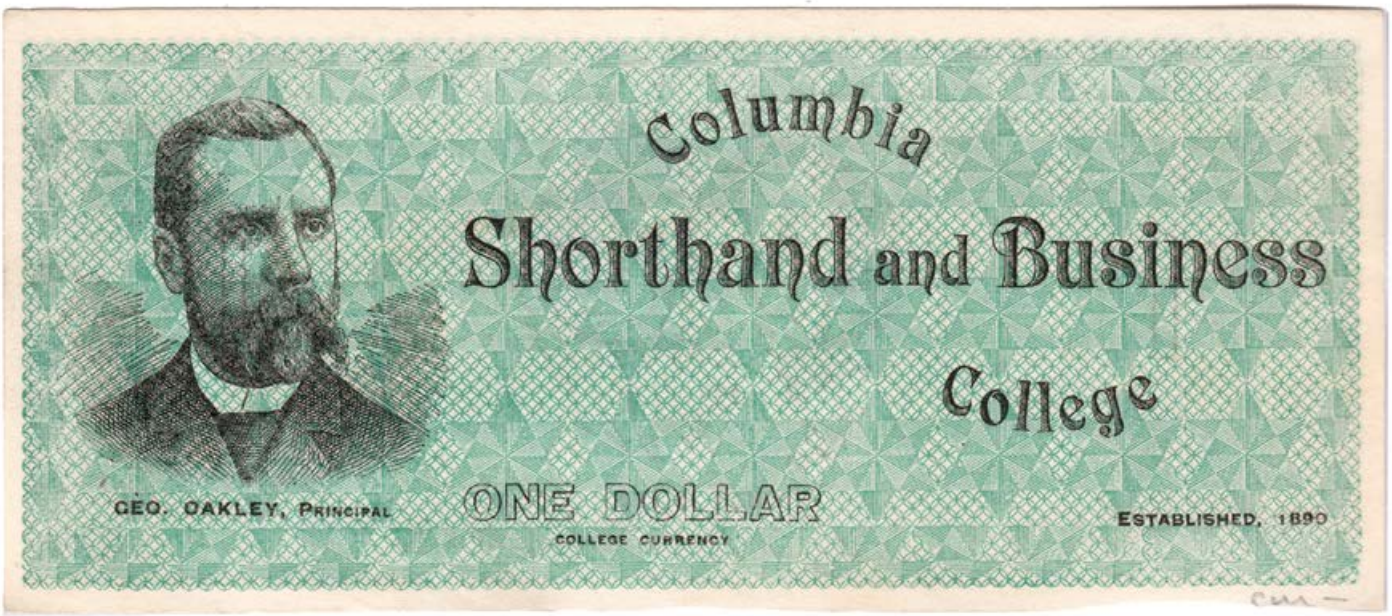
## FLOURISHING

Flourishing has long been an important feature of penmanship that demonstrates the calligrapher's expertise. It is a gesture that exceeds writing, often used to embellish the letters themselves, but also historically practiced to create autonomous ornaments called "strikings" or "knots" that existed alongside and independently of the text. The most skilled flourishes were made of a single, unbroken line and so they were also like signatory abstractions: idiosyncratic, highly refined and prized by the 17th century writing-masters. By the 18th and 19th centuries, however, manuscript flourishing had devolved into a mannered and repeatable convention that was learned by rote from copy-books. In this diminished form, flourishing was used both to decorate banknotes and as a form of security on the counterfoil (or stub) of cheques and bills. In the mid-1800s it was cast as a mortised type which, as the logo for BankWest shows, still retains currency as a stylised financial signifier.

BankWest
Bank of Western Australia Ltd

Detail of epicycloidal machine-ruling from the reverse of a specimen banknote. Early 19th century.

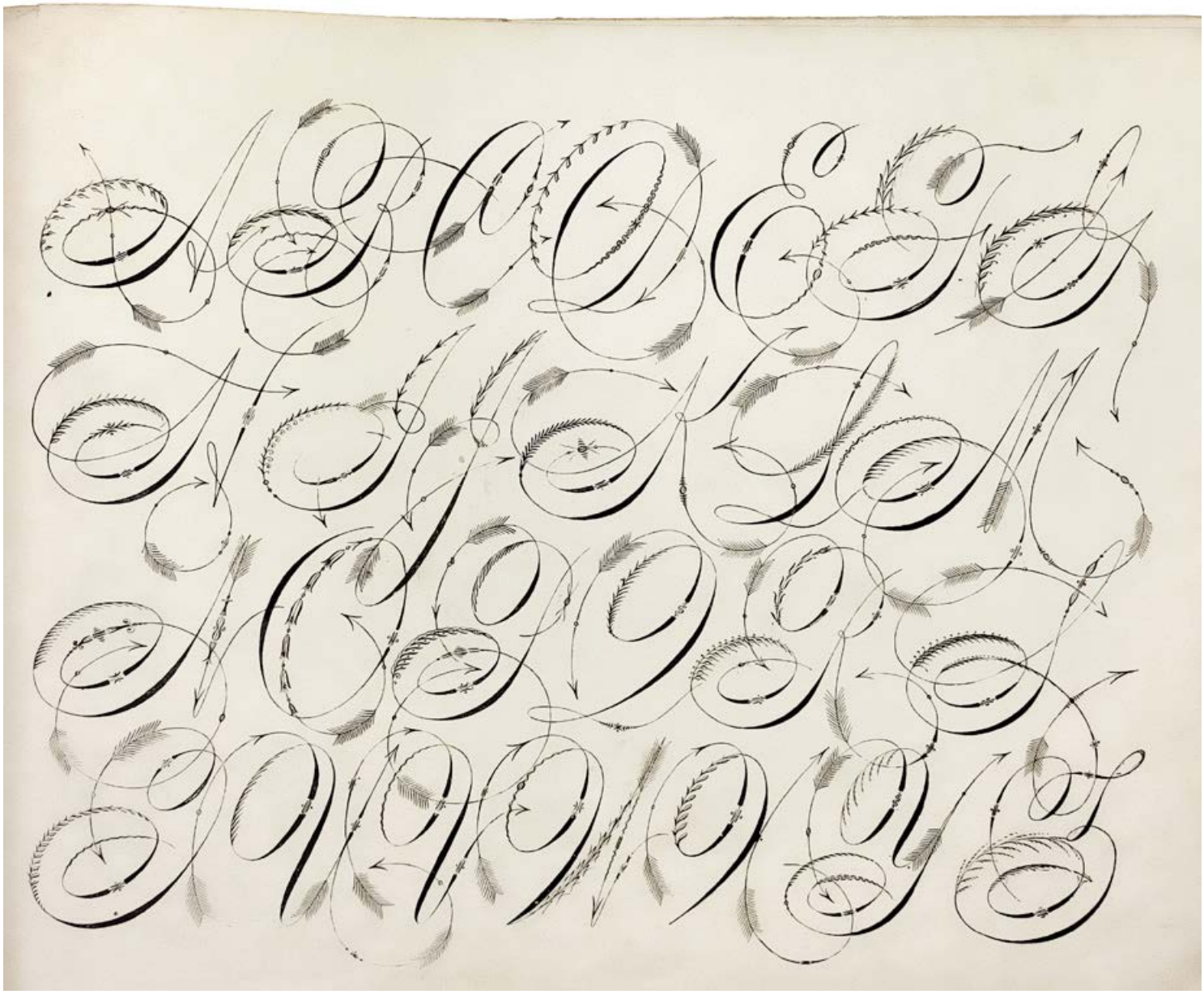

A lottery ticket issued in South Vietnam in 1965 during the American war. The ticket uses an illegible script for a counterfoil.

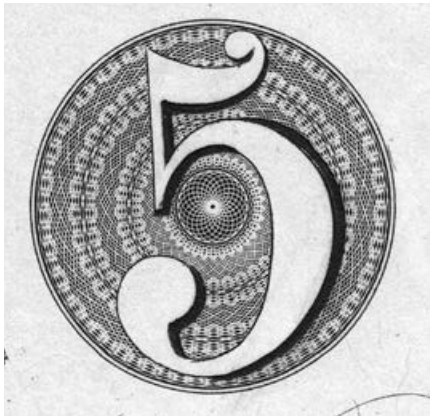



The association between cash, commerce and writing is made explicit in a surrogate banknote printed for one of the many colleges in late 19th century America that combined penmanship and business studies.

Facsimile print of an ornamented numeral, original derived from a plaster cast by the process of anaglyptography. Late 19th century.

A guide to Spencerian letter formations with trajectory of the pen indicated—from *Real Pen-work Self Instructor* 1881.





Engraved for the Bank of Rochester by Fairman, Draper, Underwood. (c. 1824).


Engraved for the Bank of the Commonwealth by Danforth, Wright & Co. , New York. 1853.

Detail of a numeral on machined background engraved by Charles Wesley Dickinson Jr. mid-1800s.


Engraved by William Grant, Bureau of Engraving and Printing. (c. 1890).


Engraved by the American Bank Note Company for a shares certificate, 1969.

## MACHINING CURRENCY

For the first century of its use in Europe, paper money was decorated with calligraphic formulations derived from hand-written securities such as the promissory note. By the mid-19th century however, the banknote had become a spectacular canvas for elaborate machine-engraved designs that communicated value using ornamental conventions that were universally understood and accepted.

Money-engraving machines named geometric lathes used configurable brass gear trains to make perfectly formed single-line engravings of compound complexity. Their rosettes and guilloche chains were, in effect, decorative 'autographs'—mechanical equivalents of the rhetorical configuration: "*I Promise to Pay…*" that had guaranteed the banknote in manuscript. By securing the note in this way early 19th century automation also played an essential role in the process of money becoming anonymous - of its acquiring a greater freedom of circulation by being unbound to an assigner or assignee (in this sense the machined line was like an anonymous signatory, guaranteeing the printed banknote). Although the autonomy of the banknote had been established by legal precedent (in the case of *Miller v Race*, 1758), the abstract configurations of the geometric lathe gave people a visible and reproducible assurance of the note's sovereign value. Because the graphic signs were abstract and not pictorially anchored to any particular time or place, they themselves acquired a greater freedom to circulate and to be used not just on banknotes, but on any number of lesser documents that pretended to monetary prestige.


## MACHINED CURRENCY IN AMERICA

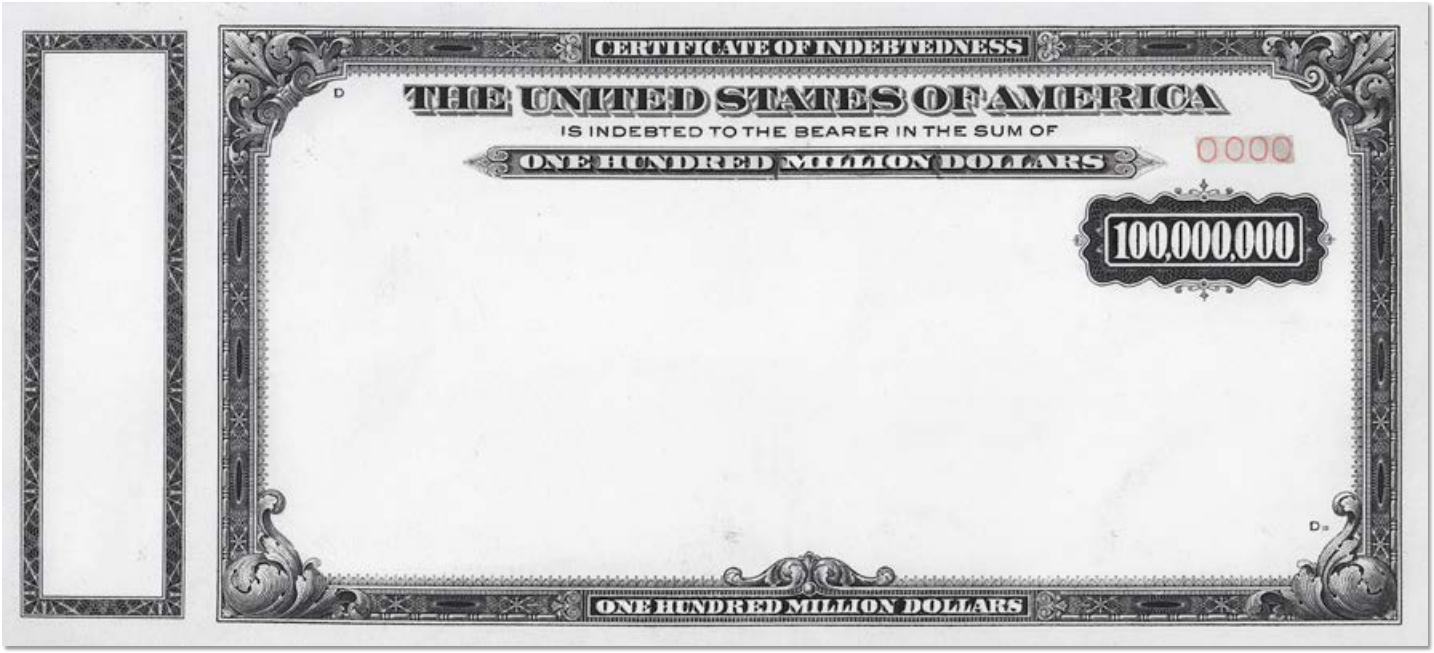
In America machined ornament was applied directly to the commercial production of printed money—beginning with simple line-ruling machines invented by individual banknote engravers which developed into the more complex geometric lathes of the 1820s and 1830s.

During periods of unregulated and private banking, the machined authority of monetary ornament helped blur the boundary between the authentic and the counterfeit. Engraved rosettes could give false credence to paper notes that were often nothing more than spurious fictions, printed by shysters rather than real banks and put out to circulate in a system in which the "genuineness" of money was less a measure of its value than the likelihood that one could pass it on to the next person on the basis of its appearance alone. Rarely has a printed piece of paper acquired such a degree of autonomy than when its exchange value was determined simply by how generically credible it appeared as money.

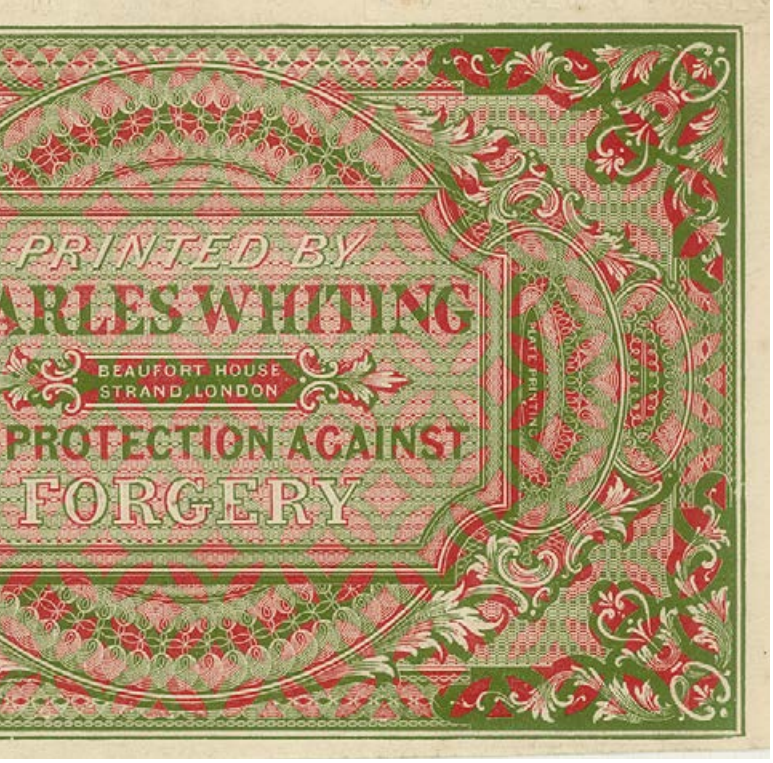


Detail of machined rosettes from a scrapbook engraved by CW Dickinson Jr. mid-1800s.

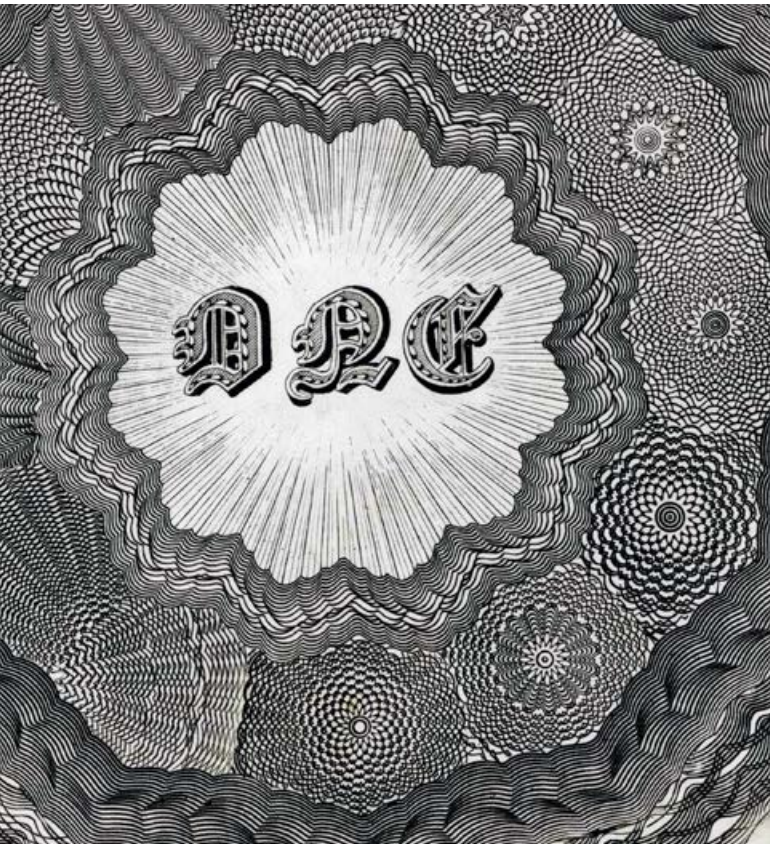
After the American Civil War the production of money was brought under Federal control and its design and printing assigned to the newly formed Bureau of Engraving and Printing. The period of the late 19th and early 20th century represented a high point of sorts for machined design. Operators of the geometric lathe (whose names are generally left unrecorded) created compendiums of machined abstractions and combined them in kaleidoscopic collages for use on tax stamps, liquor licences, and numerous other documents; combining a distinctly Victorian love of ornament with the imprimatur of a Federal government that had licensed itself to be the sole producer of national currency.




Specimen design for a Certificate of Indebtedness. Bureau of Engraving and Printing. Late 1800s




Compound print by Charles Whiting. c. 1835.




(above) Specimen of machine-engraving (uncredited) c. 1819.

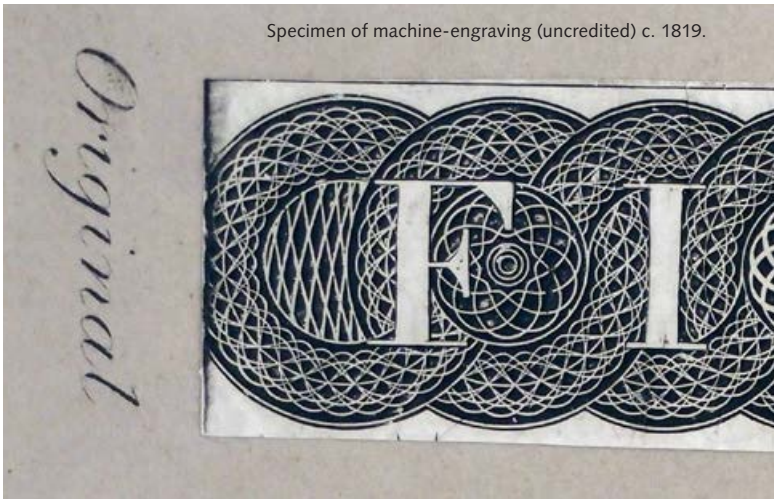
## MACHINED CURRENCY IN ENGLAND

Under the control of the Bank of England, the pound note maintained a stubborn reliance on the authority of the calligraphic form. For at least two centuries it adhered to the 'lettering' of the law and to the written contractual basis of the promissory note. It wasn't until 1928 that the English pound was embellished with machine-ruling and iconography (even the Queen herself didn't appear on paper currency until 1958).

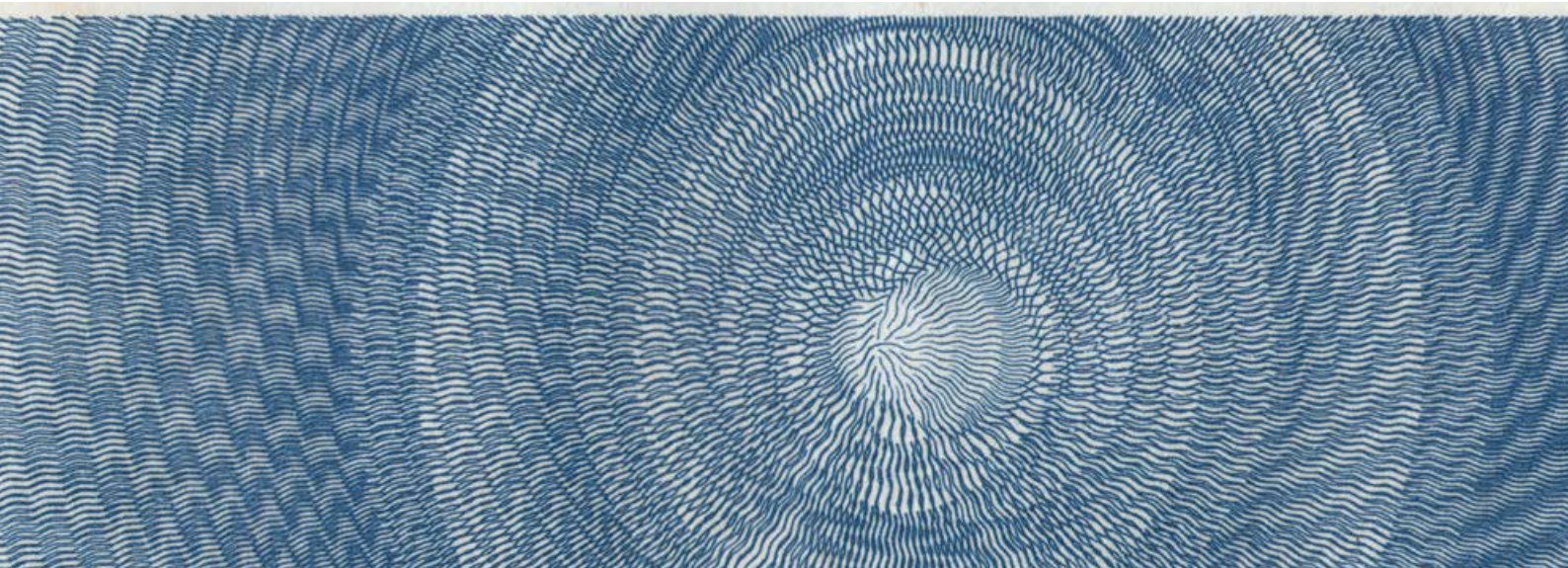
At the beginning of the 19th century, however, the technology of mechanical engraving enjoyed a brief period of prosperity and experimentation: mainly due to the prevailing penalty of hanging for counterfeit and utterance and the idea that this could be reduced by designing a banknote that was inimitable. The drive toward inimitability encouraged a greater complexity of ruling machines, leading to fears that beyond a certain point, people might not be able to tell a genuine design from a spurious one.

During this period in England the technological developments in machine-engraving emerged from hobbyist crafts such as horology and ornamental turning and within the tradition of the amateur inventor. Its later commercial applications were on postage stamps and medicine labels—the latter often in conjunction with compound colour printing which gave the same sense of promoting the security and prestige of the object it ornamented.

Specimen of machine-engraving (uncredited) c. 1819.




(below) Specimen of machine-engraving by Richard Williamson c. 1818.



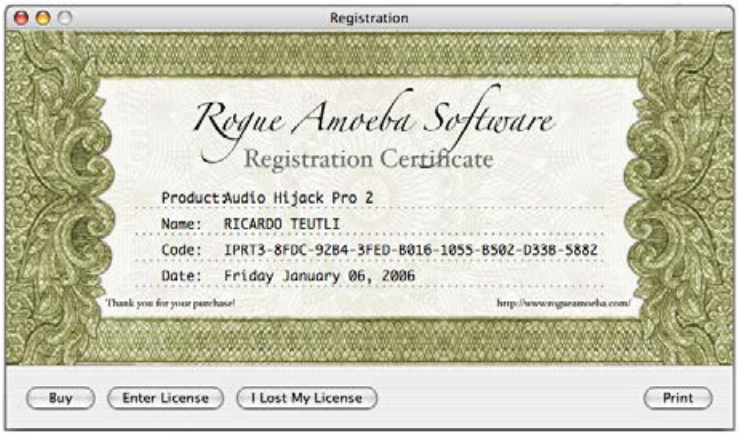

## MONETARY IMITATION

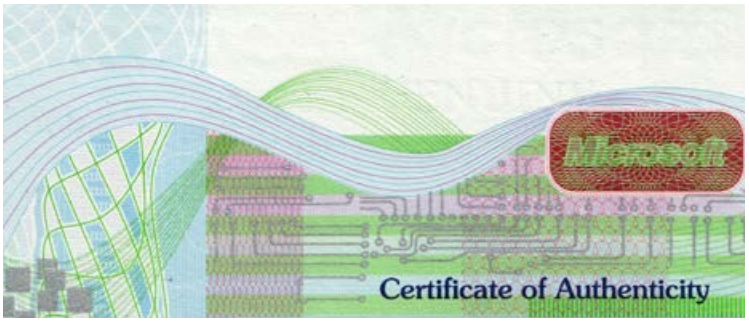
Monetary ornament is incorruptible—even if the same cannot be said of the portraits or numbers with which it shares the banknote. No matter if the document it decorates is counterfeit or dishonoured, the ornament by itself (the machined guilloche) maintains stylistic integrity. Printed currency is manufactured in almost limitless editions and it is understandable that it should be imitated in general form as much as in its particulars. Quite apart from the efforts of serious counterfeiters, the generic signs of money are employed in art, theatre and advertising - where their appeal seems to be undiminished by reproduction.

Monetary imitation might be broadly defined as comprising objects that look like money, of which money itself is the most convincing and authoritative example. In attempting to classify the field of ephemeral objects that imitate money (of which actual counterfeit constitutes a small part) it is useful to distinguish objects that mimic the banknote in theatrical likeness, such as play money or advertising notes, which could be termed *imitation money*, from those that reassemble the signs of money so as to imply a value or stature, without necessarily pretending to be money—these might be properly considered to be examples of *monetary imitation*.

In many cases it could be said that signs of monetary security—especially machine engraving—have historically functioned to thwart counterfeit but in many cases they also functioned to elevate the object they decorated: to attest to its authenticity (on medicine labels) or to assert its authority (on passport and diplomas). In this sense it could be argued that the ornament derived from machined engraving has often been less a *proscriptive* device as it has been a *promotional* one.

Money continues to be imitated today in advertising and promotional graphics. The extent of its migratory spread has even taken it beyond the boundaries of the printed object into the pixelated luminescence of the screen: a material absurdity (or an instance of skeuomorphy perhaps) demonstrated by the example of the software licence, the sweepstakes certificate and the internet "guarantee".





Microsoft
Certificate of Authenticity


G 0334307 08
Pražská integrovaná doprava
Dopravní podnik hl. m. Prahy, akciová společnost
JÍZDENKA S OMEZENOU PŘESTUPNOSTÍ
TICKET WITH LIMITED TRANSFER OPTIONS
Cestující je povinen označit si neprodleně jízdenku při prvém nástupu do dopravního prostředku či vstupu do přepravního prostoru. Použití se řídí Tarifem PID.
Neoznačená jízdenka je neplatná.
Upřesnění na rubu jízdenky.
For details see the reverse side of the ticket.
Any ticket which has not been validated is invalid.
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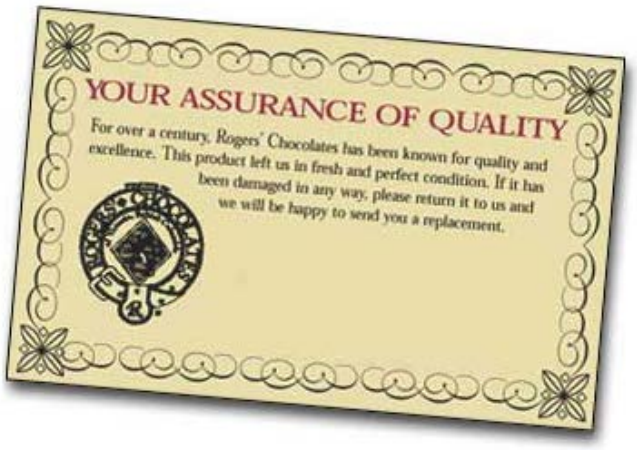
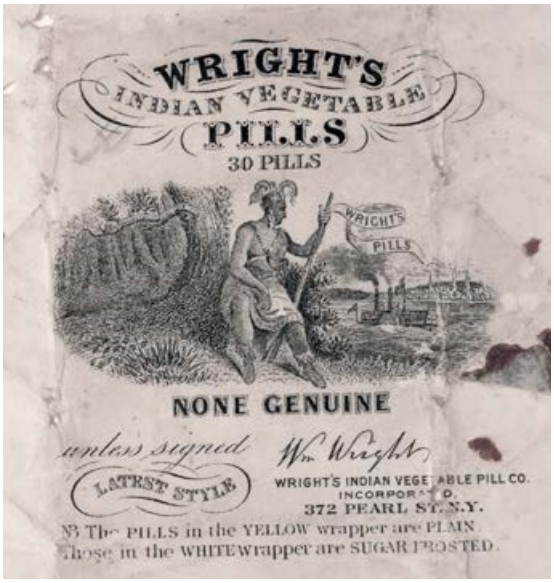
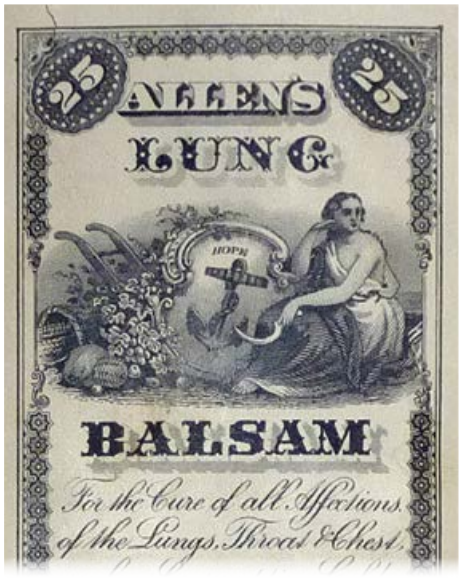
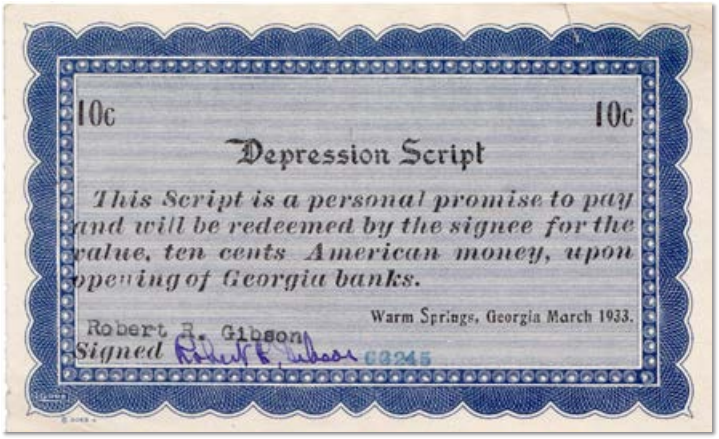

YOUR ASSURANCE OF QUALITY
For over a century, Rogers' Chocolates has been known for quality and excellence. This product left us in fresh and perfect condition. If it has been damaged in any way, please return it to us and we will be happy to send you a replacement.


MACK
Warranty Agreement Certificate


WRIGHT'S
INDIAN VEGETABLE
PILLS
30 PILLS
WRIGHT'S PILLS
NONE GENUINE
unless signed
Wm Wright
LATEST STYLE
WRIGHT'S INDIAN VEGETABLE PILL CO.
INCORPORATED.
372 PEARL ST. N.Y.
NB The PILLS in the YELLOW wrapper are PLAIN.
Those in the WHITE wrapper are SUGAR COATED.


ALLENS
LUNG
HOPE
BALSAM
For the Cure of all Affections of the Lungs, Throat & Chest.


10c
10c
Depression Script
This Script is a personal promise to pay and will be redeemed by the signee for the value, ten cents American money, upon opening of Georgia banks.
Warm Springs, Georgia March 1933.
Robert R. Gibson
Signed
C3245

## VISUAL ART

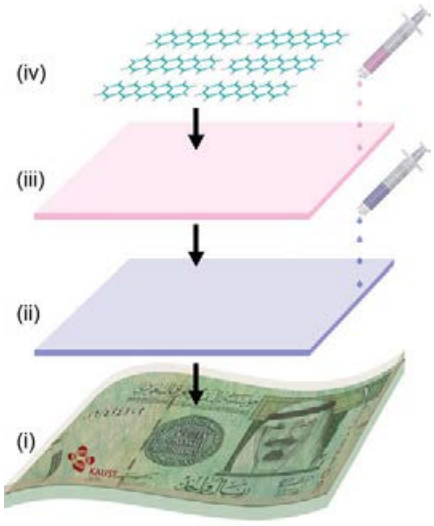
This doctorate was undertaken as a combination of scholarly and visual research. While the relation and ratio of the two were not strictly prescribed, it was decided at the outset that the artwork should remain independent from the written research. There are naturally points of convergence and cross-over, but the thesis does not directly address the artwork and vice-versa. The visual, or artistic component articulates certain aspects of the thesis in its own terms and with an approach that can be oblique, intuitive or quasi-documentary.

The visual artwork tends to focus more on the subject of counterfeit and the psychology of wealth: diagramming various anxieties that formulate in the shadow of prosperity such as those concerning loss, theft and bankruptcy.

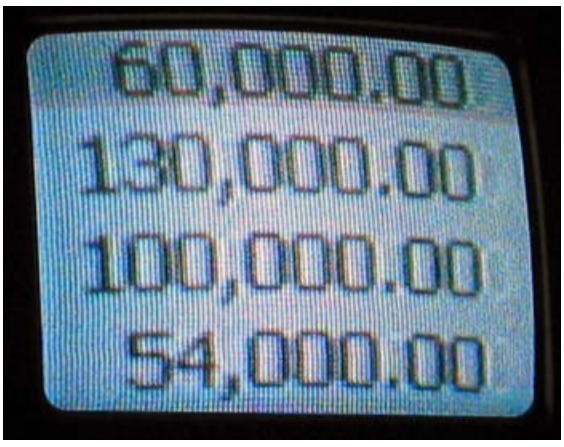
As far as technique or methodology is concerned, I take an obsessive kind of pleasure from the simple act of counterfeiting printed ephemera. Many of my works are little more than graphic reconstructions of the sorts of banal documents through which the business of everyday life is managed and regulated. These include receipts, bills, questionnaires, tax statements etc. The process of reconstruction begins with tracing the linear design of the document (originally with a pen and ruler but now I use a computer) and then purging from it all alpha/numerical data – that is, eliminating all its 'noisy' legible content. The configuration that results is often a grid-like structure, redolent of early geometric abstract painting, which I think of as form reduced to a graphic 'skeleton' of the document's administrative apparatus.


*Guthaben (Ghost account)*, 2011. Pigment inkjet and paint on polymer. 40 x 30 cm.

*Magic half-million (#2.3)* 2013. Pigment inkjet on cotton-rag. 60 x 40 cm








## SUBLIMINAL CURRENCIES

As a rough conceptual armature, it is useful to think of money as a reproducible impression that has historically moved between three physical states: from solid (metal coinage) to liquid (ink on paper/polymer) and finally toward an atomised electronic (or luminescent) abstraction. The trajectory is always one toward buoyancy—away from the material qualities of weight and mass as a visible index of value. This research has concerned itself with the second of these states; with the appearance of printed money and how value is communicated and accepted on the basis of its graphic configuration in ink.

These days one quite easily speculates on the eventuality of money vanishing into the rarefied abstraction of electronic credit and indeed, there is as much mystery in money's disappearance into pure numeracy as there ever was in its ability to conjure printed value from nothing. Fiat money came from nowhere and that is exactly where it seems to be heading.

At this stage one might more accurately speak of *printed* money rather than *paper* money, not least because in many cases its substrate is now a plastic polymer rather than cotton rag. Its plasticity should dispel the lingering notion that anything is intrinsically valuable about monetary material, apart from the fact that it supports the *idea* of money. As far as the polymer is concerned, it functions as a platform for the reproducible impression or imprimatur—as all monetary material has done since Lydian rulers figured they could profit from using their monarchical signs to certify the weight and purity of electrum.

The use of polymers allows security of the substrate to be 'nano-engineered' making possible (for instance) the integration of radio frequency identifier tags into the material of banknotes and enabling the passage of their circulation to be tracked. This level of 'security' requires construction of informational layers within the monetary document that exist beyond the threshold of visibility and the tendency to do so points perhaps not so much toward the visual obsolescence of the banknote, as toward the extension of its legibility. Information recorded in non-volatile polymer memory has no structural dependence on the graphic monetary signs that have traditionally made the banknote appear authoritative but it provides a coded means of authentication which can be interpreted and verified by machine. Every mercantile transaction that is mediated by electronics diminishes the banknote's dependence on any particular material: extending the concept of document security even further into areas beyond the visible and allowing the monetary instrument to assume a greater variety of forms.

If, at this point in history, we are facing the occasion of its disappearance (not quite an obliteration but a transformation into something that no longer requires a material guarantee) — might it not be an opportune time to examine what was at stake in money ever being visible?

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