

# **Marco: Reflection of practice**

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# Introduction

This essay explains the development process of my typeface Marco in the MA Typeface design at the University of Reading. Because my project was quite extensive, each topic is discussed rather briefly to fit it within the word limit. Each chapters are not listed in chronological order but in more comprehensible one.

# A Brief

Before coming to Reading, I had a few experience with typeface design (but not enough to become professional). One of which is the re-digitisation of Monotype Centaur,\* which was my graduation work at the Musashino Art University, Tokyo. While I was doing this, I was amazed that Centaur has a lot of wacky outlines and no straight lines, yet it is perfectly readable in very long text. During this exercise, I became interested in the informality of text typefaces. I wanted to make more vigorous and humanistic texture, but perfectly readable in book-length text as well.

In order to offer more freedom of graphical communication, I decided to make a sans serif that is as vigorous as roman. I always wondered why there was so much sans serif typefaces with capital I and Lowercase I in perfectly rectangular form and parallelogram. I thought there was still many possibilities for creating interesting sans and sans italic.

As for non-Latin, I was interested in Nastaliq, which is one of the most fluid-looking styles of Arabic script. However, because of technical difficulties related to it, I went for alternate plan: the Mongolian script. The reason for the choice will be discussed later. Also, because I wanted to support Mongolian more practically, I included Cyrillic in my brief as well.

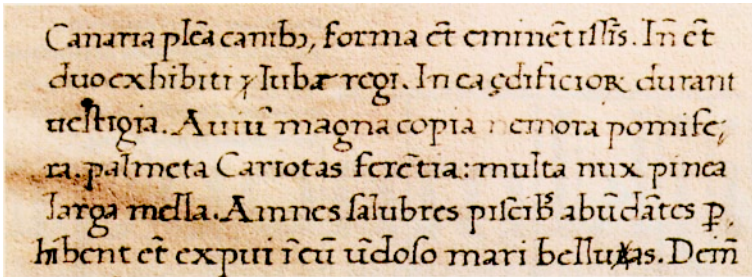
## Summary:

- Slightly informal text face for books and magazines, or any kind of printed materials
- Available in roman and sans serif
- Supports Latin, Cyrillic, and Mongolian

\* The original Centaur was designed in 1929. The digital version of Centaur was in 1988, back when the production speed was more important than quality. The fonts were made straight out of the drawings of photocomposition typefaces, which were in turn made out of the pattern drawings of hot metal types. The problem was that they did not add extra weight to the drawing, which was originally made much thinner to compensate ink spread of hot metal printing. My revival of Centaur was digitised from the printed samples and features darker texture than the digital one. I did not put the image here because of the license agreement with Monotype.

## Roman

My idea was a revival of humanist Italian letterforms. I wanted to summarise, interpret, and revive the particular calligraphic feel that lies within them, rather than a simple imitation of a particular sample. Notable models for the typeface were namely typefaces by Conrad Sweynheim & Arnold Pannarz, Nicholas Jenson, and manuscript by Solinus Caius Julius. Aldine type did not count because it was already typographicised too much.



The manuscript of Solinus Caius Julius.

nā quasi uiuam quandam imā  
idem ante diluuium fuerunt: p  
ssimi dei sacerdos iustitiæ ac pi  
corū appellatus est: apud quos  
a mentio erat. Quare nec iudæ  
itiles: quoniam non ut gentes p  
oræos proprie noīamus aut ab f

The typeface of Nicholas Jenson.

As I already had some experiences with typeface design and had a clear idea (rather too clear), it did not take so much time to realise it into Bezier outlines. Comparing the latest a with the earliest a, they are almost identical; the only differences are the modification of the proportion and detail that took place during the development. The details were of course very important, but I spent more time on the basic strokes as it was going to be a reference for my sans serif. Notice the very slight slant and shoulder of the n and h which does not go down straight. The basic and common feature does not lie on the outline, but within the stroke.

Fig1. The earliest digitisation of my sketch in November.

adhesion  
adhesion

Fig2. The Latest version of my Roman.

Capital letters are wide but short. Small caps are taller than those of the other text faces and more like mid caps. In this way the clearer distinction between Cyrillic lowercase and small caps would be made (At this point the Cyrillic and Greek small caps are not done).

H H H h

## Italic

The roman was done with less problem compared to the italic. In the first trial I tried to enhance the flat shapes of the Roman in Italic. The result was at least interesting, and did not please Gerald's eye. Each letter was drawn as an individual object, so that they do not work beautifully as a word; also the angular and wacky outlines did not harmonise so well with Latin. The 17 degrees slant angle was too strong too.

*adhesion*

Fig3. The earliest Italic on 17 November.

In the second major update, I smoothened all the angular shapes and reduced the slant angle to 11 degrees. It still kept the quick outstroke of the h, m and n like the serif of Roman. It would work, but it was a tricky shape to be shared with Sans Serif Italic.

*adhesion*

Fig3. The Italic 2.0 on 3 February.

Finally it was equipped with more traditional endings. The common features in Roman and Italic is the quick instroke and constructed bowls.

*adhesion*

Fig3. The Latest version of the Italic.

*in in r*  

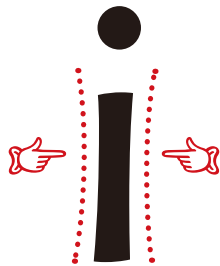
## Sans



Super boring sans i.  
Helvetica, Frutiger, Myriad, Scala, Gill Sans.

To meet the growing need for a typeface with more variety for the sake of better graphic communication, I included sans serif in my brief. I always felt so many sans serif were so similar to each other and equally boring, while there is much more room to explore in this genre. For example, I did not like straight stems so much, making it too easy to make i and l. I wanted friendlier and more informal sans serif like Candara or Comic Sans (I am not talking about the aesthetic quality).

Because I already carefully designed basic strokes of the roman considering the sans-serifing of it in the later stage, I think I successfully brought them into sans too. The gentle swell and slant of the stems make Marco Sans feel like carved letter on a stone. Actually, the stone carvers I met at the Edward Johnston Foundation's seminar which took place in June, preferred Sans over Roman.



am am

The Sans italic was another ground of experiment. My question about sans italic was the lack of differentiation from the upright. Usually the a, e, and g are often designed in a more cursive manner, but what about the l, i, or w? They don't make l more cursive, because they have not come up with it? Is it already proven to be a stupid idea, or the slant is just enough? I was not convinced, so I added a out stroke in the basic forms like normal roman. In this way, Sans italic will truly be called cursive, and benefit from much better distinction between capital I and lowercase l.

*Illinois Illinois*

Gill Sans Italic



# Cyrillic

As my typeface had to support Mongolian in two scripts (Cyrillic and classical Mongolian), I started a few research on it soon after my upright Latin was (sort of) settled. What I learned is that it was reformed by Peter I of Russia in 1708, and he introduced the typeface, the Civil type, which leaves a huge gap Italian Renaissance models both in terms of history and visual style. There was also a historical correspondence with them, called Ustav hand, but then again it made no visual significance. I also found some nice Cyrillic alphabet books in St.Bride, which told me how to play with it as well as how to keep definitive characteristics of each letter. Then I decided to prioritise visual harmonisation above historical significance.

Although it has its own issues, the design of Cyrillic alphabets feels similar to making extended latin character sets. As it shares many characters with Latin, it is fairly easy to get basic characters quickly. In making Latin caps, Gerry told us to make smallcap first, then enlarge or extend it to the Cap height. In this case, which case first? For me it worked the other way around. Because Cyrillic capital and lowercase have strong relationship with each other, and I already had 26 Latin capitals (and Greek ones too), it was easier to make Cyrillic caps first, then reduce or shrink them to the x height.

a > A > A  
Ъ > ъ

“Ideally” the Cyrillic lowercase height should be higher than that of Latin to compensate the lack of ascenders, which makes interlinear space more dominant. However, I kept it the same for four reasons. First, enlarging the x height will make Cyrillic larger than Latin when they are set in the same line, which seems to happen more frequently than bilingual setting (e.g. the English names of people or organisations in a Russian magazine). Second, the “ideal adjustment” would be only effective in bilingual text setting, for both paragraphs a typographer wants exactly the same font size and line spacing. I think that it would look much better to reduce the line spacing in InDesign, Word or whatever. Finally, the Cyrillic smallcap would require even taller height setting than that of Latin, which would look almost like mid-cap (I haven’t done any Cyrillic smallcap at this moment, but I will certainly do it). Finally, it’s much easier this way to keep everything under control.

The reason for making Cyrillic was to support Mongolian Cyrillic, which adds only two more characters to the Russian one. That was extremely easy, but my interest pushed me further. I started to explore the world of extended Cyrillic, like I made diacritic letters for Latin. However, it was less repetitive than making extended Latin, and some characters have more design variations from one typeface to another. I could not find definitive answers to those variations, but whenever I encountered the conflict between the typefaces I referred to, I followed Paratype Serif & Sans’ design, which was based on the most extensive research on this area and supposedly the most convincing one. Dealing with inconsistent decisions of the past was an interesting challenge, sometimes jaw-dropping (even more so for the italic).

## Greek

After Gerry's greek workshop in November, December or whatever, I was immediately interested in the strong calligraphic nature of the Greek script. The first design was much closer to the Latin made by reusing the similar shapes of lowercase n, o, v and so on, which obviously it turned out to be a bad idea. Greek should be more fluid and calligraphic, but not too much. It also should be typographic enough so that the italic can be way more calligraphic, and that it harmonises capitals. I sometimes see Greek caps standing out too much from the text, like the one with Garamond Premier Pro. It is because of the difference in the axis of the stroke modulation and fluidity (or simply because I am not used to it). Three solutions are possible to solve this; to make the lowercase stroke modulation similar to the Latin (Minion, Arno); to make the typeface less contrasty or just no contrast (Skolar); to give them similar degree of typographic/calligraphic feel (Arno, Constantia). I have taken all of these, except that I applied the second solution in Marco Sans only. The lowercase stroke modulation was inspired by that of Arno, and the caps are already calligraphic. Italic is sharper, more speedy, and has longer in-stroke and out-stroke. Some letters are also different in structure (i.e. α, θ, φ).



## Mongolian

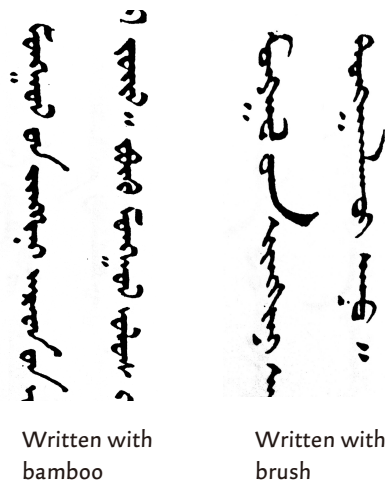
As a non-Latin side of my typeface, I chose Mongolian. Mongolian is a vertical script and a descendant of Syriac script, which ultimately shares the same origin as Arabic. In other words, the level of technical requirement for typeface designer to make Mongolian typeface is quite close to that of Arabic, aside from the difficulty of setting it in InDesign (which is not a problem with Japanese version). The reason for the choice of Mongolian was that I wanted to learn more about vertical script but in a different way from CJK script so that I can bring a new aspect back to them. Also, it's always exciting to do what nobody has done.

The number of potential users of this script is more than two million, but because of the historical and practical reason, they are using different scripts. There are two regions called Mongolia, namely Mongolia as an independent nation, and the Inner Mongolia autonomous region in China. Mongolia has been using Cyrillic script as their written language since 1924 with the introduction of communism from Soviet Union. The use of the "Classical Mongolian" script is limited to decorative use, where one wants to present historical significance or authentic Mongolian feel. It is not used as a means of communication, but the government has been trying to reintroduce it for more than 15 years. On the other hand, Inner Mongolians use it on a daily basis in spit of the smaller population (90% is Han Chinese). Road signs are set in Chinese and Mongolian, and there are newspapers and book stores that sell Mongolian books only. One situation in common with both countries is that they cannot use Mongolian on digital devices like cell phone, and they have alternative scripts (Cyrillic and Chinese). This seems likely to cause the practical extinction of the script.

Digital Mongolian typography is partially supported on Windows with only one typeface, and nothing whatsoever on MacOSX. There is a decent Mongolian language kit available on Chinese Windows only, developed by Menksoft. It allows users to make printed documents and even web pages, but because the system is not unicode compatible, outsiders cannot search for the web pages from Google for example (Inner Mongolian University uses Mongolian text as GIF image). Hence, there is a separation of communication between local people and outsiders.

I started gathering informations and materials from wherever possible. Usually the most helpful collection of non-Latin materials in UK is SOAS, but what they had were around 30 to 40 woodblock prints and no manuscripts. Until John Hudson told me to go to eBay to search for them, I could not get find a single piece of handwritten Mongolian. Because of this rather slow preparation, my Mongolian did not start until January.

Nowadays, Mongolian calligraphy is done more commonly with brush in both countries than more historical bamboo pen, whereas many workhorse typefaces features the contrast made with the latter. This was a good thing for my project because I could harmonise it with Latin more easily; harmonisation of brush-written and pen-written forms is a constant problem in CJK typeface development.



After defining a character set based on Windows' Mongolian Baiti, I started drawing it with huge annoyance which was very predictable; Fontlab does not have a vertical preview mode. Mongolian is a vertically connected script, therefore the ideal way to make it is to have a second display rotated 90 degrees clockwise and use it as a preview screen. Since I had none, there was no choice but to rotate my laptop itself.

Mongolian has a strong base line like Arabic. However, the perpendicular movement is not as frequent as that of Arabic; it is more dense and compact. Because of these, the Latin words in Mongolian text look lighter and larger. That was exactly what happened to my typeface as well, and I started to find a good relative proportion, either by reducing the darkness of Mongolian and enlarge it, or doing the other way around to Latin. After some experiments, I decided to make a separate set of Latin (and Cyrillic) for Mongolian, then reduce the x-height and capital height by shrinking the stems, not by rescaling them. In this way the Latin was darkened at the same time. The capital and numeral height was reduced significantly because figures are the most frequent Latin letters and lowercase is the least. Most letters are scaled down to the active zone of the Mongolian.

In April, I took a trip to Ulaanbaatar and Hohhot, the capital cities of both countries to seek for feedbacks for my work and see how the script is used there. Firstly I met a professional calligrapher and typeface designer in Ulaanbaatar, Jamyangsung. Although he did not seem to appreciate my work entirely, as I made some letters badly proportioned, especially the small teeth, calling it a pupil's teeth. What the term means is that the beginners tend to write teeth larger than necessary; he said that overall look of each word affects the recognition (readability), not the dominance of each element. Also he was pleased with how I managed to get a good rhythm of black and white shapes, telling that the distribution of white space is much more important than black ones. I was amazed to hear such things in such a remote world. Also, he mentioned some differences in the styles and shapes of particular letters. He saw it as the influence from Chinese calligraphy, implying it is less 'purer'.

In Hohhot, I studied with students and professors at the Inner Mongolia University. Among them, prof. Jirannige was actually involved with the development of Mongolian Baiti – the best person I could possibly meet there. He gave more detailed feedback on my typeface that Jamyangsung did not clearly point out. I could also gather handwritten notes of the students, including a talented calligrapher. This time I showed the penmanship book that I brought from Ulaanbaatar to see their reaction. Obviously they spotted some details that looked strange or rather wrong to them. While discussing with them, I noticed that they never use Mongolian numerals; hence the oddly designed numerals in Mongolian Baiti.

At this point, I have all the glyphs required for Mongolian text in roman and sans (there should be much more suitable words), but no OpenType codes. Also, it seems like I need to add some ligatures for better connection of each letters. I will work on them soon. Since Mongolian does not use diacritic marks, the amount of coding work required is much less than that of Arabic. Although it takes some time to build the entire system as it requires deeper understanding of how the script works, it will be done before writing a dissertation.

# Conclusion

The development of multi-script superfamily equipped with four scripts has been a very interesting challenge. Through the process of constant back-and-forth modification involved with three new scripts required a great deal of organisation of the entire family involved with consistent and flexible application of basic parameters. In the end, I could manage to present the most of what I promised in the brief.

The experience with non-Latin typeface allowed me to establish the way to approach new scripts that is applicable to future projects, no matter whatever script it may be.

## Why a typeface designer can design a foreign script



As an endnote, I would like to introduce my own explanation about why a type designer can potentially design foreign scripts that he cannot read. Although nobody in Reading doubts the fact that it is possible (I hope), it is a still questionable matter to most people, including typeface designers. One day an outside student learning typeface design tried to convince me that it is impossible. I failed to convince him then, but later I realised an interesting fact that sounds convincing to non-designers as well (like my mom).

Good Chinese fonts consist of 25000~30000 characters, and more than 99% of them are Kanji, which have their own pronunciation and meanings. If a Chinese typeface designer has to know the meanings for all Kanjis out there in order to design a Chinese typeface, his knowledge must be incredibly deeper than that of linguists, or he simply cannot make it. This is nonsense. In reality, a Chinese typeface designer (or CJK in general) doesn't care a bit about how each letter is read when he is drawing it; he only focuses on the proportion, consistency, and spacing of it.

To prove this on a more general level, I asked my Taiwanese flatmate to write some Kanjis she had never seen before. She is not any kind of designer, but has a good penmanship. I asked her to write three characters that I had just made up; they do not exist in the Unicode table, let alone in this world. Nevertheless, she managed to write them easily and beautifully. She could do it not because she knew the pronunciation or meaning of the letters, but because she knows how to get a good proportion of Kanji. That proportion, or visual pattern in general, is what we learn when we design any kind of foreign script typeface.

