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Zooming in and out, reflection on practice

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Introduction

Coming from social sciences, learning type design isn't just about type. It's about becoming a designer. It is a little like moving to a foreign country. The student acquires foreign notions and skills indispensable to functioning in the new environment. It's a matter of first becoming the person who can perform the tasks, then doing them. And at the same time, making sure one doesn't merely become a gear between the brief and the output but a place where ideas, history and techniques collide and quality thinking happens. As Richard Sennett puts it very nicely in *The Craftsman*, "Highly specialised skills represent not just a laundry list of procedures but a culture formed around these actions". (p. 107)

The story of Angata is also that of my acquisition of those skills and above all of the conquest of a specific frame of mind. The present essay attempts to extend the critical thinking that went into the type design to the process itself. Starting with the genesis of Angata, it zooms out to considerations about the acquisition of type design skills with the hope that they might be useful to others.

As a part-time student, I dedicated 21 months to the MATD. Fitting my studies around my domestic and geographic constraints, I had a keen perception of the scarcity and value of my time. Hence the choices made to optimise my learning curve and not necessarily to maximise the output. (I tried desperately to alt-shift-click my learning curve but I couldn't always see its BCPS, for print's sake, let alone handle them!) So I made a point to take a close look at everything available but didn't go for extremely chronophage projects involving lots of exploration in one particular direction.

Brief

Defining one's own brief in a vacuum is as difficult as it is improbable, even if the implicit Reading requirement "anything you want as long as it's suitable for text" does provide helpful constraints. The real brief is the process itself: "to create opportunities to examine as many aspects of type design as digestible in the given time". What is the design brief that serves this purpose best? I could only guess.

These pages are typeset in Emrys,
a typeface designed by Ben Jones.
All illustrations are mine and
shown at actual size unless
otherwise indicated.

Th

Type scanned from
Intelligent life magazine.
Scale 1:5.

I started by eliminating aspects I knew not to be of high priority to me such as designing for technical constraints that would have changed or disappeared by the time I had mastered their intricacies. Once low resolution was out of the way, like a hungry guest at a well presented buffet, I stacked my plate high with a bit of everything. I picked literature as a purpose because of its familiarity, with the hope that it would provide some breathing space. Zooming in to the level of shape orientation, I chose to define the brief conceptually. I naively underestimated the challenge of building any text typeface from scratch. And my eye was definitely not sharp enough for the subtleties of anything “mono-linear”. So I looked for a brief that would force me to work out my own solutions and would safely prevent me from imitating or copying. I wanted to design something I might want to use and that I didn’t already have in my font library.

I was interested in the apparently irreconcilable dichotomy between “contemporary looking sans serif” and “comfortable reading serif”. So I undertook to push the shapes of a sans serif towards:

- a more defined baseline
- more differentiation of the top of the characters thanks to variable width
- sharp stroke modulation
- open counters

I also wanted to explore the way letters interact with each other by way of manipulation of the negative space. I liked the way the capital T on the left reached out to the lower case h and didn’t see why most letters couldn’t be made to “speak to each other”.

Research

With so many conceptual requirements, the exploration of shapes was for a long time made at the expense of all aesthetic qualities. I looked at models like Albertus and Angie sans for the incise shape, Freight and Pseudo for the ultra-legibility, and Garamond, Rotis, Bembo for the modulation and “literature” flavour. Yet, when it came to making decisions about tools, type of curve, ascender and descender heights, x-height, em/en length, widths, weights, details, level of contrast, counter shape, spacing, type and shape of figures, punctuation... Well, a lot of decisions were made looking at the proportions of text type and a lot of others were made randomly at first and questioned further down the line.

Playing with shapes, an
experiment with playdough.
Actual x-height \approx 20 cm.



The project began with incise-like flaring verticals. It met difficulties when the designing of shapes that would disappear at small sized was questioned. Of all the lessons in type design, one of the most difficult to learn is the building of the visual experience of what happens to shapes when reduced to text size and what happens to the text when these shapes are repeated endlessly. The “building bricks yet judging walls”, as Gerry Leonidas puts it, implies a mental association of the micro-variations with their macro-consequences. What about shape variations that don’t seem to have any macro-consequences? Is there any sense in designing type that would look different in text and display size? Or details that the printer would “swallow” below a certain point size?

The incise “drawing tool” was being exploited with mastery by Ben Jones, one of my fellow students, to design his Emrys. I thought I could always use his design when the time came and would rather design something different. (I didn’t want to invite comparisons either). This essay is typeset in Emrys.

Not finding answers to the above questions, I decided to change “tools” and try to figure out the logic of semi-serifs. I immediately ran into another aspect of the “vanishing detail” question. When pushing shapes for readability, the squarish counters and ink-traps lead naturally to breaking the shapes into stencils. I explored for a while the possibility of having stencil shapes at display size that would look connected at text size. Pulling it out proved significantly beyond my means at that stage and that interesting bit of research was set aside for further, ulterior investigation.

adhesion
adhesion
adhesion
adhesion
adhesion
adhesion
adhesion

A few versions of adhesion, in chronological order

The shapes evolved progressively transformed by calligraphic exercises and attempts to add tension to curves by dissociation of inner and outer outlines. The semi-serifs gave the typeface a general movement opposite the direction of reading. I resolved, on Gerard Unger's advice, to slant the whole thing to the right. By then, there wasn't a single true vertical or horizontal to the design, a really crazily ambitious set up for an inexperienced designer.

A quick note on the impact of writing a dissertation

As a part-timer, I happened to write my dissertation in the middle of the program. Yet, with reckless optimism and complete disregard for efficiency, I chose a subject largely useless to the fulfillment of my practical brief. I researched classification and what had become of it in the recent years of digital font production. This process impacted the design of Angata in various ways:

- it redefined my conception of legibility. A typeface is legible if I can still decipher the words on a .pdf made of photos of the text taken with my iPhone 3 in the lighting conditions of St Bride's library. (I'm proud to say, Angata is ledgible.)
- it defined the classification "notype's land" where Angata could live
- it revealed the confines of the type universe and the astonishing diversity of designs already available, leading to the questions "Why design?" or at least "What for?"
- it revealed the lack of shared standards of quality in the type industry and sent me back to my own wobbly judgment
- it triggered frantic work on the type design as I was "procrastiworking" away from writing the dissertation.

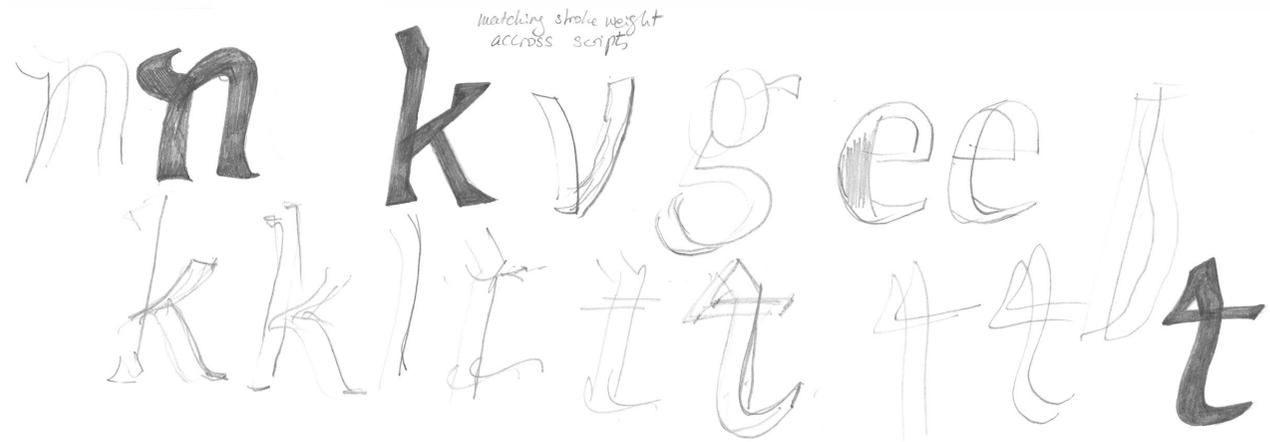
Beyond adhesion

Achieving consistency across the alphabet turned out to be quite challenging. The question of which detail to put where had no definite answer. Each modification on a diagonal line compromised the length of other segments. Like an internal biological clock, every aspect of the design contributes to the general rhythm of the text. The lack of true vertical line made the whole design quite rough. But then, "smooth" is so twentieth century anyway...

Designing outlines and negative space at letter level is quite satisfying. The pain kicks in when zoom-

ing out. The matter of finding out what is wrong is very much a question of experience and I found that I was often half-blind. I couldn't locate the problem and then I would find it staring me in the face after having been pointed out by a teacher, a visiting lecturer or a classmate. So the temptation to stay at glyph level and produce more inconsistent outlines had to be resisted for the benefit of quality. Managing the conflict between *getting it right* and *getting it done* was made quite difficult by my lack of reliable tool for evaluating quality. Type design doesn't follow the rules of most other disciplines. Doing *something* so you can change it can be very counter-productive regarding time management. And editing too many glyphs at once is the best recipe for complete inconsistency. There even comes a stage where it is more economical to transfer all outlines to the mask and start re-designing from scratch, quickly, with all parameters in mind.

Type design is also different from most other crafts in that the only precious resource one risks wasting is time (perhaps some paper too). Everything done can be undone, which means that it makes sense to go too far, push shapes and spaces and then move back. For someone trained in fine arts and cooking, where too much red or too much salt can ruin the whole *schmilblick* in addition to hours of effort, the scientific approach is an alien habit to form.



Experimenting with shapes
to build an italic companion.
Scale 1:3

abdgppq

The bowl of the *b*, repeated in *d*, *p*, *q* and *g* but also in the very common *a* defines the general texture of the italic.

Italic

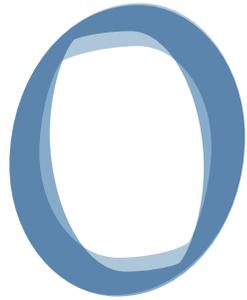
Guided by historical and analytical introductions to italic by Gerard Unger and Victor Gaultney, I undertook to build a companion to Angata roman. To preserve the modernity and informality of the design, I looked for ways to add speed to shapes without elongating strokes towards a connecting script. After a few trials and errors, I decided to increase the slant by 4 degrees, tighten the spacing, increase the contrast, shift some weight to the corners, adopt more cursive forms for *a*, *g* and *f*, and build the shapes around pointy counters held by four points rather than six. Special attention was dedicated to the design of the bowl of the *b*, because repeated in *d*, *p*, *q*, *g* and the very common vowel *a*, it defines the general texture of the italic.

Greek

I arrived in Reading believing alphabetism to be a major obstacle to type design even if one was reasonably literate in another script. I found the lectures of Fiona Ross and Gerry Leonidas incredibly eye-opening and inspiring. The possibility to jump right to the heart of a civilisation in spite of very limited understanding makes for a fabulous journey. I was tempted by every option, sketched Arabic and Devanagari glyphs and found that the shapes I had developed for Angata could adapt to anything. I settled for Greek because it seemed like a more realistic and manageable venture than most but I greedily gathered information about all sorts of scripts in the hope of making use of it later.

I decided to do the Greek in immersion. It was planned ahead, I dragged the family to Greece for two weeks and dedicated time every day to designing glyphs. The great advantage of this method was to leave little mental space for distraction. It also provided endless models of shapes that feel “normal” to the natives and therefore, I hoped, spared me the gaping pitfall of latinisation.

Greek is foreign to me. I couldn't even read it at first. So the first step was to learn to read by sounding out all the letters. After a few hours of practice, I automatically associated a sound to the glyphs even if I still didn't understand anything. I found that it helped in creating a complete mental image of the task.



Superposition of upper case O and Omicron. The Greek has a wider counter and some of its weight is shifted to the horizontal stroke.



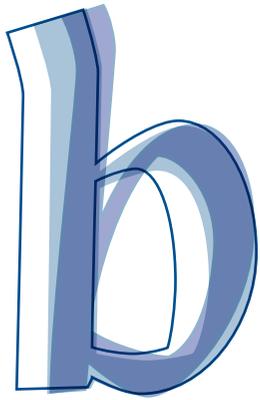
French accents in Angata regular

Some glyphs were familiar from long practice of writing mathematical equations and formulas. Lower case alpha takes, in Greece, different forms, many of which are reminiscent of the Roman italic. But the purpose of the use of Alpha for math is precisely to distinguish it from a and it must have a single stroke feel. And so it had to be for me. Lower case beta, gamma, delta and sigma held similar status along with upper case Sigma, Delta and Omega. In several cases I had to admit I had been writing them incorrectly all along. On the other hand, some letters were not only unfamiliar but also rather rare and difficult to spot in context, like upper case Chi . A literature review might have been more helpful.

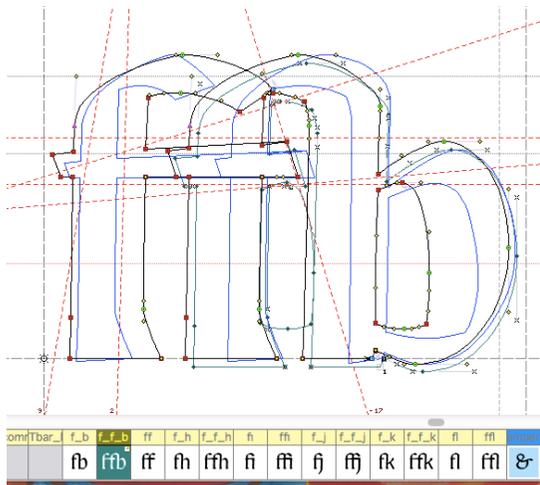
I was designing a companion for the Roman. The main options were therefore decided: same x-height as roman, same colour achieved by tighter fitting of wider shapes, semi-serifs as much as the shapes would allow. But I still had to select Greek shapes that would look typographic yet speak Greek and not some latinised version of it. I was amazed to find much more diversity in their “natural habitat” than in J. H. Bowman’s catalogue of Greek printing type. Strengthened by a few months practice of Fontlab, I designed the Greek swiftly and with great enthusiasm. I then struggled to try and coax it into some sort of straight-jacket. I decided Avyata Greek deserved better as an italic than a sloped roman, so it still waits for its cursive italic. (Such sentences require turning a blind eye to etymology or reaching for the aspirin.)

Diacritics & figures

Unlike a foreign script, diacritics and figures are totally familiar. I had assumed they would be straightforward to design. Yet zooming in to the particular shapes and their specific behaviours with stroke modulation provided as much entertainment as agony. As a native French speaker, I felt strongly about accents such as acute, grave and circumflex. About their shape, incline and position. Is it typographic to state that an acute isn’t a mirror image of a grave? Is it realistic to use the same accents on lower case and upper case?



Working out compatible shapes: the bold is outlined, the regular is light blue and the italic purple.



Editing a ffb ligature in Fontlab with the fb ligature in the mask.

The design of figures turned into an unexpected puzzle. Their shapes don't obey the same logic as the alphabet and don't even share a common logic as a set of numbers. What are the designing principles that make them look like family? Why is it so much easier to focus on parts rather than on the whole? What makes a 1 a one? Is the design of 8 the true test of one's mastery of curves?

Multiple masters

Multiple masters offer the irresistible promise of leveraged output. The possibility to interpolate and, to some extent to extrapolate makes investing into a decent set of extra-bold outline quite reasonable. Once familiar with the 26 times table (upper case + lower case + small caps X regular + bold + italic), one's motivation is heightened. The community of type design students is divided on the question of editing in multiple masters. Some people find it unbearable and prefer editing every weight separately, then convert to .ufo, compare in Prepolator and only then, create a multiple master file to generate other instances. With my preference for dealing with complexity over troubleshooting, I took the opposite stance and attempted to build the bold directly in multiple masters.

For the design, I used Gerard Unger's method. The preoccupation of enboldening vertical strokes while preserving counters made the temptation to switch to the regular to modify it irresistible. Once the dos and don'ts of multiple master editing are understood, the difficulty remains to keep track of the task at hand in the visual complexity of a glyph window crowded by three outlines.

Tools

Being the industry's standard, Fontlab is the default tool in the program. It is a very complete and powerful software for editing outlines. It also offers a great potential for customisation. It grows with the demands of its users and, over time, its complexity has cost it its ergonomics. (Note: It is constantly updated, no two downloads are the same. So when a version crashes repeatedly, it's worth re-installing.)

Acquiring typographic knowledge, a sense of proportion and a historic perspective is not much help as long as one isn't capable of "articulating it in Fontlab". If, as Kant put it, the hand is to be a window on the mind, the tool must be a loyal extension of the hand.

Yet, mastering Fontlab is a journey in itself. The books are outdated, the printed manual has only half of its illustrations, the forums are a maze, it isn't taught anywhere; moving beyond the basic skills is a challenge. When learning a foreign language, starting to dream in that language is a milestone. In Fontlab, starting to mentally put control points and BCPS on anything curvy indicates that the skills are sinking in.

If Fontlab allows to control most aspect of the font production (the modern equivalent of punch-cutting, justifying and casting), it isn't a great designing tool. The politically correct approach of not making any decision for the designer has the drawback of not allowing the designer to control parameters globally. Each decision has to be made afresh with every glyph, allowing inconsistency to creep in and drastically limiting the possibilities to "play with shapes". If it's true that poor results propel people to reason harder and therefore improve faster, then Fontlab is a very pedagogic tool.

Work flow

Type design is a transformation of various elements by a process, yielding an end result. The raw ingredients and the result are clearly identified but the process is something of a black box. All intervening authorities in the MATD agree that a type designer has to work out his/her own work flow. They remain suitably vague when pressed to describe theirs. At first sight it is tempting to try to coax the steps of the process into a work flow management chart, listing the decisions to be made in the right order, forming a neat critical path. I have come across several unconvincing attempts. The reality defies the best organisation.

Type design follows fuzzy logic: the designer must delay his final decision on many problems until others have been resolved. And throughout the process, solving certain problems uncovers new ones. Some of them are at glyph level, some at font level, others at family level. All aspects are linked to wider environmental circumstances. The quality of the decisions is a function of the quality of the inquiries made about each aspect, the assessment of the potential of each situation, the coherence of the solution with solutions to other problems. The best solutions come to the designers (or more and more, to teams of designers) who can put up with indecision for longest, apply an iterative method of testing parameters one by one and by small increments. One must be slow in making the decisions

to preserve time for reflection and imagination, and then, fast in implementation, once the decisions are made. There is much satisfaction in working at a process involving a permanent dialectic between ideas and results. There might be even more satisfaction in using a tool that allows the locking-in of decisions as they are made. A tool that would work out some implications itself, sparing the designer some of the donkey work while still allowing all possible choices.

On teaching/studying type design

A question that has loomed at the back of my mind all along the MATD is that of the suitability of acquiring type design skills in an academic environment. Type design is closer to a craft than an art. For most of its existence as a profession, it has been passed on through apprenticeship. The community would establish standards of good practice. The master would pass on explicit and tacit knowledge by showing how things were done, allowing the apprentice to develop his skills by taking progressive responsibility of all aspects of the trade and reaching ever higher levels of perfection. The skills came through trained practice, discipline and obedience. Until the mid 1980s, the cost of producing a typeface was such that its design was always trusted to a professional.

With the recent development of digital typography, the standards of quality and good work lack definition. Professionals still know what they are doing but the standards are not clear for the non-experts. With the ease of circulating files on the Internet, amateur products flood the market and they are difficult to evaluate without close scrutiny. In this context, the academic context makes sense as it acts as a gate-keeping device to guarantee a certain level of quality .

How does the absorption of tacit knowledge function when teaching is separated from practice? The objectives are defined but the student must find his own way there outside of the old master/apprentice relationship. The reduction of knowledge into modules organised in a critical path is not possible in the fuzzy logic of type design. The different aspects are examined separately and the alchemy happens within the designer. Learning *by doing*, by trial and error is hard because it plays on one's sense of inadequacy. However, it encourages students to push beyond the limits of their own comfort zone, altogether optimising the global acquisition of knowledge. Each one finds a rhythm

in his own work process, resulting in a wide variety of competences in a cohort. The one competence common to all is that of researching all aspects of the task at hand. At first sight, a craft/skills based program appears to give more homogeneous results but the MATD's academic dimension opens the door to a wider world that promotes adaptability rather than entrenchment.

Conclusion

If, like many art courses, the MATD program offered only a brief, a deadline and an audience it would already be very valuable but it also offers:

- the opportunity to look closely at a breathtaking variety of printed material
- the necessity to dig into a wide corpus of knowledge, navigating one's way through
- feedback and guidance on the practical work
- a panoramic look at the typographic industry and opportunities for networking

Above all, it creates the conditions that make type design, however unskilled, possible, a process that can't be rushed and brings its own reward. The next challenge is to replicate those conditions to develop the skills.