

# Reflection on Practice

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## *Introduction: defining the brief*

This document intends to describe an overview of the process of creating a typeface during the year at the MATD course, from October 2006 to July 2007. Back to the beginning, the very first idea was to create a general text typeface with sans and seriffed variants with no specific indication of use. After some reflection, the design brief changed to create a typeface intended for newspaper text setting, possibly with a variety of weights and still with sans and seriffed versions.

One of the reasons for making this decision was the realization of the fact that it is really difficult to conceive a general-purpose typeface; books, newspapers and telephone lists, for instance, require different designs with different characteristics. Most of the existing text types were created with an specific use in mind. However, a newspaper text typeface, differently from a book-intended design, or a very specific case like a small size text type, can extent its usage from its original purpose due to the characteristics they normally carry: economy in text length, readability, sturdiness and ability to survive to poor conditions of printing. Due to these characteristics, a newspaper text type may be considered, for instance, more able to fit in a magazine design, or in a small booklet which requires economy of text length, than a refined book face.

The decision on doing a Tamil variant came up more than a month after the definition of the brief. As a newspaper Latin typeface was being designed, it was natural that the Tamil version would also be intended for this kind of printed media.

The essay will first make a brief introduction to newspaper types, then it will focus in reflecting on some steps and decisions undertaken during the design of the Latin typeface, followed by the same aspects on the Tamil counterpart.

## 1. About newspaper typefaces

It is a fact that newsprint technology has improved a lot in the last years. It is common to see nowadays well-printed and colorful newspapers everywhere. The use of many colors, attractive design and pictures in almost every page, commonly magazine characteristics, are getting more and more common in them [Fig 1]. Another well-known fact is that newspapers are shrinking, not only in size, but also in amount of text. The newspaper in itself was always a quick-reading media, but other ways of communication such as the television or the internet tend to be easier ways of getting information and force newspapers to be really concise and direct in their content.

However, some examples like the redesign of The Guardian and the creation of Guardian Egyptian/Sans/Agate, the recent implementation of two free newspapers in London and several new typefaces and redesigns around the world indicate that the media is not disappearing in anyway.



▲ **Fig. 1** In these examples of newspaper covers, from recent redesigns such as The Guardian (London) or The Globe and Mail (Toronto) to a more traditional layout like The Scotsman (Edinburgh), it is possible to notice some of the characteristics of contemporary newspapers like the use of many colors and pictures.

The creation and use of new newspaper typefaces seem to be strongly related to redesigns. Roger Black says that “(...) there is a boomlet of new typefaces for newspapers. It seems that nowadays you can hardly redesign a paper without one.”<sup>1</sup> After the collection of many examples from Europe and other places, it was possible to conclude that although the majority of the big newspapers are still using well-known text typefaces such as Nimrod, Excelsior and others from the Linotype Legibility Group, as well as Times and Swift, there are indeed several new designs being conceived and used mainly in new newspapers or in redesigns [Fig 2, next page].

1 Black, Roger. ‘Modern and austere: The next generation of newspaper typography?’ in: <http://www.rogerblack.com>, May 10th, 2006.

2 Black, Roger. Ibid.

So what would be the ideal guidelines to conceive a contemporary, legible and successful newspaper type? Also according to Roger Black, “(...) there is no best typeface for papers. You have to test a variety of fonts under local conditions. The variables of size, leading, tracking, and width have great influence in readability. Then, you should study the effect of imaging, plating, presswork and printing.”<sup>2</sup>



▲ Fig. 2

Some examples of contemporary newspaper types:

(1) Chronicle (2005) by Jonathan Hoefler, used in Folha de São Paulo redesign (Brasil).

(2) Expresso (2006) by Mário Feliciano, for the redesign of the weekly Expresso (Portugal).

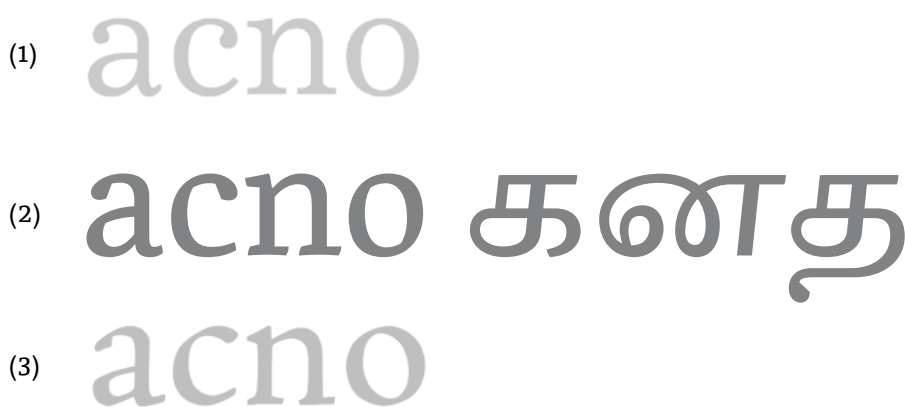
(3) Publico (2007) by Christian Schwartz and Paul Barnes, for the redesign of Público (Portugal).

New text typedesigns for newspapers may depend then on the specific needs of a redesign. If the typeface is commissioned, the brief may require text, headline and caption versions, or just text versions, or even just headline versions, for instance. The new design may also depend on the technology used for printing, on the paper used, or on typography or design specifications for the pages (desired point sizes, desired leading etc).

The majority of the successful newspaper types, if not all, at least share some characteristics: sturdiness, well defined serifs, economy in text length and tall x-heights. All these characteristics have their origin in the first text typefaces created for newspapers that followed the Ionic or Clarendon model: slab serifs with short ascenders and descenders and consequential tall x-heights. The efficiency of this model is attested by the fact that many newspapers are still using these kind of typefaces, such as the ones that belong to the Linotype Legibility Group.

Since the brief for the practical part of the course was not defined by any specific client, it was decided to create a basic newspaper typesystem, possibly with sans and seriffed variants, two or three weights and the ability to survive in not so good conditions of printing. In a general manner, the Ionic/Clarendon model and its characteristics were taken as one of the inspirations for the design, together with the desire of doing something contemporary and original, that possibly would merge the sturdy ionic character with some more personal and not so rigid feeling. More contemporary newspaper designs such as Gerard Unger's Swift and Gulliver or even the Guardian Egyptian by Christian Schwartz and Paul Barnes were also studied, as well as other kinds of typefaces that are really far from newspapers, like the ones with a strong calligraphic feeling, such as Jenson or Bruce Rogers' Centaur [Fig.3].

The decision on doing a Tamil counterpart in the middle of december also had some influence in the Latin design. The Tamil script has a lot of rounded shapes, different stem widths and lengths of ascenders and descenders, but the proportions of x-height, widths and contrast in the design created were made related to the Latin. On the other hand, it can be said that the Latin became a little more informal and less rigid bearing in mind the relationship to the Tamil.



▲ Fig. 3 Comparison between (1) Linotype Excelsior, showing the Ionic model, (2) Frida Text and Tamil, the new design, and (3) Adobe Jenson, a calligraphic venetian inspired in one of the late 15th century types

## 2. The process of creating the Latin typeface

### 2.1 The 'Unger method' and the first digitizations

The very first step of the creation of the typeface occurred in the middle of October during a workshop given by Gerard Unger and consisted in drawing bold versions of some characters from Century Schoolbook Regular by Morris Fuller Benton (1917–1923) using pencils, fineliners, felt tip pens and tracing paper. The new bold design could include some modifications of Fuller Benton's original design and new forms and details. Then the next step was to work on a regular weight out of the bold letters created [Fig.4].

The 'Unger method' proved to be very effective since it exercised the notion of differences and similarities through different weights of the same typeface family, as well as basic notions of proportion, contrast, stress, stem thicknesses and serif shapes. The lowercase characters a, d, h, e, s, i, o and n were the focus at this point.

The design brief was defined only a week later, so during the workshop the intention of doing a newspaper type was not completely clear yet. Century Schoolbook has a very neutral character as well as some proportions which are close to the Ionic model, so initially the letters drawn during the workshop seemed adequate for newspaper purposes. During the weeks after the workshop, more drawings were made and some tests were done through photocopy reductions of the letters to a size close to a newspaper text size. Some of the actual design features started to be experimented [Fig. 5, next page].

By the beginning of November, the first digitizations based in the regular weight produced during the workshop were made. In a few days all the lowercase were quickly created digitally, but gradually it became clear that the design of the shapes needed much more time, study and reflection to be consolidated.



▲ Fig. 4 The (1) bold and (2) regular weights produced during the workshop, followed by (3) one of the first digitizations of the regular weight.



### 2.2.2 Greek workshop

One week after the North Indic scripts workshop, it was time for the Greek workshop with Gerry Leonidas. It was first consisted of looking at different examples of texts set in Greek. Then writing exercises, drawing some letterforms directly on paper and some digitization in Fontlab followed. A first version of a greek companion to the Latin type was created [Fig.7].

It became clear during the workshop that designing a Greek type differ a lot indeed from doing a Latin one. Although time was short, the workshop was a good first opportunity to experiment digitally through a non-Latin counterpart to the Latin design.



▲ Fig. 7 Results from the workshop. Sketch, digitization and one of the final versions of the greek type.

### 2.2.3 Arabic and Thai/Tibetan/South Indic scripts workshops

By the end of January the Arabic and the Thai/Tibetan/South Indic scripts workshops were given in the same week by Fiona Ross. We were presented to many examples of typefaces and publications set in these scripts and Arabic and Tamil sketches were produced [Fig.8].

The South Indic scripts workshop marked the beginning of the design of the Tamil typeface. After the workshop the first studies on proportions were initiated.



▲ Fig. 8 Arabic drawings and first studies on Tamil proportions. These studies revealed many things, such as that the Tamil script has different lengths of ascenders and descenders and much more variation in stem thicknesses if compared to Latin.

### 2.3 Consolidating the Latin design

#### 2.3.1 Testing documents

The consolidation of the Latin seriffed design happened gradually through almost 10 months and many decisions regarding glyph shapes and proportions were undertaken during this period [Fig. 9]. The design was constantly tested mainly in text columns similar to the ones used in newspapers and constantly tested side-by-side with text columns of existing newspapers, as well as in simulated newspaper pages [Fig.10]. Most of the printing tests were done using a recycled paper similar in appearance and roughness to the ones used in newspapers.

These kind of testings and comparisons defined gradually the proportions of x-height, cap height, small cap height, and ascender and descender lengths. Looking at the characters at text size also suggested the incorporation of inktraps. One of the biggest design issues was related to stem thicknesses: it was difficult to determine by printing at text sizes through a variety of laserprinters if the typeface was sturdy enough to work well if used in newspapers. Although not being the most appropriate way of attesting if the typeface would work properly under newsprint conditions, an offset test revealed that the contrast between horizontal and vertical stems could be slightly increased. This brought some improvement to text color. Comparing texts set in columns at text size to printed text in newspapers also helped to define the final stem thicknesses.

an  
an  
an  
an  
an  
an



▲ Fig. 9 An overview showing a few examples of the design evolution during the almost 10 months of work, from the first version to the last one.

▲ Fig. 10 Different examples of testing documents simulating newspaper page layouts. These kind of testings proved to be effective to predict how the typeface would look in a real newspaper.

#### 2.3.2 Multiple Master tests for serifs

Other design issue that came up was related to the size of the serifs. Although newspaper typefaces normally have well defined and sturdy serifs, Multiple Master tests were realized to define serif size. The tests generated instances between a small serif version and another one with exaggerated big ones [Fig. 11]. After comparing text colors from all versions generated, a size closer to the exaggerated serifs extreme was chosen.



▲ Fig. 11 Some of the versions generated through a Multiple Master test for serifs. The darker n shows the version considered appropriated.

### 2.3.3 Designing small caps and figures

Although newspapers do not often use small capitals, they were created considering the conception of a complete character set. They can be useful for some other uses of the typeface, like in a magazine or in a brochure. The small cap design derived from the cap design, but many adjustments were made: the stem widths were readjusted to something between lowercase and uppercase stem widths, and they were also made slightly wider, taller and more spaced than the lowercase characters.

The figures were created first only in 'semi-oldstyle', in an attempt to achieve an intermediate between lining figures and oldstyle figures. The 'semi-oldstyle' case for figures can be found in a few typefaces such as in Gerard Unger's Capitolium News, and seems to be generally well accepted by newspapers. Other figure styles such as proportional and tabular oldstyle were also created, for the same reasons of the creation of small caps, once newspapers also do not often use them. A set of tabular lining figures was also designed for possible use in tables and listings [Fig.12]. Slashed zeros were also created for all figure styles.



▲ Fig. 12 Proportions between normal text, small caps and different figure styles

### 2.3.4 Designing the italic



▲ Fig. 13 Early italic sketches compared to the final version

Although having the same vertical proportions than the roman design, the italic was created as a completely new design, with different stem widths, serif shapes and sizes and more angularity. It was much more influenced by calligraphy and differs a lot in essence from the italic versions found in typefaces that follow the Ionic/Clarendon model, such as the ones in the Linotype Legibility Group. It was adopted an economic slanting angle (an average of 4.7°) and the glyphs were made more squarish than the roman ones [Fig.13]. Essentially, the italic design followed the ideas of being a complementary weight to the roman and of being used for emphasis in words, phrases or short paragraphs [Fig.14].

The intention was that the italic design had a more free and informal character, being clearly differentiated from the roman, but still its design was driven by the will of having both scripts working well together in a page. Some design features such as the creation of inktraps and asymmetry in serifs were also incorporated. Although having a general lighter weight if compared to the roman, the final italic version is still sturdy enough to survive to not so good conditions of printing.



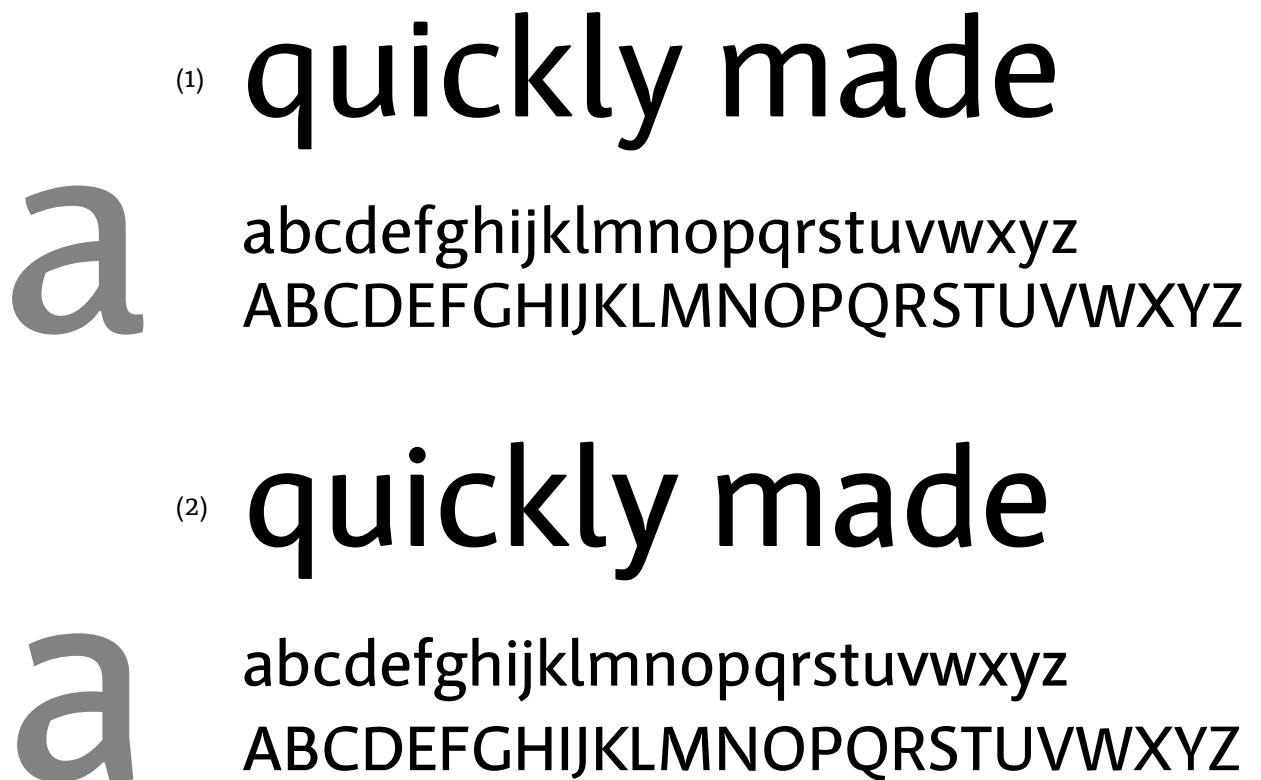
▲ Fig. 14 The italic design also has small caps and the same figure styles as the roman. The capitals and small caps are more related to the same forms in roman (despite of being lighter and with different serif sizes), while the lowercase and figures are more distinct and calligraphic.

### 2.3.5 Designing a sans serif variant

The idea of designing a sans-serif variant existed since the beginning of the practical module of the course. However, a seriffed design was initiated since the ‘Unger method’ workshop, and the first sans-serif studies were initiated later. These first studies were made digitally by removing the serifs from the roman design and altering contrast, character widths and some of the shapes. Sans-serif designs tend to be more monolinear than the seriffed ones, but there are some exceptions such as Hermann Zapf’s Optima and Gerard Unger’s Vesta, which have their contrast close to seriffed faces.

The first try on designing a sans-serif counterpart had a noticeable contrast between horizontal and vertical stem widths, like it happens in Optima or Vesta. Some features like the calligraphic feeling present in the ‘breaks’ in some round forms of the seriffed roman type were maintained. The new versions that followed tended to get more and more monolinear and sturdy, due to the fact that a text weight was being tried [Fig.15].

Since seriffed and sans-serif types differ in principles, it proved to be difficult to manage all seriffed variants, the Tamil script and the sans-serif at the same time. More time would be necessary to be spent on studying and reflecting about the sans-serif design, so the versions created during the course are prototypes for further development.



▲ **Fig. 15** Two versions of the sans-serif design. The top one (1) was one of the first versions created and has a higher contrast. The second one (2), one of the last versions, got more monolinear and sturdier. The lack of serifs make the fitting for a sans-serif different and more difficult than in a seriffed type, where the serifs work as a visual aid for defining sidebearing values.

### 2.3.6 Expanding the character set and diacritics design

abcdefghijklmnop  
 nopqrstuvwxyz  
 áâãäåäääää ç  
 ċċċ đđ ééééééé  
 ġġġ ħ ĩĩĩĩĩ ĵ ħ  
 ĩ ĩ ĩ ĩ ĩ ĩ ĩ ĩ ĩ  
 ðððø þ řř ř šššš  
 ŧŧ ũũũũũũũũ  
 w̃w̃w̃ ŷŷŷŷ ŹŹŹ

ABCDEFGHIJKLM  
 NOPQRSTUVWXYZ  
 ĀĀĀĀĀĀĀĀĀ  
 ĆĆĆĆ ĎĎ ĚĚĚĚĚ  
 ĘĖĖĖĖ ĦĦ ĨĨĨĨĨ ĵ ħ  
 ĩ ĩ ĩ ĩ ĩ ĩ ĩ ĩ ĩ  
 ðððø þ řř ř šššš ŧŧ  
 ũũũũũũũũ w̃w̃w̃  
 ŷŷŷŷ ŹŹŹ

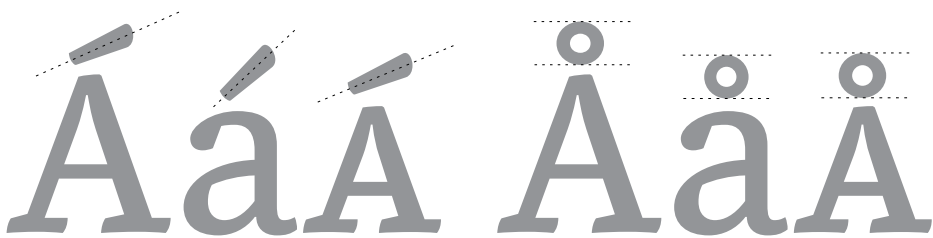
ABCDEFGHIJKLMN  
 OPQRSTUVWXYZ  
 ĀĀĀĀĀ ĆĆĆĆ ĎĎ ĚĚ  
 ĘĖĖĖĖĖ ĖĖĖĖ ĦĦ ĨĨĨĨĨ ĵ  
 ħ ĩ ĩ ĩ ĩ ĩ ĩ ĩ ĩ ĩ  
 ðððø þ řř ř šššš ŧŧ  
 ũũũũũũũũ w̃w̃w̃  
 ŷŷŷŷ ŹŹŹ

▲ Fig. 16

The pan-european diacritic sets for lowercase, uppercase and small caps.

The character set began to be expanded to Extended Latin by the end of April, in order to support most European languages. Other signs such as currency, mathematical operators and punctuation were also started at this time. Besides of the regular feedbacks, the online document *Character Design Standards* by Vicent Connare at Microsoft Typography<sup>3</sup> was of great help to provide design guidelines to create these symbols.

The design of the diacritics was initiated a while after Victor Gaultney’s lecture on the subject. Considering the possibility of using the typeface in not so good conditions of printing, the diacritics in general and some punctuation such as the period and the comma were made sturdy. Three sets of diacritics with different vertical positions were created: one for lowercase, one for uppercase and one for small caps [Figs. 16 and 17]. Part of the punctuation such as the parenthesis, brackets, dashes, the ampersand and the at sign were also created in three different sets according to the cases [Fig.18].



▲ Fig. 17 Not only the slant angle and positioning of some of the diacritics vary between the three cases (lowercase, uppercase and small caps), but also their weight and size. For instance, the ring looks more vertically compressed when used in caps to avoid clashing with descenders from one line above when text is set with small leading values. The same diacritic for the lowercase is also slightly lighter (and related to the slightly lighter stem widths in lowercase) than the ones for uppercase or for small caps.

(lower)[case]{punctuation}

e@e—e-e/e&e

(UPPER)[CASE]{PUNCTUATION}

E@E—E-E/E&E

(SMALL)[CAPS]{PUNCTUATION}

E@E—E—E-E/E&E

▲ Fig. 18 Different sets of case sensitive punctuation, dashes, ampersands and at signs. These special glyphs are easily accessible through OpenType.

<sup>3</sup> Connare, Vincent. ‘Character design standards’ in: <http://www.microsoft.com/typography/developers/fdspec/overview.aspx> Microsoft Corporation, July 1999.

## 2.3.7 Designing the Caption and Semibold weights



▲ **Fig. 19** Relation between the three weights created. It is possible to notice that the stems in the bolder versions increase roughly the same amount to the inside of the counter and the outer space of the glyph. It is also possible to see that the intermediate weight is closer to the bolder extreme.

The first attempts on creating a darker weight for the roman also started at the end of April. After some experiments, it was decided to create first a very dark weight, close to what would be commonly named as an ‘extrabold’. This weight was renamed afterwards to ‘caption’ due to the intention of use in photographic captions in newspapers. The weight increase was done occupying roughly the same areas in inner counter spaces and outer glyph spaces, so the bolder glyphs resulted not so extended in comparison to the text version [Fig. 19]. The process of increasing the weight was consisted of repositioning the nodes in each glyph, making them thicker. The number of nodes and their structure in each glyph was maintained the same bearing in mind posterior Multiple Master interpolations. The fitting was also made tighter than in the roman version.

After having both text and caption weights with extended character sets revised and fitting completely adjusted with kerning pairs, a semibold weight was interpolated. The weight chosen for the new instance was based on the will of having a ‘text’ bold weight, that would work as a complement to the roman version emphasizing words, phrases or paragraphs. The interval chosen does not consist of the exact half weight between the two extremes, but is closer in weight to the bolder extreme [Figs. 19, 20].

After generating the new instance, some fitting and shape fine-tuning adjustments were necessary. Some of the inktraps in this new weight were also redrawn.



▲ **Fig. 20** (1) The caption weight, created by node repositioning; (2) the interpolated semibold weight and (3) the original text weight.

## 2.3.8 Refining the fitting

The fitting of the typeface was worked out since the beginning of the design and had a final revision in the end of June. A well adjusted fitting reduces the necessity of a great number of kerning pairs, and for this reason emphasis was put on refining the fitting rather than in creating many kerning pairs.

Kerning adjustments were initiated only in the beginning of July. As an extended Latin character set has many glyphs with similar shapes on their sides, the method of class-based kerning was adopted.

It was possible to learn that fitting is a part of the design that takes a lot of time to be well adjusted and consolidated. Due to the large character set and the lack of time to refine it properly, it is completely feasible that future uses of the typeface will show problems and the necessity of revising the fitting again.

### 2.3.9 OpenType features for Latin

OpenType features were built as long as the character set was expanded. For instance, the first ones to be built were the ‘lowercase to small caps’ and ‘all small caps’ ones, and they were created right after the small cap design was complete. After this, the same happened gradually with figure styles, punctuation, superiors and inferiors and nominators and denominators. The last features to be built were the ‘standard’ and ‘discretionary ligatures’, because their correct shapes depended on the final fitting of the characters.

All weights created share the same character sets and features and the italic design has some extra stylistic alternates.

Standard ligatures	<p>fb ffb ff fh ffh fi ffi fj ffj fk ffk fl ffl ft fft tt Th Ťh Ṭh</p> <p>fb ffb ff fh ffh fi ffi fj ffj fk ffk fl ffl ft fft tt Th Ťh Ṭh</p> <p>fb ffb ff fh ffh fi ffi fj ffj fk ffk fl ffl ft fft tt Th Ťh Ṭh</p> <p>fb ffb ff fh ffh fi ffi fj ffj fk ffk fl ffl ft fft tt Th Ťh Ṭh</p>
Discretionary ligatures	<p>ct st ct st</p> <p>ċt sṫ c̄t s̄t</p>
Lowercase to small caps/All small caps	<p>¿are you (really) ok? ¿ARE YOU (REALLY) OK?</p> <p>¿ARE YOU (REALLY) OK? ¿ARE YOU (REALLY) OK?</p>
Case sensitive punctuation for small caps	<p>The [quick] {brown} (fox) ¡ju m ps! ¿o/v\er? a@lazy&amp;dog</p> <p>THE [QUICK] {BROWN} (FOX) ¡JU M PS! ¿O/V\ER? A@LAZY&amp;DOG</p>
Case sensitive punctuation for capitals	<p>&lt;The&gt;[quick]{brown}(fox)¡jumps!¿o@ver?«a-la-zy—dog»</p> <p>&lt;THE&gt;[QUICK]{BROWN}(FOX)¡JUMPS!¿O@VER?«A-LA-ZY—DOG»</p>
Figures: semi-oldstyle, proportional oldstyle, tabular oldstyle and tabular lining, plus slashed zeros	<p>1234567890 ▶ 0 1234567890 ▶ 0 [semi-oldstyle (default)]</p> <p>1234567890 ▶ 0 1234567890 ▶ 0 [proportional oldstyle]</p> <p>1234567890 ▶ 0 1234567890 ▶ 0 [tabular oldstyle]</p> <p>1234567890 ▶ 0 1234567890 ▶ 0 [tabular lining]</p>
Superiors and scientific inferiors	<p>Ezequiel<sup>25</sup> Δ=b<sup>2</sup>–4ac CO<sub>2</sub>, H<sub>2</sub>O, CO<sub>3</sub></p> <p>Ezequiel<sup>25</sup> Δ=b<sup>2</sup>–4ac CO<sub>2</sub>, H<sub>2</sub>O, CO<sub>3</sub></p>
Fractions (numerators and denominators)	<p>123/456 789/120 ▶ <sup>123</sup>/<sub>456</sub> <sup>789</sup>/<sub>120</sub> 123/456 789/120 ▶ <sup>123</sup>/<sub>456</sub> <sup>789</sup>/<sub>120</sub></p>
Alternate glyphs for italic	<p>August is friendly &amp; foggy [default: f, g, &amp;]</p> <p>August is friendly &amp; foggy [alternate: f, g, &amp;]</p>

▲ Fig. 21 A summary of the OpenType features present in all Latin weights.

### 3. Designing the Tamil typeface

#### 3.1 About Tamil typefaces

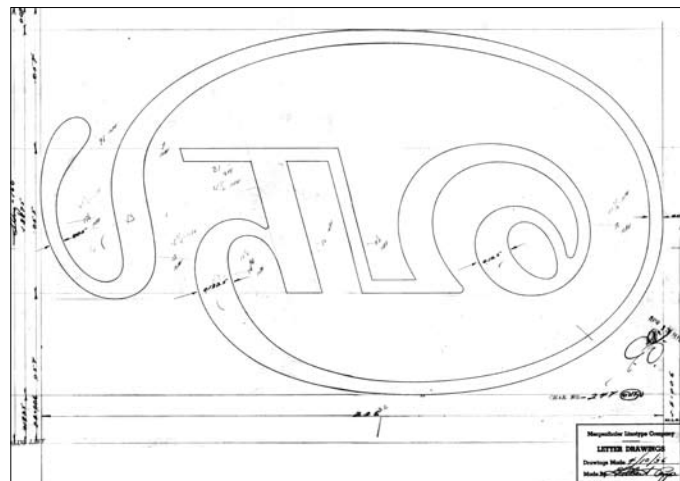
The Tamil script, in use nowadays in the Estate of Tamil Nadu in the south of India, as well as in Sri-Lanka and parts of Singapore and Malaysia, has a very peculiar character if compared to the Latin: it is consisted of many curves, has more variation in stem widths, different lengths of ascenders and descenders and is an unicas script, there is no distinction between uppercase and lowercase glyphs.

After looking for examples of digital typefaces made for the script, it was realized that with the exception of Linotype Samanti [Fig. 22] and Monotype 580, all the typefaces found have many problems related to the quality of glyph shapes. Constantly, the vector shapes in them seem to have been autotraced from hand drawings or simply drawn directly using a mouse or some other tool such as a tablet pen. Although both of the companies are not reissuing their designs due to the lack of support to the script in common computer applications, Linotype Samanti and Monotype 580 still seem to be the actual standard types for the script and are seen in use for the text in the majority of contemporary books, newspapers and other publications in Tamil.

Some printed examples of foundry and hotmetal Tamil types were found in catalogues, drawings, matrix order forms and publications in the Linotype Collections held at this Department, as well as in publications in soas (School of Oriental and African Studies, University of London), in the British Library and at the St Bride's Library of Printing, both also in London [Fig. 22]. It became clear that the script used to have a bigger variety of better quality typedesigns when those methods of typesetting were used than nowadays.

The design created tries to incorporate in Tamil the same characteristics found in the Latin counterpart: economy of length, sturdiness and self expression. It is indicated for newspaper text setting but in the same way as the Latin, it can also be successful when used in other kinds of printed media such as in magazines and small books.

(1)



◀ Fig. 22

(1) One of the Linotype Tamil drawings for the hot-metal type (from the Linotype Collections, Department of Typography and Graphic Communication, the University of Reading. Originally from the Mergenthaler Linotype Company, Brooklyn, New York, dated 4/10/1936, and reproduced at about 15% of the original size)

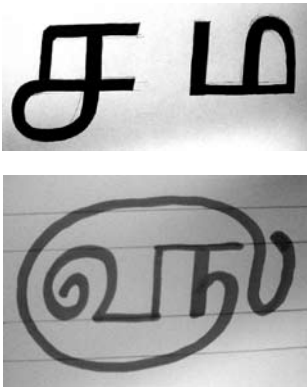
(2)



(2) A proof testing showing Samanti Light with Fiona Ross' design comments. (from the Linotype Collections, Department of Typography and Graphic Communication, the University of Reading. Originally from Linotype Paul, Cheltenham, United Kingdom, dated 14/12/1993 and reproduced at about 30% of the original size)

### 3.2 The Tamil design

#### 3.2.1. First steps



▲ Fig. 23  
Some of the first attempts in drawing using broad-nibbed pens and markers.

The first sketches for the Tamil script were done during the North Indic scripts and South Indic scripts workshops, as previously described in sections 2.2.1 and 2.2.3. After attempts of writing in the script using broad-nibbed pens and markers, it resulted difficult to maintain proportions and correct alignments by drawing the glyphs directly on paper [Fig. 23]. The forms started then to be experimented directly through vector drawings.

The first version of the typeface had a few vowels and the main stem widths were made the same as in the Latin text weight. The slanting angle adopted was the same used for the italic type (around 4.7°). After some printing tests, it was decided to make these main stems slightly lighter than the Latin upright version but maintaining the relation in proportions, just in the same manner it was done with the italic design [Fig. 24]. This seemed to make both scripts work better when set together in a page.

In order to make both scripts related, some of the ‘tear’ shaped terminals present in the Latin were also incorporated in some of the Tamil terminals [Fig. 25]. This also contributed to reinforce the identity of the family.

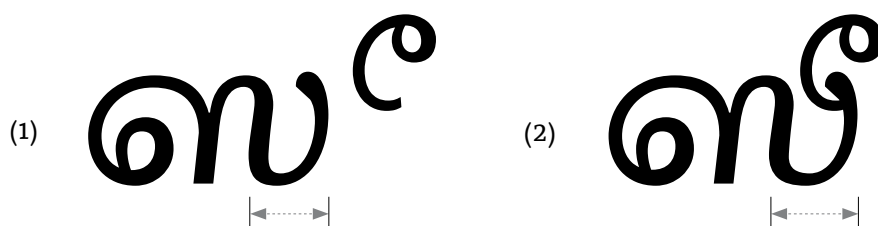
Most of the conjuncts and ligatures were created through the use of components in Fontlab, but in the final font output it was decided to decompose and merge them into single glyphs. The use of positioning of components through OpenType features was discarded, once many of the junctions between two forms were specially edited [Fig. 26]. However, the components were treated like glyphs in Fontlab and can be accessed in the font isolatedly (e.g. by the Glyphs palette in InDesign). These isolated components can be used for educational purposes such as in the demonstrations of the conjuncts that appear on the table in [Fig. 31], page 19.



▲ Fig. 24 (1) The first Tamil glyphs and the Latin version at that time. The stem widths were the same between the two scripts. (2) The final versions of Tamil and Latin: the main Tamil stem widths are slightly lighter than the Latin design.



▲ Fig. 25 The ‘tear’ shaped terminals through the family.

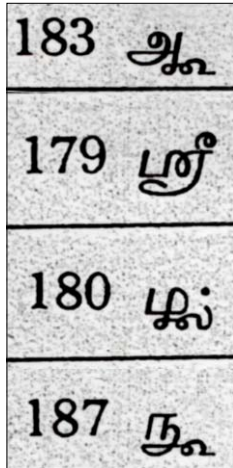


▲ Fig. 26 (1) The two separated components and (2) the final conjunct shape. It is possible to notice that the first component was edited to receive the second one (its right curved part was made slightly wider).

3.2.2 Expanding the character set beyond Unicode

The design followed the Unicode chart for Tamil with proper values for each glyph. However, some references for other shapes for symbols and archaic arithmetical fractions and forms were found in hotmetal catalogues and matrix indexes as well as in some Tamil manuals from the late 19th and beginning of the 20th centuries in SOAS [Fig. 27]. Although being shapes not in frequent use nowadays, these forms were also created and included in the character set and are accessible through the Glyphs palette in InDesign [Fig. 28].

Some Latin forms like figures and basic punctuation were also added from glyphs from the italic design, since the Tamil design was created with the same slanting angle.



(1)

FORMATIONS NOMINALES. 99

poids, mesures et monnaies originaux. En voici les principaux éléments :

CHIFFRES.	VALEUR.	NOMS.	TRANSCRIPTION.
வந	$\frac{1}{100}$	முத்திரை	mundirei.
நி	$\frac{1}{100}$	அரைக்காணி	areikkāṇi.
சி	$\frac{1}{20}$	காணி	kāṇi.
சு	$\frac{1}{10}$	அரைமா	areimā.
சூ	$\frac{3}{10}$	முக்காணி	mukkāṇi.
ப	$\frac{1}{20}$	ஒருமா	orumā.
பசி	$\frac{1}{10}$	மாகாணி ou வீசம்	māgāṇi ou vīcam.
கி	$\frac{1}{10}$	இருமா	irumā.
ஶ	$\frac{1}{7}$	அரைக்கால்	areikkāl.
நி	$\frac{1}{10}$	முன்றுமா	mūṇṇṇumā.
சி	$\frac{1}{7}$	தாலுமா	ṇḍalumā.
வ	$\frac{1}{7}$	கால்	kāl.
ஶ	$\frac{1}{7}$	அரை	arai.
ஶ	$\frac{3}{7}$	முக்கால்	mukkāl.

(2)

Fractions.

The Tamil system of fractions is very defective. It can only express fractions whose denominator consists of no other factors than 2 or 5.

The following are the Elements of Tamil Fractions.

I. முத்திரி or வந =  $\frac{1}{100}$ ;  
Two of which make அரைக்காணி, or நி =  $\frac{1}{50}$ ;  
Which is the half of காணி, or சி =  $\frac{1}{20}$ ;  
Three காணி make முக்காணி, or சூ =  $\frac{3}{20}$ ;  
Two காணி make அரைமா, or சு =  $\frac{1}{10}$ ;  
Which is half of மா, or ப =  $\frac{1}{5}$ ;  
Two of which make இரண்டுமா, or சி =  $\frac{1}{5}$ ;  
Three மா make மூன்றுமா, or ஶ =  $\frac{3}{5}$ ;  
Two இரண்டுமா make நான்குமா, or ஶ =  $\frac{2}{5}$ .

N.B.—In all these the denominator contains only multiples of 5 and 2.

II. கால் or வ =  $\frac{1}{7}$ ;  
Two of which make அரை, or த =  $\frac{2}{7}$ ;  
Three கால் make முக்கால், or த =  $\frac{3}{7}$ ;  
Half of கால் = அரைக்கால் or ஶ =  $\frac{1}{14}$ ;  
Then காணி + மா = மாகாணி, or வீசம் or ப =  $\frac{1}{10}$ ;  
And half of this, or அரைமா அரைக்காணி or சு =  $\frac{1}{20}$ .

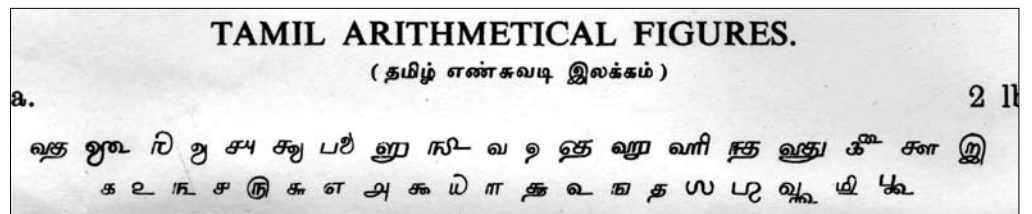
N.B.—The denominator of these contains only multiples of 2.

III. In schools a fraction is used called கீழ்முத்திரி =  $\frac{1}{350}$  ×  $\frac{1}{7}$  =  $\frac{1}{2450}$ ;  
An இடமியி is a quantity  $10\frac{1}{2}$  of which make one கீழ்முத்திரி =  $\frac{1}{2450}$ .

ஶ A question is thus asked and answered :—  
ஶத்தபேருக்கு நான் பத்தொன்று? Divide 41 among 5 persons?

88

(3)



(4)

▲ Fig. 27 (1) Archaic symbols found on an Intertype matrix order form, probably from the 1940s or 1950s, scaled 250%; (2) archaic fraction signs found in the book *Manuel de la Langue Tamoule* (Paris, Imprimerie Nationale, 1903, p. 99), scaled 75%; (3) the same fraction signs in the book *A Tamil Hand-book* (London, Sampson Low, Marston & Company Ltd., 1868, p. 38), scaled 90%, and (4) digits and arithmetical figures found in a catalogue of The Swadesi Type Foundry, Chintadripet, Madras, 1918, p. 26, scaled 95%.

இ ஶ்ரீ ஆ நூ சூ வந நி ஶ சூ ப கி  
நி கி ஶ ஶ ஶ ப ஶ ஶ வ நி ஶ ஶ ஶ  
ழி; ஶ ஶ ஶ வரி ஶ ஶ கி ஶ ஶ ஶ  
ப ஶ ஶ ஶ ஶ ஶ ஶ ஶ ஶ ஶ ஶ

▲ Fig. 28 The designs created for these archaic arithmetical forms and symbols

### 3.2.3 Fitting

The fitting was adjusted following the same principle of doing it in the Latin design. Standard sidebearing values were created according to standard shapes on the left and right extremities of the characters. However, as the counters are bigger in Tamil, the overall amount of space between letters has also to be slightly bigger, as well as the white space in itself (the one generated by pressing the spacebar in the keyboard).

The adjustments depended on testing combinations of characters [Fig. 29] and also on setting Tamil samples side-by-side with Latin text columns, so that the color of paragraphs could be compared [Fig. 30].



▲ Fig. 29 Examples of spacing tests

8/11

THE CHIEF AUDITOR ASSIGNED BY CONGRESS, Stuart Bowen, said the **Iraqi government** was failing to take responsibility for projects worth billions of dollars. Mr Bowen also said his agency was investigating more than 50 fraud cases. Nearly a third of Iraq's population is in need of emergency aid, a report by Oxfam and Iraqi NGOs says. See graph showing humanitarian aid to Iraq. The report said the Iraqi government was failing to provide essentials such as water, food, sanitation and shelter for up to eight million people. It warned that the continuing violence was masking a humanitarian crisis.

12/14

THE CHIEF AUDITOR ASSIGNED BY CONGRESS, Stuart Bowen, said the **Iraqi government** was failing to take responsibility for projects worth billions of dollars. Mr Bowen also said his agency was investigating more than 50 fraud cases. Nearly a third of Iraq's population is in need of emergency aid, a report by Oxfam and Iraqi NGOs says. See graph

8/11.5

என்னோட அடுத்த படத்தின் பெயர். இப்போதைக்கு தனுஷ் ஹீரோ என்பது மட்டும் தெளிவாக முடிவாகி இருக்கிறது. தினமும் நூறு ஐடியாக்கள் வந்து குவிகின்றன. விரமாக ஸ்கிரிப்ட் பண்ணிக்கிட்டு இருக்கிறேன். ஒரு புதிய பரிமானத்தில் இந்தப் படத்தின் கரு பயணம் செய்கிறது அநேகமாக பிப்ரவரியில் மூட்டை முடிச்சுக்களுடன். இதுவரை பண்ணிய படங்களைவிட இந்தப் படம் எனக்கு சந்தோஷத்தைக் கொடுக்கும்னு நம்புகிறேன் என்றார் செல்வராகவன். அமைதியான குரல் அவரிடம்.

12/14.5

என்னோட அடுத்த படத்தின் பெயர். இப்போதைக்கு தனுஷ் ஹீரோ என்பது மட்டும் தெளிவாக முடிவாகி இருக்கிறது. தினமும் நூறு ஐடியாக்கள் வந்து குவிகின்றன. விரமாக ஸ்கிரிப்ட் பண்ணிக்கிட்டு இருக்கிறேன். ஒரு புதிய பரிமானத்தில் இந்தப் படத்தின் கரு பயணம் செய்கிறது அநேகமாக.

▲ Fig. 30 Comparing Tamil and Latin text samples

### 3.2.4 OpenType production in Microsoft Volt

When the glyph shapes and the fitting were finished, OpenType features were created using Microsoft Volt. The structure of OpenType features in existing Tamil fonts were studied and specifications from Microsoft's website were studied and served as a basis for building the Volt project.

As already mentioned on section 3.2.1, features that use positioning of components were avoided, and only character substitutions were considered. All the features were tested through the generation of the typeface in Microsoft Volt and by test-typing using the Tamil keyboard layout in a PC running Windows XP.

#### Above-base substitutions

Virama (examples)	த + ◌̣ > த்	ஷ + ◌̣ > ஷ்
Anuswara (examples)	ன + ◌̣ > ன்	ளு + ◌̣ > ன்
LiMatra Ligatures (examples)	ட + ◌̣ > ட்	க + ◌̣ > க்

#### Akhands

Akhand	க +   + ஷ > க்ஷ
Shree and Om	ஸ +   + றீ > ஸ்ரீ ஓ + ட் +   > ஓ

#### Below-base substitutions

Vertical Syllables (examples)	ண + ஶ > ணூ	க + ஶ > கு
Linear substitutions (examples)	ஜ + ஶ > ஜூ	ழ + ஶ > ழூ

#### Pre-base substitutions

Ai Ligatures (examples)	ண +   + ஐ > ணை	ல +   + ஐ > லை
----------------------------	----------------	----------------

▲ Fig. 31 Structure of OpenType features constructed in Volt.

## *Conclusion*

Although the typefaces created during the course are not completely finished designs, the steps in designing a text typeface could be extensively worked out during the year. The initial brief of creating a newspaper typesystem was achieved in a different way from the initial intention because of the incorporation of the Tamil variant, which came up as a big challenge and enriched enormously the process of learning.

Further work and adjustments will be undoubtedly necessary to refine all existing weights and future weights will be also necessary to be achieved a proper newspaper typesystem. However, the important aspect of going through this practical part of the course is that the many design procedures and issues of creating a typeface were extensively experimented and that it was possible to learn a lot from doing it.















## Image Sources

### ■ Page 4

The three images showing newspaper covers (The Guardian, The Globe and Mail and The Scotsman) were taken from the website <http://www.newsdesigner.com>. The three images were scaled 25% of the original size.

### ■ Page 5

The image showing Chronicle by Jonathan Hoefler was found in Folha de São Paulo's website: <http://www1.folha.uol.com.br>. The image was scaled 25% of the original size.

The image showing Expresso by Mário Feliciano is a detail from a bigger image found in <http://www.felicianotypefoundry.com>. The image was scaled 30% of the original size.

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### ■ Page 15

Image sources are specified in the caption for [Fig. 22].

### ■ Page 17

Image sources are specified in the caption for [Fig. 27].

### ■ All other images were produced by the author.

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Written and designed by Fernando de Mello Vargas in August 2007 in Reading, United Kingdom, using Adobe InDesign CS2. Revised in February 2008 in London, United Kingdom, with the addition of the new weights **Semibold Italic** and **Caption Italic** to the Appendix section. Typeset exclusively using Frida family and its variants.