



Universiteit  
Leiden  
The Netherlands

## On the origin of patterning in movable Latin type : Renaissance standardisation, systematisation, and unitisation of *textura* and *roman* type

Blokland, F.E.

### Citation

Blokland, F. E. (2016, October 11). *On the origin of patterning in movable Latin type : Renaissance standardisation, systematisation, and unitisation of textura and roman type*. Retrieved from <https://hdl.handle.net/1887/43556>

Version: Not Applicable (or Unknown)

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/43556>

**Note:** To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden

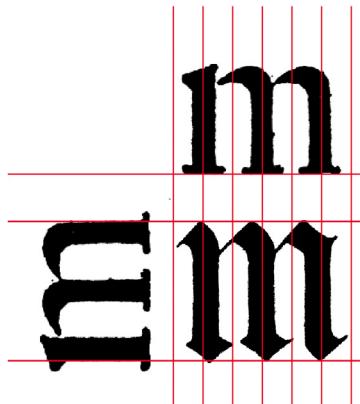


The handle <http://hdl.handle.net/1887/43556> holds various files of this Leiden University dissertation.

**Author:** Blokland, F.E.

**Title:** On the origin of patterning in movable Latin type : Renaissance standardisation, systematisation, and unitisation of textura and roman type

**Issue Date:** 2016-10-11



**ON THE ORIGIN OF PATTERNING  
IN MOVABLE LATIN TYPE**

*Renaissance standardisation, systematisation,  
and unitisation of *textura* and *roman* type*

---

**Proefschrift**

Ter verkrijging van de graad van Doctor  
aan de Universiteit Leiden  
op gezag van Rector Magnificus  
Prof.mr. C.J.J.M. Stolker,  
volgens besluit van het College voor Promoties  
ter verdediging op 11 oktober 2016  
klokke 11:15 uur  
door  
*Frank Eduard Blokland*  
geboren te Leiden in 1959

**Promotores**

*Prof.dr. Adriaan van der Weel*

*Prof. Frans de Ruiter*

**Promotiecommissie**

*Prof.dr. Yra van Dijk*

*Prof.dr. Paul Hoftijzer*

*Dr. Roy Millington*  
University of Sheffield

*Prof.dr. Bert Willems*  
Universiteit Hasselt

This dissertation is typeset in DTL Haarlemmer and DTL Haarlemmer Sans.

The serifed type was designed by the author –based on drawings by Jan van Krimpen– in 1995.

The sans-serif version was added by him a couple of years later.

## TABLE OF CONTENTS

<b>I. Glossary of terms</b>	9
<b>II. Glossary of punchcutters</b>	32
<b>III. Introduction</b>	39
Note on perception and interpretation	40
<b>IV. Theoretical context, hypotheses, methodology, and dissertation structure</b>	45
Theoretical context	45
Putting the dot on the i	45
Hypotheses	52
Research methodology	53
Dissertation structure	55
<b>Chapter 1</b>	57
1.1 The role of the pen	58
1.2 The Foundational hand model	60
1.3 Comparing handwriting and type	64
<b>Chapter 2</b>	69
2.1 Historical development	69
2.2 From the Carolingian to the Humanistic minuscule	73
2.3 Morphologic relationship	77
<b>Chapter 3</b>	81
3.1 Roman type and Humanistic minuscule differences	81
3.2 LetterModeller application	91
3.3 Parameterisation of type design processes	97
3.4 Templates	98
3.5 Systematised writing	100
<b>Chapter 4</b>	107
4.1 Optical spacing	107
4.2 Advantages of width standardisation	112
4.3 Comparing widths in textura and roman type	112
4.4 Comparing textura and roman type fitting	115

**Chapter 5** *121*

- 5.1** Unitisation in *textura* type *121*
- 5.2** Unitisation in *roman* type *124*
- 5.3** The unit-arangement system *128*
- 5.4** Comparing unitised and optical type fitting *133*

**Chapter 6** *143*

- 6.1** Historical artefacts *143*
- 6.2** The typefounder's mould *145*
- 6.3** Width standardisation of matrices *151*

**Chapter 7** *155*

- 7.1** Renaissance foundry type *155*
- 7.2** Evidence of standardisation in matrices *157*
- 7.3** Unitisation of matrices *162*
- 7.4** Unitisation and optical spacing *165*

**Chapter 8** *169*

- 8.1** Geometry and *roman* type *169*
- 8.2** Width-height relationship *173*
- 8.3** Standardised proportions in *textura* and *roman* type *175*
- 8.4** The dynamic em-square model *180*
- 8.5** Distilling evidence of frameworks in Renaissance type *182*
- 8.6** Underlying unitisation in vertical proportions *188*
- 8.7** Digital dynamic frameworks *192*
- 8.8** Details and optics *193*

**Chapter 9** *195*

- 9.1** Increased freedom in type design *195*
- 9.2** Set patterns *197*
- 9.3** Technical and æsthetic considerations *202*
- 9.4** Conventions *203*
- 9.5** Pictures of things *204*
- 9.6** Software *206*

**Conclusion** *211*

**Appendices 213****Appendix 1: Typographic conventions and conditioning 214**

- A1.1 Introduction 214
- A1.2 Conventions 214
- A1.3 Deviations 216
- A1.4 Typographical microcosm 218
- A1.5 Conditioning 219

**Appendix 2: Jensonian gospel 221**

- A2.1 Introduction 221
- A2.2 Roman type 221
- A2.3 Jenson's ground plan and Griffó 221
- A2.4 Variants on a theme 223
- A2.5 Gothic details and weight reduction 224
- A2.6 Standard 225

**Appendix 3: Basic ingredients of Latin type 227**

- A3.1 Introduction 227
- A3.2 Alphabet 227
- A3.3 Scripts 228
- A3.4 Alphabet and letterforms 228
- A3.5 Form sorts 229
- A3.6 Contrast sorts 231
- A3.7 Skeleton (heart) line 233
- A3.8 Broad nib 234
- A3.9 Flexible-pointed pen 236
- A3.10 Rotation 237

**Appendix 4: Details of type 239**

- A4.1 Introduction 239
- A4.2 Sum of particles 239
- A4.3 Building blocks 240
- A4.4 Consistency 243
- A4.5 Dissonances 248
- A4.6 Serifs 250
- A4.7 Serif structures: broad nib 251
- A4.8 Serif structures: flexible-pointed pen 258
- A4.9 Polyform and Monoform 258

- A4.10 Serifs and spacing 259
- A4.11 Serif lengths, heights, and thickness 260
- A4.12 Classifications 262
- A4.13 Rotating counter 264
- A4.14 Idiom 268

#### **Appendix 5: Details of the Renaissance type production 271**

- A5.1 Introduction 271
- A5.2 Production of matrices 271
- A5.3 Tricks and trade secrets 275
- A5.4 Empirical testing 278
- A5.5 Measurement results 281

#### **Appendix 6: Frameworks, grids and units 284**

- A6.1 Introduction 284
- A6.2 Em-and en-square 284
- A6.3 Grids 287
- A6.4 Artificial units 290
- A6.8 Unitisation and design 292

#### **Appendix 7: Geometry in the Renaissance 294**

- A7.1 Introduction 294
- A7.2 Theory and practice 294
- A7.3 Geometry and type 298
- A7.4 Geometry and quality 300
- A7.5 Divine proportion 301
- A7.6 Golden section/ratio/mean controversy 305

#### **Appendix 8. Proportions of capitals in roman type 309**

- A8.1 Introduction 309
- A8.2 Optical harmony 309
- A8.3 Fence-posting 311

#### **Appendix 9: Systems and models in type 317**

- A9.1 Introduction 317
- A9.2 Systems and models 317
- A9.3 Grapheme system 320
- A9.4 Harmonic models 322
- A9.5 Capitals 324
- A9.6 Uncial 325

- A9.7 Latin book-hand minuscule 326
- A9.8 Latin cursive minuscule 327
- A9.9 Relational system 330
- A9.10 Proportional system 333
- A9.11 Monoform and polyform 334
- A9.12 Relative proportional system 336
- A9.13 Using systems and models for measurement 337

## **Appendix 10: Spacing and casting 338**

- A10.1 Introduction 338
- A10.2 Historical background 338
- A10.3 Spacing and rhythm 339
- A10.4 Stem interval 340
- A10.5 n- and m-widths 343

## **Appendix 11: Parameterised fitting results 346**

- A11.1 Introduction 346
- A11.2 Brief recapitulation of the cadence-units concept 346
- A11.3 Kernagic tests 351
- A11.4 Bold variants 354
- A11.5 Italic variants 355
- A11.6 Environmental setting Kernagic tests 356
- A11.7 LS Cadencer tests 359
- A11.8 Environmental setting LS Cadencer tests 361
- A11.9 LS Cadenculator tests 361

## **Bibliography 443**

## **Curriculum vitae 451**

## **Acknowledgements 454**