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International typography conference
École nationale supérieure d'art et de design de Nancy
Atelier national de recherche typographique
17-18 November 2016

The second edition of the international conference Automatic Type Design, organized by the ANRT, will address the history of digital fonts (Jacques André, Charles Bigelow), and particularly Metafonts, in a historical and critical perspective (Gerry Leonidas, Dave Crossland, Thomas Huot-Marchand, Julián Moncada); the renewal of parametric typefaces in new applications (Yannick Mathey & Louis-Rémi Babé, Samuel & Jérémie Hornus); font production processes and automation of type design (Bianca Berning, David Vallance), the contribution of computer science and document analysis to typographic design (Elisa Barney Smith, Bart Lamiroy); the role of design in the field of digital humanities (Anthony Masure), and new perspectives in responsive typography (Laurence Penney, Nick Sherman, Indra Kupfeschmid).

Programme

Thursday 17 November 2016

Digital typography

9h45 **Thomas Huot-Marchand,** (ANRT - Nancy, France)
Introduction
10h **Jacques André** (Rennes, France),
Digital Fonts: A Brief History / FR
10h45 **Charles Bigelow** (Bigelow & Holmes - Rochester, USA),
Les Bonheurs de Lucida / EN
11h30 **Gerry Leonidas** (University of Reading - UK),
« What would Richard do ? » / EN

Metafonts and parametric type design

14h **Dave Crossland** (Google - NYC, USA),
METAFONT / EN
14h45 **Thomas Huot-Marchand** (ANRT - Nancy, France),
Knuth Vs. Hofstadter / FR
15h30 **Open Source Publishing (Brussels, BE),**
Back to strokes / EN
16h15 — Pause
16h30 **Yannick Mathey & Louis-Rémi Babé** (Lyon, France),
Prototypo / FR-EN
17h15 **Samuel & Jérémie Hornus** (INRIA / ANRT - Nancy, France)
Design Tools Inspired by TrueType Hinting / EN

Friday 18 November 2016

Typography, computer sciences and digital humanities

9h15 **Julián Moncada** (ANRT - Bogota, COL),
Questioning Consistency : some notions about the role of people and tools in shaping the future of typeface design / EN
10h **Anthony Masure** (Univ. Jean Jaurès - Toulouse, France),
Digital humanities through the prism of typeface design / FR
10h45 — Pause
11h **Elisa Barney Smith** (Boise State University, USA),
Melville's Marginalia / EN
11h45 **Bart Lamiroy & David Vallance** (LORIA, ANRT - Nancy, France),
Re-typographe

Variable fonts

13h45 **Bianca Berning** (Dalton Maag - London, UK),
WIP / EN
14h30 **Nick Sherman** (New York, USA),
Variable fonts are here. What now ? / EN
15h15 **Laurence Penney** (Bristol, UK)
Axis-praxis / EN
16h — Pause
16h15 **Round table with Indra Kupferschmid** (HBK Saar, DE),
Bianca Berning, Laurence Penney & Nick Sherman / EN

17h15 **End**

Digital typography

The lectures will be given in French or in English, without translation.
Moderation and questions will be in both languages.

9h45
Introduction
Thomas Huot-Marchand
—
10h
Jacques André
Digital Fonts: A Brief History
Talk in French

Font have been used by computers far before Adobe and Bezier splines. First, with CRT and plotters stroke fonts, then bitmaps run lengths for phototypesetters, then the algorithms to define characters outlines and filling issued from image processing. Each technique has been a source of both contraints and typographical creation. The influences of the moment the characters are drawed during the composition processus are considered as well.

After a PhD in "computational mathematics" in Nancy, Jacques André joined a team of researchers in linguistics at the CNRS then spent ten years in a research and development center of a large American computer manufacturer. He joined INRIA where he was responsible for software engineering and editing, which lead him to structured documents. After a stay at EPFL in Lausanne, he specialized in digital typography (with, in particular : the Didot project, RIDT symposium, EP symposium, magazines like Cahiers Gutenberg or Documents numériques, etc.) and publishing old documents.
Retired for twelve years, Jacques André gave a more historical look at his studies and recently edited (with Christian Laucou) a History of typographic writing - the XIXth century (2014), and the XXth century (with a team of twelve authors, 2 volumes, 2016), Ed. Perrousseaux.

Thursday 17, November 2016

10h45
Charles A. Bigelow
Les Bonheurs de Lucida
Talk in English

A history of the original design and expansion of the Lucida family of fonts and their relation to culture and science across four decades, with brief biographical notes on the designers.

Charles A. Bigelow is an American type historian, professor, and designer. Bigelow grew up in the Detroit suburbs and attended the Cranbrook School in Bloomfield Hills.
He received a MacArthur Fellowship in 1982, the Frederic W. Goudy Award in 1987, Sloan Science and Film screenwriting awards in 2001 and 2002, and other honors. Along with Kris Holmes, he is the co-creator of Lucida and Wingdings font families.
He is a principal of the Bigelow and Holmes studio.
Bigelow received a BA in anthropology in Reed College was a professor of digital typography at Stanford University from 1982 to 1995. As president of the Committee on Letterform Research and Education of ATypI, he organized the first international seminar on digital type design : "The Computer and the Hand in Type Design", at Stanford in 1983.
In mid-2006, Bigelow was appointed to the Melbert B. Cary Distinguished Professorship at Rochester Institute of Technology.[1] At RIT, he co-organized the 2010 international symposium on "The Future of Reading" and the 2012 "Reading Digital" symposium, in which type designers, publication designers, and vision scientists discussed the present and future of reading on digital devices. He retired from teaching at RIT in 2012, and is currently Cary Scholar in Residence at the Cary Graphic Arts Collection of the RIT Wallace Center

11h30
Gerry Leonidas
“What would Richard do ?”
Talk in English

The demographics of the people doing type design, and the tools they use, have been changing in significant ways. New communities form, without guaranteed connections to to the knowledge and experience of previous ones. Learning though an understanding of how previous communities were active, and reflection on our own practice, becomes a requirement of excellence in practice. Richard Southall’s ideas about typefaces and their relationship to typography are illuminating, and have proven an excellent starting point for a graduation from mere competence to reflective excellence. Gerry will outline some of Richard’s ideas, and connect them to current practice.

Gerry Leonidas teaches and researches typography and typeface design at the University of Reading, UK. He supervises MA and PhD research, and lectures widely. He is the vice-president of ATypI, and helps organise ICTVC, Granshan, and other conferences. He is the Director of the MA Typeface Design, and the TDi summer course ; both are global reference points for type education. From 2017 he will be running a new hybrid MA on research in typeface design.

Thursday 17, November 2016

Metafonts and parametric type design

14h
Dave Crossland
METAFONT
Talk in English

METAFONT is an algebraic programming language for describing the shapes of letters, designed and implemented by Stanford professor Dr Donald Knuth in the late 1970s as part of his TEX typesetting system. It was one of the earliest digital type design systems, and is completely capable of dealing with the letters of any writing system, has always been freely available, and is remarkably powerful. Yet it never caught on with type designers.
The METAFONT approach to type making involves writing source code that instructs a simulated pen stroke to draw letterforms ; changing the variable inputs to the instructions varies the resulting typefaces. This is starkly different to the typical approach that was pioneered by the URW ‘Ikarus’ applications, and popularised by the Altsys ‘Fontographer’ application for Adobe PostScript fonts. In this approach to type making, letterform outlines are composed visually and interactively. Without encoding any structure to vary the letterforms, variation is reduced to simple linear interpolation of duplicate sets of drawings.
This presentation will discuss why didn’t Metafont catch on, and how its concept are reactivated today with web-based applications : Metaflop and Metapolator, the latter of which attempt to synthesize the two approaches.

Dave Crossland attended the University of Reading’s MA Typeface Design and graduated in 2009. His student project, Cantarell, was included in the launch of Google Web Fonts. He is now a full time employee with Google, in New York.

14h45
Thomas Huot-Marchand
Knuth Vs. Hofstadter
Talk in French

In 1982, Visible Language published the famous article by Donald Knuth, "The Concept of Meta-Font" (Vol. XVI, 1). A few months later, the same magazine published an article-response by Douglas Hofstadter, entitled "Meta-Font, Metamathematics, and Metaphysics : Comments on Donald Knuth's," (Vol. XVI, 1), followed by several reactions by graphic designers and type designers.
Thomas Huot-Marchand will present how Hofstadter's approach differs from Knuth's, and in particular the Letter Spirit project that Hofstadter will develop later, for several years.

Thomas Huot-Marchand is graphic and type designer, he lives and works in Besançon and is the director of the Atelier national de recherche typographique in Nancy.

Thursday 17, November 2016

15h30
Open Source Publishing (OSP)
Back to strokes
Talk in English

Starting from the crude process of describing a collection of glyphs by their center line — or the movement of a pen, rather than their outlines — the vibration of the separation between lettering and typography becomes heavily palpable. This center line, or skeleton needs to be styled. Either as defined within the font or by any tool that uses the font downstream, according to parameters that are yet to be defined.
Through different attempts in workshops, research sessions and commissions OSP built recipes to make stroke typography : combining Etherpad & Metapost with svg exports and FontForge's spaces. OSP has used those recipes to translate quite different lettering from the DIN system to comics author Franquin's hand lettering, or a primitive geometric called Belgica-Belgika.
How would strokes based typography allow other styling options, pushing algorithms and formats for a deeper understanding of a glyph's shape — as a whole, or its important features, regions and parts ?
In these learning situations OSP considers the resulting transformation of the composition process : from fonts to lettering, from typography to writing. Next, we question the possibilities to discover, adapt or develop a way to make these fonts usable and stylable in a variety of scenarios ; such as web page or canvas-based design tools, as well as pen plotters, CNC, PCP and cartography design environments.

OSP makes graphic design using only free and open source software. A caravan of practitioners from diverse fields, they design, program, research and teach. Working for print and web and its hybrids, OSP creates visual identities and digital utilities, always digging for a more intimate relation with their tools.

16h30
Yannick Mathey & Louis-Rémi Babé
Prototypo
Talk in English and french

This talk will provide an opportunity for Prototypo founders to look back on two years of development of their online app for parametric type design. Among other aspects, they'll discuss the possibility to generate fonts on the fly in the web browser using their plumin.js tool; integrating new fonts in their app; and the possibility to preview the generated fonts live on the web. Louis-Rémi Babé & Yannick Mathey will also discuss ongoing and future developments, such as the manual editing of contours directly within the app, an option that will undoubtedly open up new possibilities for Prototypo users and parametric fonts.

Yannick is specialist in nothing and curious about everything. It was during his last year of studies at ESAD Strasbourg that he discovered his passion for type design. His final year of studies gave him a year of "free time" to learn the basics of letters & code, and develop the alpha version of Prototypo with Processing.
Louis-Rémi's passion is to create websites and web-apps. He fell in love with JS in 2004 and has contributed patches and features to jQuery 1.X (if you have browsed the web in the past 9 years, you've used some code he wrote). He's an active mozillian since 2009 and re-built from scratch Prototypo with Yannick since 2014.

Thursday 17, November 2016

17h15
Samuel et Jérémie Hornus
Design Tools Inspired by TrueType Hinting
Talk in English

During this talk Samuel & Jérémie Hornus will present a tool to facilitate the manual TrueType hinting, in order to optimize the screen display in small sizes and low resolutions. We will see that the manual hinting and the placement of the TrueType instructions are in reality parametric type design. We will show that the variations of these parameters can allow an alteration and a control of the outlines.
We will also try to show how metrics and kerning can be automated, using a white measurement algorithm that asks the question : "what is the counterform of a letter ?"

Samuel Hornus is researcher in computer sciences at Inria Nancy - Grand Est.
Jérémie Hornus is type designer, director of Black Foundry and instructor at ANRT Nancy.

Typography, computer sciences and digital humanities

9h15
Julián Moncada
Questioning Consistency : notions about the role of people and tools in shaping the future of typeface design
Talk in English

Thanks to the way our field and our tools have developed, consistency has turned into one of the basic concepts of typeface design. This means that today we usually define the formal and visible relations of a typeface almost linearly : consistently. And even if on certain occasions someone might question such concepts, consistency prevails as the most effective way to guarantee ease of reading, an appropriate look, a good degree of beauty, and an overall acceptable result. This presentation will ask some questions about consistency, but the aim is not to devalue it or to discredit it. The aim of asking these questions is to embrace the idea that a discipline must be constantly challenging its basic assumptions. Tools and automatisation will certainly speed up our processes, will help us define much clearer formal relations, will allow a bigger volume of production and will make the practice accesible to more people, and in this last idea we should find a key to the discussion about automatisation and parametric design. Why ? because a discipline depends on how a community is built from it and on the way this community can manage to make their knowledge useful to a wider audience. If typography and typeface design are bound to become a relevant discipline, it will be thanks to people : people who know how to ask questions about their field, people who know how to build and share knowledge, and people who can place their ideas and their products into the broader cultural conversation.

Julián Moncada is an independent typeface designer. Over the past 6 years he's had the joy of advancing his understanding of typography through studies in Reading (UK) and in Nancy (France), and later by working as sessional lecturer in Reading and in Bogotá (Colombia). These days he splits his life between Paris and Bogotá and his practice consists on extending existing designs as well as in giving a hand on custom type design projects.

Friday 18, November 2016

10h
Anthony Masure
Digital humanities through the prism of typeface design
Talk in French

The design is historically characterized by the desire to give a human dimension to the industrial mechanization. Today, thanks to non-human entities (softwares, etc.), the digital lets us to automate the design of shapes. So what are the relationships between design and digital humanities ? How can we design visual systems in which we can understand the complexity of our technological environnements ? What can do a trully digital typeface design to elaborate various kinds of knowledge design ?

Anthony Masure is a teaching fellow in applied arts and a graduate of the École Nationale Superieure (ENS) of Cachan, where he studied design. He is an Associate Professor of Design at the University Toulouse – Jean Jaurès. He cofounded the research journals Réel-Virtuel and Back Office. He defended his PhD thesis about the design of programs at the University Paris 1 Panthéon-Sorbonne, under the supervision of Pierre-Damien Huyghe. His book Design and digital humanities will be published early 2017 by the Éditions B42 (Paris).

11h
Elisa Barney Smith
Melville's Marginalia
Talk in English

Dr. Elisa Barney Smith worked together with a professor of American Literature, Dr. Steven Olsen-Smith, on a Digital Humanities project called Melville's Marginalia Online (MMO). MMO is collecting page scans of books once owned or borrowed by the 19th century American author Herman Melville. Since his original manuscripts were lost, the annotations and markings Melville made in the book margins are the only remaining information scholars can use to determine his writing thought process. We are implementing OCR on the printed text, then TEI compliant XML markup to annotate the passages where marginalia are located. Further research to determine which non-text marks came from Melville vs. other owners/readers is in progress.

Dr. Elisa Barney Smith is Professor with tenure at Boise State University, (Boise, Idaho). Her research is in image processing and pattern recognition. She collaborated to the Re-Typographe project in 2013-2014 Bart Lamiroy, Julien Beck, Didier Duchamp, Emmanuel Doucet et Blayid Ben Belkacem and David Vallance.

Friday 18, November 2016

11h45
Bart Lamiroy & David Vallance
re-Typographe : Thinking a generative tool able to create a typeface from a printed book.
Talk in English

A project conducted by ANRT and LORIA (computer sciences laboratory) since 2013. From images of documents and book pages, individual character shape detail is extracted. Combining samples of each letter class enables a template image to be produced. The skeleton and contours are defined for each style, and exported as an UFO font file. Methods are needed that extract these components in a way that preserves details, but removes noise.
The aim of such a program is to obtain a faithful digital copy close to the facsimile, freed from printing errors, with fully encoded and dynamic text. It should also result in smaller file sizes compared to regular images, which should facilitate data exchange.

Bart Lamiroy is associate professor at the Université de Lorraine (LORIA Nancy). He has a broad experience in Machine Perception, and over the years, his research topics have ranged from Content Based Image Retrieval over Visual Servoing to Document Image Analysis. He is currently focusing on measuring and modeling performance analysis of machine perception induced interpretation algorithms. The recent presence of the Atelier National de Recherche Typographique on the ARTEM campus, has led him to apply his focus on typographical interpretation of document images.

David Vallance is graphic designer and type designer. He studied at the ESAD Valence and ANRT Nancy, graduated in 2014. He lives and works in London.

Variable fonts

13h45
Bianca Berning
WIP
Talk in English

Developing fonts with an international team of more than 25 typeface designers and font engineers brings about a unique set of considerations for assuring consistency and reliable functionality. Bianca Berning will discuss how Dalton Maag has approached these challenges by implementing the Skills & Process department, a multidisciplinary team of typeface designers, font engineers, and software developers responsible for training and development, knowledge management, and for the introduction of internal standards and the improvement of Dalton Maag's font development processes.

Bianca Berning is a font engineer with background in civil engineering, communication and typeface design. After completing her MA in typeface design in Reading in 2011 she joined Dalton Maag, a London-based type foundry where she heads the Skills & Process department.

Friday 18, November 2016

14h30
Nick Sherman
Variable fonts are here. What now?
Talk in English

The new variable font technology introduced by Adobe, Apple, Google, Microsoft, and others represents a significant change in how typography can be composed and delivered, breaking many of the assumptions about type that have been standard since Gutenberg. While the ideas behind variable fonts aren't new, the current landscape of responsive design and digital technology makes them more relevant than ever before. Because this technology is so new – with some aspects still in the process of being defined – there are many questions about how it works, what it can or can't do, and even why it exists. This presentation will discuss the technical and design-related benefits of variable fonts while demonstrating some of their potential applications in the real world.

Nick Sherman is a typographer and typographic consultant based in New York City. He is a co-founder of Fonts In Use and a graduate of the Type@Cooper typeface design program at Cooper Union. He has written about responsive design and web typography for A List Apart and served on the board of directors for the Type Directors Club and the Adobe Typography Customer Advisory Board. He has taught typography, typeface design, letterpress printing, and responsive design at MassArt and Cooper Union. He also worked at Font Bureau, Webtype, and MyFonts, directing web design and promotional material for typefaces.

15h15
Laurence Penney
Axis-praxis
Talk in English

Laurence Penney has been intrigued by variable fonts since the early 1990s, when he presented a concept and prototype for a parametric font generator. After the font industry went into a 20-year hibernation on the subject, Laurence is excited by its 2016 reawakening. At present he is building tools to help type designers, font engineers and system builders experiment with the new OpenType variable fonts. In October he launched the Axis-Praxis.org website, which allows drag & drop testing of variable fonts. Laurence will talk about what he has learned so far from the Axis-Praxis project, and discuss the many ways the new paradigm can be put to work.

Laurence Penney is a consultant in font technology and font marketing based in Bristol, England. His expertise in the TrueType hinting language led to coding a rasterizer and hinting commissions from Microsoft, Linotype and others (though teaching it to others was more rewarding than doing it himself). In 1999 he took on the challenge of creating MyFonts, the open platform for selling fonts from all foundries, that wouldn't intimidate newbie customers, and over several years helped build it into the market leader by a wide margin. In 2016, the reappearance of colour and variable fonts gives Laurence hope that corporations have not forgotten the best ideas from a generation ago and he looks forward to helping these technologies take off.

Friday 18, November 2016

16h15
Round table
in English

with Indra Kupferschmid (HBK Saar), Bianca Berning, Laurence Penney, &Nick Sherman.

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