Locating resonance

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ATypI Lisbon, 2006

This presentation was conceived in the spirit of promotion, as a way to express the humanizing and globalizing aspects of OpenType. Since its introduction in 1997, the format is a veritable catalyst for both the historic revisitation and expansion of typefaces from a variety of genres. The format is also a means to develop workable, non-Latin typefaces and complex scripts.

OpenType's extended character set and advanced stylistic control underscore the desire to establish a distinct typographic voice and the production of transcendent artifacts. It highlights the importance of identity and vision – a sense of self and purpose – that mirror contemporary pedagogic concerns.

For education, the format raises challenges pertaining to the methods by which we wield and assess encyclopedic typefaces and how we convey and retain the material sense that bears upon compositional technique. The format's sophistication provides an opportunity to reflect upon what we makers, shapers, and disseminators of printed and projected words can offer our audiences.

In a world suffused with semantic and symbolic barrenness, with commercial products and messages stripped of enduring content, OpenType will heighten our sense of purpose, instilling the sense that we indeed belong to a much larger community. Yet, despite the generally positive forecasting, I have since become cautious of the format. I believe it has its uses, though the conditions that occasion such usage are exceptional.

I am not an OpenType expert, nor am I an authority on type design, character sets, or font encodings, so I hope that the technophilic overtones, which comprise my blurb, will be forgiven. My day-to-day work as a small-town university teacher, my respect for the history, discipline, and practice of typography, as well as my having been dubbed department "type guy", compel an assessment that has emerged from my typography courses; we are not prepared to tread deep linguistic waters.

I am foremost an instructor whose practice, ideals, principles, and shortcomings are vicariously expressed through the work of my students. My charge is to impart requisite competencies, which encompass technique, formal and intellectual acuity, and historical awareness so students attain careers in design that will sustain them long after they graduate. I am to cultivate a commitment to design which will lead to the creation of meaningful and sophisticated visual communications. As a design and typographic devotee, my pedagogy is defined by the value I continue to place in what has increasingly become an ideal: that literacy and language matter.

It is fitting that a city whose character is defined by a commitment to words and letters plays host to this event. Lisbon is a microcosm of typographic practice – a living specimen. Admittedly, to a foreigner such as myself, the public lettering germane to this city is exceptional, because it is a landscape unlike my own; it is a manifestation of values and perceptions distinct from American culture. My sense of wonderment as an outsider conceals the need to traverse a cultural chasm were I to live and practice typography as a bona fide resident of this metropolis.

Font formats are a subsidiary concern. The imperative to assimilate is heightened by a global economy and the peripatetic nature of design which is acknowledged by OpenType. Indeed, it would seem that literacy, language, authenticity, and global pertinence would be answered by this new encoding. However, like the encodings that precede it, OpenType does not constitute typographic practice. It is not typography.

The perfection of movable metal type by Johann Gutenberg in the fifteenth century was a milestone; the result of a long chirographic evolution which led to a graphic and intellectual renaissance that permeates contemporary typographic practice. Movable type facilitated the replication of texts and the dissemination of knowledge across time and space with relative ease and within a relatively short period of time. But printed texts stood apart from handwriting, which is visceral. Manuscripts are the immediate products of physical movement, the qualities of which are determined by a copyist's skill, disposition, and attention to detail. Writing is tantamount to the apprehension of spoken language, which, in lived experience, exists in the ether. Progress, as it pertains to codified marks, denotes a drastic transformation from that which is tentative and negotiable, to that which is impressed, carved, or projected onto a surface. Movable type is the tangible, mechanical means to harness the phonetic alphabet; it is the mass made counterpart of a constituted body of text. The phonetic alphabet is the epitome of control – a kit of parts to articulate sound with near precision. Its subsequent transformation from allegorical pictographs to ideographs to rebus system reveals an elemental commitment by early peoples to both form and communication.

Writing engendered literacy, while the practice we call typography – traditionally the mechanical and physical means by which language may be firmly set upon a page, and now virtually in other media – perpetuated the notion that speech is anchored. Our conception of language as secure and fastened led to notions of appropriate and inappropriate usage, of an official and unofficial vocabulary. As such, a lexicon surfaced in the form of dictionaries that instills an awareness of grammar, hyphenation, pronunciation, syntax, spelling, punctuation, and inflection which intensify the perception that language is seen – that it is unwavering. We are coerced into reflexivity. The printed page is an expanse within which we contemplate our place in time, it is a site to peruse, question or affirm the contexts of our humanity. The ability to fluidly disengage and reengage our milieu is part and parcel of literacy. Reading, writing, and typesetting intimate physical and mental discipline. Printed text advocates a correspondence between an image and its typeset expression; it provokes accuracy of representation and explication, as well as meticulousness to uphold and enhance its meaning.

In print, horizontal and vertical spaces are supporting characters in a spirited match of black against white, form and counter form, positive and negative. Compared to cultures that predate the alphabet, a distinct characteristic of our era is the concern for ownership. Notions of authorship – the existence of a "writer" and a "reader" – come to the fore. A text is written by someone for a public who will defer to her or his narrative whims.

The production of metal types transformed the alphabet from a mere utility to a raw material prone to both public and market demands. Subsumed by advertising, typefaces were components of early nineteenth century economic infrastructure. In contrast to the austere types of the fifteenth century, an entirely new category of display faces emerged, variations of which went in and out of fashion. These were types of a quotidian sort, types for daily use, types that shed their scholarly, rarefied skins. Broadsides, packaging, periodicals, shop signs, and chapbooks stimulated the production of sans serifs, fat faces, slab serifs, shadowed faces, faceted faces, inlines, and outlines, which were parodies of classic book types.

It was during this period that the notion of typographic character – or semantic dress – became apparent. Where character during the fifteenth century was gleaned from the patient observation of subtle details, industrial types were replete with blatant features that catered, and gave rise to, a mass audience of consumers.

The 500-year evolution we call typographic history chronicles a gradual relinquishment of calligraphic fealty. After Nicolas Jenson's late fifteenth century roman, movable types forgo their pen drawn features for a clinical rationalism exemplified by Neoclassical and Romantic text typefaces of the seventeenth and eighteenth centuries. Copperplate engraving, the process by which one could reproduce very fine lines, inspired these fiercely austere and blinding letterforms. The shift to a pragmatic visual grammar presaged the arrival of typecasting technologies to speed the manufacture of typefaces. The earliest of these were designed to fabricate discrete metal types (the Monotype) or individual lines of type (the Linotype). Later, more radical phototypesetting systems reduced typefaces to mere simulacra, pre-arranged information stored on film or, as is the case today, in digital format.

We are divorced from bodily action upon physical material; typefaces today are only as real as the pixels that display them or the toner and inks which image them onto a page, unless we decide to carve or sculpt a letterform. Printed text is visible language dislodged from lived experience. It remains our task to incorporate the aural, tactile, and kinetic attributes that allude to a typographic voice which is the very definition of character.

A typography student's semesterly regimen will enumerate variables such as point size, linespacing, letterspacing, and kerning that lay the foundation for fine detailing: small capitals, ligatures, proportional and tabular old style figures, proportional and tabular lining figures, superior, inferior, and scientific numerals, "smart" versus "dumb" quotes, hyphen versus en-dash versus em-dash. A dialogue about alignments (flush left, center axis, flush right, and justified) leads to the typographic grid, which causes students to wonder whether typography is art or science, whether it encourages innovation or if it is just prescriptive. These variables are committed to memory and easily recalled; yet it is rare for students to grasp their significance in use. Ironically, the mechanics of typesetting prevent a holistic approach. Students are unable to read, interpret, and articulate meaning concurrently because composition – "doing it" – takes precedence. This regimented outlook and predilection for action shed light on a systemic disconnect between reading and composition. Typography is physical and cognitive action; it is letters, lines, and blocks of information. Above all, it is care for the printed word.

Gerrit Noordzij is a paragon of typographic stewardship, an ideological force whose teachings resonate far beyond the confines of the Dutch coastal city from which his theories emerged. His virtuosity as a calligrapher, typographer, and writer bolster his now widely known "conceptual framework" – a practical, convincing, and eloquent series of propositions, which are neither historicist nor wholly technical. Noordzij carved a path that lead us back to the visceral, tensile qualities eclipsed by commercialism and technophilia. We could argue that Noordzij's most endearing characteristic is his anarchistic predisposition; though he is concerned about aesthetics, he is not enslaved by tradition. He proffered a straightforward synopsis in lieu of a protracted writing history: the earliest marks were logograms (inscriptions which signify words or phrases), which evolved into syllabic inscriptions, which became phonetic (inscriptions that signify utterances). He denied the existence of an official writing history, which underscored his pragmatism. There are no giants to whom we must submit, and it is this attitude that has left a mark upon his students – the so-called 'Hague typographers'.

Noordzij's pedagogy considers the effect of writing instruments upon the form of letters, which segues into the anchored, tangible world of typography rather seamlessly. It is succinctly expressed in a maxim: "typography is 'writing with prefabricated letters'"[1]. In Noordzij's classes, writing exercises with a broad nib or flexible pen facilitated instantaneous analysis, because the instrument itself delineated the bounds of acceptability; the pen supplied the criteria by which the writer may critique her or his marks. The pen revealed a wide range of formal possibilities, clarified the physical and perceptual underpinnings of letterforms, and provided insight as to what constituted optically satisfactory shapes. Such exercises lead to a humanistic connection, a physical and intellectual vantage point from which to view and portray the printed word.

Much of Noordzij's pedagogy rests upon a primal commitment to shapes: the pen stroke is the cornerstone of Western civilization; the written and printed word is the foundation of a cultured society. This high-flown point of view is reduced to a cogent decipherment of the dynamics behind writing: that letters are black-and-white, black is the stroke and white is the area enclosed; white is most prevalent because it exerts outward pressure upon the interior of words, which affect their rhythm; the interplay of black and white bears upon our cognizance of the word. Writing is a holistic practice, it concerns shapes not outlines, the interior not the periphery. Noordzij does not mince words: the shape cannot be detained; if there is no shape then there is no outline, and without a shape there is no letter. This tidy summation obtained from practice transcends writing, because it discloses how we read. The effects of good rhythm upon comprehension are visible. Western civilization is concerned with word images, and it is during the Middle Ages that we achieve what Noordzij refers to as "consolidation of the word."2 Consolidation, what he describes as a "rhythmic bond"3, is an equilibrium of negative space, a concentration of black and white, which is possible because letters in the West are written and printed shoulder to shoulder. He argues that optical equivalence within letterforms is analogous to speech: the intervals of silence between words and phrases cannot be exactly measured; they are similar. Reading and character recognition amounts to the calculated disturbance of rhythm at a micro and macroscopic level.

Noordzij's lucidity is matched by a subversiveness that is eminently practical. His methods evidence a desire to jettison historicism and aesthetics in its self for an empirical approach. Handwriting is comprised of an ongoing, solitary mark, while lettering entails the manipulation of auxiliary marks, each mark having the potential to enhance or degrade a letterform. His now familiar translation and expansion relate stroke modulation to specific writing instruments. Translation (written with a broad nib pen) yields typefaces that evince letters of the Renaissance and even those from antiquity; expansion (written with a flexible nib) generates typefaces that belong to the romantic period. Translation describes the varying orientation of the hand while expansion is a manifestation of the changing pressure of the hand upon the writing implement. He explains that the quality of a letter is the rate at which it is written, "Articulation and *speed* are antipodes in the development of writing."4 There are two constructs: one either writes with a running (or returning hand) or one writes with an interrupted hand. Upright or roman letters are modeled upon the latter, while the former is typical of cursive writing. However, if it is a formal cursive, then it is written with interrupted strokes. Interrupted writing occurs when all strokes move in a single direction while a running or returning hand is only possible when the pen moves backward. The visible connections of such letters betray their constructions; if interrupted, the link will change from thin to thick and if it is running, the link will advance from thick to thin. Thus, explication of a typeface's features is within reach and we are made aware that both writing and typography represent an ongoing quest for harmony. It is no surprise that Noordzij is averse to what he perceives to be classicist duplicity. Expansion, typified by the extremely modulated types of Didot and Bodoni, seem indelicate – brute contrivances hidden beneath a veneer of elegance – and immune to scrutiny. Such an appraisal contradicts Noordzij's catholic approach, though his preference for the even tempered contrast of translation seems to describe the ideal disposition of a typographer.

Robin Kinross states it best when he writes that Noordzij "has the characteristic strengths and weaknesses of the autodidact craftsman: tremendous and well-founded assurance, and a sense of isolation. The world either turns around him, or else it doesn't exist."5 Noordzij assumes the characteristic role of the intellectual by making life sized assertions, the kind which moves us to reconsider the landscape of our own making. Even his forefather cannot evade his indictment: "My mediaeval colleague was happy to be able to read and write, however, he laid the foundation for a society that dreamed of a blessed future where all people are illiterate. With his invention of typography the … scribe … relieved us of the need to write well and that has alienated us from the word."6 Noordzij's enterprise suggests that writing proficiency is inherently linked to literacy of an ample sort, concerned with the recognition of rhythm, form, and balance, which aid comprehension and whose elegance upholds a culture. Though Noordzij suggests a seamless connection between handwritten and printed letters, roman types are, in fact, a contrivance. Writing and typography are interdependent; they are not linked.

Gutenberg's success is attributed to technical innovations, particularly the adjustable hand mold, which he used to cast metal type and from which he printed pages of text that were indistinguishable from their manuscript precursors. Despite the outwardly fluid segue from somatic to solid forms; the 42-line Bible exhibits an expeditiousness, rationality, and desire for control previously unseen. The difference between writing and type founding is more than a contrast of materials; it is a marked change of methods propelled by a new perception as well as new circumstances.

Fred Smeijers' forays into punchcutting furnish a lucid explication of factors that led to the demise of one specialization and gave rise to another. Smeijers identifies three approaches to typographic imaging: writing, lettering, and typography. To write is to make words or letters in one move, one gesture. Lettering employs multiple strokes; it is not writing but drawing, an example of which is transfer lettering. Typography is the product of machines and as such, is specifiable and entirely mechanical even though lines of text are handset on a composing stick. Variables such as spacing, point size, and line increment are expressed by hardware pre-made to standard sizes, which can be arranged to make words and columns of text. Writing is instantaneous and resistant to tuning – it is for one time use.

Typography is rationalization typified by eighteenth century projects such as the Romains du Roi cut by Grandjean at the behest of Louis XIV. It entails design, scrutiny, refinement, and trial runs. To put the alphabet through its paces in such a way is to objectify it, to hoist it from flatland. It is ironic that the humanists to whom we owe our conception of typography idolized and copied texts that were themselves facsimiles of an erstwhile hand: the Carolingian Miniscule. This, Smeijers describes, was no more than a trend, "an exaggerated desire to … imitate what was imagined to be classical antiquity…. humanists did not take tradition as given, but made up their own variations on it."[7] Humanists, who were major proponents of the printed word, noticed the Miniscule used to print classic texts and, perhaps in a fit of capriciousness, simply dismissed comparable manuscripts of the period. The choice to emulate such a text did not appear to be an educated one. Revivals are a parlous enterprise in which our prejudices and ignorance is promptly disclosed. The Carolingian Miniscule is the forerunner of lowercase types, and it is predated by a number of writing styles: Semiuncial, Uncial, Rustic Capitals, etc. We are reminded that expositions on typography which outline the progression from written to printed letters are no more than synopses: chronologies, descriptions, and presentations attenuated by contextual gaps that further and further distance our present typography from a comprehensive history. It would seem that humanist machinations are an infringement of genuine conventions. Yet Smeijers questions the preoccupation with authenticity, because the absence of a sanctioned writing style in the sixteenth century precluded an appraisal of attributes, of behavior, and of performance that qualify a typeface design. Humanism, or more accurately, the compulsion to imitate, is suspect.

Smeijers chips away the pretense by discussing the physical affordances of the broad nib pen. Comparing a cursive miniscule to its bilateral seriffed cousin, he asks, "can anyone really write these letters?"8 Printing types image an ideal that is anchored to the page, is more appropriate to an industrial age, and which invite the pursuit of modularity, repetition, and replication. These pursuits facilitate the dispersion of knowledge by way of printed books. Such is the preoccupation of the punchcutter, the one to whom we owe the image of the archetypal printing type – the form that humanists believed to be an improvement of Miniscule. The punchcutter and his incised metal types represent the next evolutionary step: "These humanist letters are often made of bits and pieces glued together, with great pain. They balance on the border between writing and drawing…. the scribe had to do battle with the natural or bodily conditions of writing."9 Printing types do not originate from humanistic handwriting, because punchcutting has its own grammar and limitations. While the limits of writing are tied to action, the bounds of punchcutting are directly linked to the skill of a punchcutter and the materials at his disposal.

Punchcutting is tedious as it necessitates a fiercely sculptural approach. The process reinforces a contingency: the black of the letter begins with white. The white of the letter is a real object – a counterpunch. This reinforces the notion that letterforms are a totality, which recalls Noordzij: the shape cannot be detained. A counterpunch is made by filing steel. The steel is hardened and is driven into an unhardened blank of the same material. The blank receives the counterpunch and the negative shape of the letter is impressed upon its face. The counterpunch and its impression are solid, consolidated. Endemic to type founding is the concern for overall shapes, which give it weight, mass, and dimension. Counterpunches are the embodiment of a systematic approach to the design of letterforms. They are precise and can be used to make the counters for several point sizes. There are two approaches to making punches, of which counterpunching is one. The second method involves extraction – hollowing out the counter with a graver. Smeijers qualifies this method by stating that it is best for realizing the form of non-Latin letters, when the interior shapes of a letterform are too complex to express by way of a synthesized shape. In a striking critique, he states that digging is preferable when the punchcutter assumes the role of functionary – a producer who agrees to suppress his views and cares for nothing more than to abide by the specifications he is given to get on with the job of cutting a new type. Digging is imprecise and time consuming; it is the antithesis of an evolving consciousness that pertain to shapes which best suits a printing type. To the punchcutter, a letterform is the union of interior and exterior. He gives language a form, and his craft is governed by the belief that inside and outside are intimately connected.

The punchcutter's labor is the kind which radiates outwards from the center, from the soul. He is a pioneer despite indeterminate conditions: intuition, manual skill, historical understanding, and acuity are his armaments. He does not work in absolutes, and his oeuvre is as good as his understanding of the boundaries that bear upon perception. For economic reasons, he is also an editor, printer, and publisher. As such, he is an author who engaged in, and contributed to, his culture. The punchcutter is a gifted character whose meditations upon the form of letters are facilitated by linear and lateral thinking. He is undoubtedly logical and progressive, for there is an infinite number of ways to image the alphabet, which, in the end, must resolve into those that are familiar and readable. The punchcutter understands his materials and his circumstances which provided the means by which he could establish a new archetype and set his own terms. Although discrete from calligraphic tradition, the punchcutter's letters remain viable models.

The history of typography is the convergence of writing tradition, fashion, and the articulation of rationale within established constraints. Bas Jacobs, Sami Kortemäki, and Akiem Helmling, together known as Underware, have parlayed typographic history through an aesthetic that is both playful and workable. An already formidable and still growing library of digital typefaces for text and display substantiates their collective vision. Noordzij's theories highlight the significance of writing upon the present form of type; Smeijers' sculptural and material exploration elucidate the process of type founding; and Underware reminds us that, despite the tedium of production, typography and type design can be exuberant and serviceable. This is apparent on their website, which showcases lively pages that recall hand-lettered school binders and comic book lettering. The trio's retail types are vigorous and unabashedly contemporary interpretations of several genres: Fakir (a fifteenth century blackletter), Dolly (a sixteenth century Dutch Oldstyle), Sauna and Bello (typefaces designed in the manner of brush scripts), Auto (a humanist sans serif which is outfitted with three italics), and Unibody (a bitmap, aliased font that retains its sharpness at eight points). Despite their ebullience, these educated typefaces are developed in the Hague tradition: Jacobs, Kortemäki, and Helmling are graduates of the KABK, a school made famous by the teachings of Noordzij. They are consummate type designers whose manual skills are matched by their mastery of digital tools. Their teaching affirms a desire to share their knowledge about the inner logic of letterforms. Type basics, a primer on type design published in 5 pts, their 'infrequently published magazine on type design, typography, and other areas of interest',10 is notable for its congeniality and erudition. It is clear that type design and typography is optics, rhythm, spacing, and proportion.

Work produced, research conducted, and writing published by Noordzij, Smeijers, and Underware is well known. These men are intimately involved with the technologies crucial to the design and distribution of typefaces. There is no shortage of significant names in the field, so I must confess my predilection for Low Countries no-nonsense pragmatism. Noordzij, Smeijers, and Underware are my heroes; the ones to whom I defer when I am in the classroom. Their principles and methods recapitulate the best of typographic practice at a time when the mania surrounding OpenType cloud the discussion. These men exude a tremendous commitment to the discipline which finds no equal in my milieu. Yet they traffic in typefaces, which are but components of the larger universe called graphic design. This pronouncement reduces the discipline to mere mechanics which strip it of its potency and summarily thrust it under the rubric of utility. But typefaces are more than tools, and it is this conviction that occasions conferences such as this. A survey of OpenType – a hard look at its promise and its fiction – is apposite to this juncture.

Much has already been reported about OpenType's sophisticated stylistic controls and its capacity to accommodate enormous character sets. The latter is among the principal qualities of this most recent cross platform font format. Its support of Eastern, Central, and Western European languages suggests that it will answer a myriad of demands by users; it will outlive previous formats such as TrueType and the more popular PostScript Type 1. In addition to these features, OpenType font files are incredibly compact. For all intents and purposes, it is the quintessential format for a global economy. Advances notwithstanding, OpenType assumes a degree of literacy which surpasses workaday typography. The format places extraordinary demands upon users, not the least of which is linguistic fluency and an awareness of the needs germane to cultures that comprise our audiences (assuming that we are involved in the publishing of international texts). Yet one culture's official language is a subculture's unique patois. Language and meaning are in constant flux, thereby calling into question the hallmark features of the format which, under scrutiny, betrays a contemporary monolith; a typeface fitted with thousands of glyphs suggests completeness and closure. The format exhibits the trappings of a universalizing scheme that disregards a range of typographic practices – sensibilities that may be described as attentive, playful, prosaic, conservative, chic, distressed, etc. It may also disregard the real needs of graphic designers who work locally. These kinds of typographics are still prevalent in working class communities such as the one where I live and work. The introduction of OpenType marks the end of typographic democratization, which is ironic, since the format is touted as taking account of, and utterly open to, the expectations of international users and audiences. The ongoing quest for cultural authenticity is an enterprise that strikes me as divorced from the search for a resonant typographics. The late Philip Meggs wrote that resonance is "generated by the cultural, stylistic, and connotative properties that typefaces possess in addition to their function as alphabetic signs. A typeface gains … resonant qualities through historical tradition, associations relating to its typical use, and its optical properties."11 The outward appearance of letterforms is but one aspect of a larger set of contingencies. Cultures will neither die nor suffer for a dearth of glyphs and non-Latin types can certainly be articulated through the format on a case-by-case basis. This approach is less perilous to independent type designers who wish to maintain their customer base.

In his seminal Printing Types: An Introduction, Alexander Lawson writes, "most printing types can be used for every conceivable printing requirement. A number of specialized … types have been designed specifically for composing the text of newspapers and could logically be called 'newspaper' types, but they … would serve equally well in commercial printing or in periodicals."12 That typefaces surpass the limits of their design is evident when the rights to a custom type revert back to its designer who makes it available to the public. When a license to use the typeface is purchased, the design inevitably makes its way into other venues, which will prove or refute its viability. It is a reasonable enough strategy to retrofit a typeface with more characters as needed, which ensures that users of older formats will not be marginalized or altogether displaced. Education is the best way to preserve the most salient features of a language. With proper training, and despite the absence of a distinguishing character set, it is possible for a graphic designer to convey the tenor of a culture through composition alone.

It is a travesty that language and literacy fall by the wayside in much of what passes for graphic design education today. There exists a disparity between form and content that must be addressed. While OpenType marketing promotes convenience through the font's intelligence, there is an underlying corporate mandate to trundle forward – to test the limits of technology in a manner consistent with what is believed to be economic.

Corporations aspire to look like their target markets and will capitalize on the format to move more and more of their products so there is the danger of mimicry and of posturing which have little to do with authenticity. Somi and Sojin Kim offer an astute observation: "Although certain alphabetical styles may be popularly recognized as references to specific cultures, lifestyles, and values, their meanings are not static and consistent. Meanings … depend upon the parties involved."13 Perhaps we should simply enjoy the tensions and sporadic breaks in communication that are innate qualities of language. These gaps are what keep us moving. Languages will continue to evolve despite modifications to usage, orthography, and punctuation. Resonance is achieved by what we do and say through the typefaces we brandish.

OpenType can do no more than refer to a culture. It cannot speak for its populace, nor can it address all aspects of nationality. The latter is the sum of lived experience – a life in the world. Typefaces and the formats in which they are made available are adjuncts to our physicality. In the end, OpenType epitomizes our collective pursuit for typographic eloquence, which exists independent, and in spite of, font formats.

1. Jan Middendorp. Dutch Type. (Rotterdam: 010 Publishers, 2004) 151.

2. Gerrit Noordzij. The Stroke: Theory of Writing. (London: Hyphen Press, 2005) 50.

3. Noordzij 50.

4. Noordzij 39.

5. Robin Kinross. "Type as critique." Typography Papers 2. Ed. Paul Stiff. (England: University of Reading, 1997) 82.

6. Gerrit Noordzij. The Stroke: Theory of Writing. (London: Hyphen Press, 2005) 51–3.

7. Fred Smeijers. Counterpunch: Making Type in the Sixteenth Century, Designing Typefaces Now. (London: Hyphen Press, 1996) 43–5.

8. Smeijers 44.

9. Smeijers 47.

10. http://www.underware.nl

11. Philip B. Meggs. Type & Image: The Language of Graphic Design. (New York: John Wiley & Sons, Inc., 1992) 120.

12. Alexander Lawson. Printing Types: An Introduction. (Boston: Beacon Press, 1971) 45.

13. Sojin Kim and Somi Kim. "Typecast: Meaning, Culture, and Identity in the Alphabet Omelet (¿Which Came First?)," Lift and Separate: Graphic Design and the Quote Vernacular Unquote. Ed. Barbara Glauber. (New York: The Herb Lubalin Study Center of Design and Typography, 1993) 33.

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