Deconstruction, Legibility and Space: Four Experimental Typographic Practices

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Abstract: In this paper we wish to present the typographic experimentations of 4 designers, each of whom looks at typography and its implementations from different viewpoints; however with similar goals – namely to investigate how typographic systems can be implemented, their attributes as carriers of semantic meaning be redefined, and/or their functions be improved upon within the digital medium that presents challenges as well as opportunities that enable graphic designers to reach well beyond the traditional medium of typographic work; i.e., printed paper. The paper will examine these four projects under the umbrella concept of Deconstruction, also extending into a consideration of Legibility; setting them forth as examples of the impact that the digital medium has brought to bear upon typographic practice in recent decades.

Keywords: Typography: Text: Fonts: Deconstruction: Legibility: Space.

Typography, Deconstruction, Legibility and Space

The origins of typographic deconstruction can be traced to Futuristic typography in the early decades of the 20th century. Marinetti writes in 1913 that his revolution is aimed at the typographical harmony of the page, saying that "with this typographical revolution and this multicoloured variety in the letters I mean to redouble the expressive force of words." (Marinetti 1913) Marinetti's basic Futurist credo, the relegation of human experience to a continuum of sensations, underlay the techniques he proposed to use in achieving a Futurist literary expression. Marinetti described these procedures by declaring that "nouns will be scattered at random, infinitives with their greater elasticity will replace the pedantic indicative." (Cundy, 1981, 349-352)

Some 80 years later, Ellen Lupton couples certain aspects of Marinetti's outcry with Derrida's deconstructionist philosophy, concluding that graphic design at the end of the 20th century is a process of questioning typographic practice. According to Lupton, Derrida asks questions that are crucial to typographic design as well: How does representation inhabit reality? How does the external appearance of a thing get inside its internal essence? How does the surface get under the skin? (Lupton, 1994, 45-47)

Further questions that preoccupy Lupton are how visual form may get inside the content of writing and through what means can typography refuse to be a passive, transparent vessel for written texts, instead developing as a system with its own structures and devices? A typographic work can be called a deconstruction when it exposes and transforms the established rules of writing, interrupting the sacred inside of content with the profane outside of form whereby "communication for the deconstructivist is no longer linear, but involves instead the provision of many entry and exit points for the increasingly over-stimulated reader." (Cahalan, 1994, 5-11) Thus the page is no longer to just be read but also to be perceived beyond its pure textual content, reaching into all of its associative conjunctions: In other words, we are meant to feel rather than just to read a page, which brings us to the considerations of graphic designers such as Neville Brody and David Carson who aimed to bring about such mind states through individually crafted works of typography in which the requisite interventions had been painted in by hand.

These queries are related to the notion of 'the designer as author' whereby according to Poyner (1991, 7) certain examples of experimental typography should be considered as a post-structuralist revaluing of the co-production of meaning by both author and reader. Poyner noted that experiments in typography "reflect a deep scepticism about received wisdom and a questioning of established authorities, traditional practices and fixed cultural identities," (Poyner 1996, 15) heralding novel means of transdisciplinary expression that stands between the traditionally separate fields of design and literature.

While this climate of experimentation is of vast benefit to the 'designer as author'; nevertheless, a concern that relates to legibility is still very much part of design discourse in typography: What frees up the designer/author in this regard is the finding that once we know what a word looks like in its written form, the letters that create the word are no longer read but instead the word is perceived as an entire shape. The process of reading depends on the pattern recognition of the human brain, or as Bill Hill states "once we have learned the pattern of the word "window, we never again read the individual letters; the larger pattern is immediately matched as a gestalt." (Hill 1999) Bill Hill refers to this as a result of an evolutionary selection; the survival of those who are better at seeing subtle differences on the texture of a fruit to determine whether or not it is edible or the facial gestures of another primate in order to survive.

When taking the issue of legibility to a further dimension however, we find that when it comes to screen-based 3D displaying text has noteworthy issues that are related to readability which are of a nature that cannot be resolved by Hill's findings. Although the human organism is eminently capable of reading perspective distorted texts in Real Life, David Small notes that when it comes to screen based 3D there are significant shortcoming in this regard. These are brought about through fixed, and yet uncontrollable,

view-points resulting in a continuous perspective distortion that is unsuited for reading since the positioning of the reader in relation to the angle of the text remains awkward at best. What differentiates these viewpoints from their Real Life counterparts is that these perspectives are displayed upon a flat surface, i.e., the screen. In a screen based 3D environments each new angle will result in a differently shaped letter and at extreme angles this shape can even be reduced to a line. While certain word shapes may still be recognizable in less than ideal circumstances, in general there are few viewpoints from which a text will hold its legibility. A further issue also addresses size and size-based hierarchies that are deemed to be essential to creating legible page layouts:

A graphic designer can use size differences to visually distinguish certain elements in a text. In a (virtual) 3D space however, you cannot always resolve the relative size of two objects. If one object appears smaller in the picture plane, it could actually be smaller, or it could be the same size and farther away, or it could even be much larger and very far away. So, in the design of an information space, one must be careful about using size as a differentiating variable. (Small, 1996, 518)

In two of the four investigations that are presented below, an approach that adheres to the principle of 'designer as author' is foregrounded: In Elif Ayiter's spatial investigations in virtual 3D, as well as in Onur Yazıcıgil's 'Text Invader,' legibility readily gives way to a playful stance that asks of the 'reader' to feel a text rather than to read it. When it comes to Sina Cem Çetin's and Doruk Türkmen's work however this attitude is almost reversed since both designers are embroiled in typographic quests that pay considerable attention to legibility. What is foregrounded in both cases is to what extent glyph based experimentations can be conducted without forsaking legibility; indeed even searching for ways in which such formal investigations may come up with novel ways of enhancing legibility.

Four Experimental Practices in Typography and Text

Space, Play and Text

Elif Ayiter's work relates to the creation of textual content as well as its visualization in three dimensional virtual worlds. The focus is upon how such screen-based virtual 3D spaces may utilize text within a context that departs from the attribute with which text has inherently been associated – namely the attribute of readability. In such environments readability may be displaced through the usage of text as a playful device, as artefacts that may manifest in riddle-like configurations, or as visual structures that are meant to be understood through means other than straightforward reading; thus bringing about states of

heightened engagement, wonder and ‘play’ through their manipulation or indeed simply by being immersed inside them.

As has been discussed earlier through citing David Small’s findings, attempting to engage in creative activity involving text as informational content is not an easy option in virtual 3D worlds. Compounding this is an understanding of the metaverse as a playful environment that resides upon tenets that are closely related to make-belief, to absurdity, to the solving of puzzles, rather than to a utilitarian conveyance of essential content.

Where typographic artefacts which are rendered on a 2D plane are concerned the control of the viewing experience ultimately resides with the artist/designer since what the viewer sees will be exactly what has been intended during the production phase. When it comes to 3D environments however, this control leaves the hands of the creator altogether and passes onto the viewer, since what is seen will depend entirely on the viewpoint of the participant. Again, coming back to David Small’s findings, hierarchies will shift based upon spatial proximity to individual artefacts within the typographic schema, and perspective will create distortions which will change upon each step taken within the environment. Moreover, if type has been placed upon transparent layers the sequence of textual content will also vary from step to step through the overlapping of transparent layers.

The awareness that legibility might not be an overriding quest resulted in the idea that it might be wise to look for textual sources that would address a need for play, for personal readings and interpretations; in other words, text that is meant to be ‘felt’ as an artwork, rather than to be ‘read’ as informational content. This brought to the fore asemic/aleatoric writing, and to generative text as a device for providing the material for such non-traditional usages of type.

Asemic writing is a wordless form of writing, deriving from the Greek word ‘asemic’ which means ‘having no specific semantic content’. Through this nonspecificity comes a vacuum of meaning which is left for the reader to fill in and to interpret since asemic writing has no inherent verbal sense. Closely related to asemic writing is aleatoric poetry, which resides upon the chance encounters of words. Christian Bök says that “writing by means of an aleatory protocol almost fulfils the dream of Deleuze, who imagines an ideal game of chance, one whose rules are themselves subject repeatedly to chance, resulting in an aimless outcome so futile that we have no choice but to dismiss the game as a nonsensical dissipation of time itself.” (Bök, 1996, 24-33) However, Bök takes the notion of chance altogether beyond nonsense when he further quotes Deleuze who tells us that “if one tries to play this game other than in

thought, nothing happens, and if one tries to produce a result other than the work of art, nothing is produced." (ibid)

Ayiter's investigations into play, text, typography in conjunction with asemic writing and aleatoric poetry are ongoing and have resulted in several spaces that are based upon the concept of textual deconstruction in screen based 3D spaces that have also been described in a prior publication. (Ayiter 2012)

Text Invader: A Graphic Interference on Semantic Flow

Onur Yazıcıgil's motivation for creating Text Invader resides in an interest in the work and philosophical concerns of a number of deconstructivist graphic designers of the late 20th century who investigated breaking type and semantic flow on typeset pages through techniques that can also be described as painting with type – a process, that amongst else, also involved experimental broken typesetting, or painting with type as was the case with Grunge typeface designers such as David Carson and Neville Brody. (Meggs, Purvis, 2006, 495-496)

Can such a process of broken/painted typesetting happen generatively? (Unger, 2007, 82) Can such semantic patterns be visualized by substituting some of the letters, words or even paragraphs with graphic elements? If so, can this repetitive semantic pattern result in an aesthetic investigation?

Text Invader aims to generate fonts that can attack and infect the content in search for a pattern that may alter the context ironically or metaphorically. The Text-Invader virus may be implanted as various visuals: graphic images, letters, and abstract forms, which are generated as substitute glyphs and indeed entire words. Virus images are not used arbitrarily to alter the look of the content, rather they substitute the images with certain repetitive letters, words and even lines of text in search for creating a meta-text: Text in which the author's intentions have been intermediated by the Text Invader. This methodology in generating a virus font initiates a discourse and discussion about the author's and designer's roles in typesetting. (Yazıcıgil, 2012, 145-151)

The system is based upon a dichotomy in that it is both controlled as well as generative at different levels of the output: While the substitution of vector files for specific keywords which are determined by the user brings forth a level of control as far as single words are concerned, the combination of these words into semantic patterns brings forth a novel layer/level of unpredictability in which the drawings conglomerate into a combined visual output which is ever changing based upon the variance with which

the keywords converge. These images need not necessarily be figurative but can also be abstract shapes such as scratches, blotches, stains as well as geometric shapes such as squares and lines.

Utilizing the principles of generative systems as the founding strategies for design applications has been under discussion within the community of design theorists for quite some time. (McCormack et al. 2004, 156–164) The matrices for these discussions are often derived from self-organizational systems such as biological swarms and colonies, evolutionary systems and shape grammars, the last of which have been deliberated upon for the better part of 4 decades as a means for novel forms of artistic production. (Stiny, 1972 125-135) It is generally held that generative design strategies may prove to be potent platforms for bringing about novel structures, behaviours and relationships as well as in providing stages upon which the complex and interconnected relationships between the design organism and its environment can be acted out.

For Text Invader the desired outcome is seen to be a creation of such novel structures, behaviours and relationships that will manifest not solely in the graphic design field but at the intersection of two fields, namely typography and semantics. Thus the aim is to bring about a transdisciplinary creative system in which designers and writers can find fertile ground for collaboration, as well as undertake personal artistic investigations which may bear novel forms of semantic as well as aesthetic expressions.

The Frankenfont

Sina Cem Çetin's Frankenfont project proposes a system to test the effect of using slightly different glyphs for each letter whilst reading a long text and hypothesizes that typography may still remain transparent to the reader's eye, while using potentially unique glyphs for each typed letter. The developed environment is capable of generating theoretically infinitely unique glyphs for each letter. This generation can take place only once, when the letter is typed and the usage of this system will be limited to generating different glyphs at each keystroke to generate a single piece of text.

A premise that typeface design has relied on traditionally is that every instance of a glyph for a specific letter should be the same. When the process of type design is translated to the digital medium however, the means of creation and thus the nature of the product change. The glyphs are no longer defined by their physical features, but by mathematical abstractions of the desired shapes:

Conventional typesetting software focuses on the suicidal notion of absolute control - and has been hamstrung in the past by the idea of a single glyph per character. The modern computer with its practically limitless computing power is able to create different variations of a letter at each keystroke. The creation can be completely random, with controlled randomness or based on a pattern. (Bringhurst, 2002, 185)

In order to mould lead into the desired shape, appropriate conditions should be met such as correct temperature, enough time and expertise. By contrast, when a shape is produced from a digital abstraction, the entity of the glyph, through the nature of the algorithmic bits is ready to be reshaped in endless ways without needing more than a couple of milliseconds. The algorithm replaces the analogue technology, whereas the vertices replace the physical material of the typeset. Therefore, once the user is able to interpret the vertices and to transform them, it is not impossible to create thousands of variations of the same glyph.

As the aim of the project is to see the effects of using different glyphs for the same letter at each occurrence, the fonts that will be used for interpolation should not be too close, so that there is a tangible difference between the generated glyphs. Yet, they should not be too differentiated either, so that even though the resulting glyphs are different, their skeleton is not. In view of these considerations one humanist and one grotesque sans-serif font were selected for interpolation. This transition between humanist and grotesque fonts also echoes Yazıcıgil's findings (2009) that show that there is a change in preference from humanist to grotesque fonts for reading that has come about through the transition from analogue to digital: While print-readers prefer humanist fonts, in digital reading the preferences veer towards grotesque fonts. Thus, using a font from each of these similar and yet distinct family generates letterforms that bear similarity to both categories, therefore supplying the missing gap between the two inclinations for fonts.

Currently, the Frankenfont Application is an experimental environment and not yet a full-fledged design application. This noted, it can nevertheless be said that the work may provide a resolution to a problem in typesetting which concerns calligraphic fonts that attempt to emulate handwriting. The challenge in creating such 'handwritten' fonts resides in the fact that while the human hand will form each letter slightly differently, this no longer holds true when writing with mechanical devices since each and every time a certain letter is pressed upon the keyboard the ensuing letterform will be identical. While handwritten text looks 'natural' to the eye through these slight changes between the glyphs, handwritten or calligraphic fonts will very often look stiff and 'unnatural' due to the uniformity of the produced

glyphs. Project 'Frankenfont' undertakes to resolve this problem through an algorithmic interpolation that creates hybrids between two typefaces, whereby each letter that is being typed takes on a randomly picked percentage of attributes from its two parent fonts, resulting in visual variations between countless iterations of the same glyph that produce a convincing resemblance to the randomness of human handwriting.

Guten_borg

Project Guten_borg is an experiment conducted by Doruk Türkmen on type design processes and typesetting, evaluating the interactions between legibility and communication. Type design is held to be a process of designer-based decisions, making each typeface an extension of its designer's vision and taste. These decisions depend on the function of the typeface and the medium it will be displayed. The project will explore the variables of typefaces and ask the question: "How can these decisions be extended further through controlled as well as uncontrolled interruptions?"

While inspiration comes from the Derrida's deconstructionism and its effects on graphic design, as was discussed earlier on in this text; a further input comes from an experiment called Control|Print that was conducted at the Royal College of Art in the year 2007. Control|Point questioned the perception of digital printing as one of convenience, where the emphasis is placed upon affordability and functionality over a search for novel means of typographic expression and aesthetics. The research resided upon the question of whether the digital press may present an opportunity of returning to the sensibilities of a pre-industrial revolution, craft-based approach that enables designers to produce on demand individuated books for a discerning audience; exploring the question from the perspective of a 'creative practitioner,' by placing emphasis upon the importance of human skill and intervention in a process which has been hijacked by automation:

How we weave human intention into the pre-determined language of digital tools is key to the way they are perceived as an influence on our creative landscape. From the perspective of the artist or designer, adjusting to the digital environment has not simply been a matter of replacing old tools for new, it has required a significant change to the way individuals evolve their work. (Warren-Fisher 2009)

Project Guten_borg specifies the quest of Control|Point into an investigation of how far the boundaries of legibility can be stretched whilst pursuing freedom of artistic expression in typographic design. Legibility is about habits and resides upon a familiarity regarding the armature of the letterforms. Thus, any

modification that alters the familiarity of the armature gives a sense of disturbance over the reader. Project Guten_borg aims to explore this disturbance by merging different typefaces with one another to generate random combinations of each letterform. When such distorted or modified letters come together to form a continuous text, it may become difficult, even impossible to read the ensuing text since reading is a purely automatic action that depends on visual rhythm. As Unger says: “It is almost impossible to read and look at the same time: They are different actions. In a short text, combining text and images made up of animal shapes is not a problem, but try it with a long text and you soon find it doesn't work: you keep trying to see the images as well as read the text.” (Unger 2007, 84)

The variables of a letterform are the significant elements of a typeface. Serifs, x-height, stem width, horizontal and vertical contrast are all elements that make a typeface unique. In the Guten_borg experiment, the aim is to play with each letterform in controlled and uncontrolled ways through an algorithm that will combine the variables of different fonts and come up with a unique form for every letter, in effect creating hybridized typefaces. It is expected that these hybridized forms will break the flow of the text and disturb the reader since the visual rhythm that comes from habit is broken through them.

The algorithm will take the variables from 3 pre-chosen typefaces and move them from their original location to the corresponding location in the generated, hybridized font. Thus, the merging points of the variable will not be random; each of the components such as the serifs, the stems and bars and of the letter will be in their inherent locations, however standing in a novel formation. As an example, the vertical/horizontal contrast of font A may be combined with the serif structure of font B, and these may be placed according to the x-height of font C. No matter how diligently the parent typefaces are selected with a view to ultimate harmony, it cannot be known whether the outcome will be an abomination or a rhythmic text that can be read easily until the algorithm has been run and the text has been generated, given that all iterations will create their own hybridizations. The ultimate aim of the project is twofold: First to investigate whether a typeface that can be read and seen at the same time is conceivable, and second to establish where the fine line between legibility and loss of legibility may reside when it comes to the generation of hybrid fonts.

Conclusion

This paper has examined this manifestation under the umbrella concept of Deconstruction, an approach that was initiated before the onset of digital typography, indeed goes back to the early years of the 20th

century. The digital medium has brought novel dimensions and affordances to this approach through its application into virtual 3D, through novel inputs such as generative text, and especially through algorithmic behaviours that greatly extend typographic deconstruction/and or the deconstruction of the page through automated or semi-automated procedures. Since one of the strongest critiques of the deconstructive typographic approach has been through the issue of legibility, two of the above projects are also devoting consideration as to what extent type can be manipulated in this regard.

The four experimental typographic practices that have been discussed in this text are representations of similar investigations that are conducted by many graphic designers across the globe. The query of how/whether the attributes of typographic systems as the carriers of semantic meaning may be explored is bringing forth much noteworthy work which verifies that challenges as well as opportunities are there to be explored within the digital medium.

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