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## *‘Virtual Typography’: Time Perception in Relation to Digital Communication*

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*Figure 1: ‘o logos’; prototype for a three dimensional virtual exhibition environment through which people can navigate  
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### **Keywords**

digital communication, virtual reality, hypertext, dynamic information, virtual typography, dimensional typography, expressive typography, information landscapes, new media, infomania, fluidtime

### **Abstract**

Based on the argument that digital kinetic typography ought to be defined as virtual motion within three dimensions, this paper discusses the temporal-spatial relationship between the viewer and transitional text information. It juxtaposes concepts of three-dimensional static text arrangements with the composition of individually moving text elements. After differentiating between real-time-communication and experiential time, I will point out the potential of digital kinetic typography to decelerate the communication process.

### **Introduction**

“No, not the victory of progress, or of liberty! Not the victory of ideas or grand designs! But the victory of sheer possibilities! Victory of instant information over the lethargy of matter! The triumph of impatience! It has become real. A complete exchange of knowledge. Everyone can negotiate everything with everyone at any time. It just takes a moment, a blink of the eye, a breath, and the sparkling text appears” [1].

Typography that is not printed constitutes a contradiction in terms. The word typography literally translates as ‘the art of print’. Since the advent of digital technologies the preparation of printing has become decreasingly physical. The actual printing process has been automated to a large degree. However, it is the screen based communication environment most of all, which raises questions about the terminology we are currently using.

Emerging expressions such as dynamic information, information landscapes or dimensional typography are highlighting the insufficiency of the word typography as such.

Driven by ‘possibilities’ rather than ‘ideas’, the design community is still far from developing a shared understanding of the diverse expressions. Maybe this should not surprise us. We may presume that we are at a fairly early stage of a new era — the era of digital communication. Future developments of communication technologies have always been difficult to predict, and expectations have often been exaggerated. “The computational environment can never match our aspirations, and allusions to the computing power of the future” [2]. Nonetheless the Internet is spreading through the world rapidly. “In 2001, it reached 1600 per cent more than Internet users in 1991” [3]. Mobile phone technology, too, has become a standard feature for people. In 2003 there were about 1.52 billion mobile phone users around the world [4]. By now both those media are capable of transmitting even moving image data, and the virtual space they provide is expanding. But whilst plasma screens and Dolby surround systems allow people to turn their living rooms into miniature cinemas, virtual reality in the strict sense still remains a remote concept for most of us.

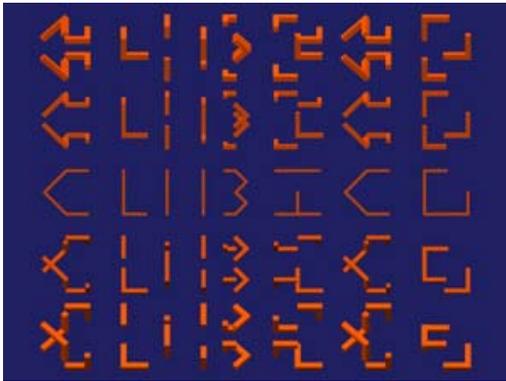


Figure 2: ‘Cubico’, a three-dimensionally constructed type face, designed for animation purposes  
© Studio for Virtual Typography, London, 2003

If we understand virtual realities as three-dimensional digital reconstructions of our physical environment, then what exactly might constitute virtual typography? On the one hand we could think of information landscapes as described by David Small [5]. In information landscapes (see figure 1) the reader virtually moves through passages of texts, which are placed within a digitally constructed 3-D environment. Alternatively we could consider virtual typography to be kinetic text elements, which move within such a simulated three-dimensional space (see figure 2). In fact the only possibility for the viewer to distinguish between both those concepts, is to rely on the way the individual text elements change their position in relation to one another.

As long as their relative positions remain consistent, they will be perceived as static environments (e.g. information landscapes). Only when their correlative positions change, will text elements be perceived as in motion. Similarly virtual space appears three dimensionally only, as long as some or all of the elements vary in size, overlap, grow or shrink, because the perception of movement within space relies on visual references. Thus information landscapes are essentially static virtual environments through which the user navigates.

Seemingly independent of such perceptual considerations a different line of inquiry introduced by Suguru Ishizaki focuses on the possible interactive aspects of text information. Dynamic information systems “continuously adapt to the dynamic changes in information content and the information recipient’s intention” [6]. Strangely enough, the more immediately the text information is being updated, the less dynamic its appearance will be. Where changes do not happen over a period of time, movement cannot unfold. The word dynamic in ‘dynamic typography’ consequently relates to the text content only, not to the form and shape of the message. For this reason it is necessary to differentiate between dynamic typography as responsive text information systems, and kinetic typography, the temporality of which is user independent.

A further term that should not be ignored here is ‘expressive typography’ [7]. This word is being used much in relation to digital communication, meaning that the form and timing of the message expresses its significance in an abstract way. The expressive potential of typography has been widely exploited in the field of print though, and should not be attributed exclusively to digital typography. Nevertheless I find it interesting that the digital media seem to need an extra emotional component more than any other. Despite the sometimes incredible efficiency in transporting messages quickly, digital texts such as e-mails, sms messages, or televised texts are often deprived of expressive qualities. Where characteristics such as sound volume, tone of voice, or timing cannot be sufficiently incorporated, emoticons emerge as substitutes for expressiveness. However, other possibilities to reintroduce an expressive moment should be conceivable.

In his introduction to ‘dimensional typography’ Abbott Miller refers to “sculptural and three-dimensional forms of individual letters” as an alternative to “the spatial disposition of ‘flat’ letterforms” as they occur in information landscapes [8]. This kind of dimensional typography, I claim, opens up new possibilities in the context of digital communication. If used for animation purposes, virtual three-dimensional letterforms may emerge from and merge into illegible visual elements. I refer to virtual letterforms in this case; as such animated three-dimensional text patterns cannot exist outside the digital sphere.



*Figure 3: The same font as above printed beneath a lenticular lens for the production of floor graphics  
© Matthias Hillner, Royal College of Art, London, 2004*

Despite the fact that holography or lenticular printing technologies allow typographers to create simulations of three-dimensional text objects [figure 3], their transitional qualities rely solely on the movement of the reader. The possibilities of using dimensional typography within real space aside, the potential benefits of temporal typography, the arising “opportunities to augment the visual and editorial powers of letters” [9] have not yet been sufficiently explored. The difficulty of testing the aesthetic-visual quality of typographic methods is due to the fact that it is difficult to establish objective assessment criteria for the effect that a text presentation has on a viewer. Contrary to the efficiency of information transmission, the aesthetic affectivity of text presentation is considerably difficult to measure. My main argument in favor of temporal digital typography is that the pace of reading can be varied to highlight individual contents on the one hand, and to allow time for reflection on the other.

Technologies have always accelerated production and communication processes. Consequently people’s sense of time and their expectation towards temporal processes have changed. Jessica Helfand argues: “Real Time implies no waiting — but in the real world don’t we occasionally wait for things?” [10]. It seems to me, as if we are waiting less and less. As “delay is the enemy of progress,” [11] time is being increasingly compressed. But where speed dictates the process, meaning gets lost. “Infomania erodes our capacity for significance. With a mind-set fixed on information, our attention span shortens”, writes Michael Heim [12]. But it is not only the pace of reading that has changed. No less important is the fact that reading has become a discontinuous activity. Hypertext, as Heim explains, “fosters a literacy that is prompted by jumps of intuition and association” [13]. The Internet allows us to instantly switch from one piece of information to another. Thus the media allow us nowadays to obtain information from the most remote places on earth at ‘real-time’. Confronted with the vast amount of information, which is being made available to us, we are left with the impression that we are required

to know about everything. But where we are elaborating on information broadly, we lack the time to go into the depth of subject matters. Helfand's question should therefore be rephrased as: Should we not occasionally have to wait for things?

On 26 February 1994 the Guardian newspaper wrote: "A universal fluidtime system would not remove all waiting time, but it would reduce the stress that waiting produces" [14]. As much as stress used to derive from doing a lot within a short period of time, it now primarily seems to evolve around waiting — in other words from doing nothing. Not only the reading process, life in general is becoming increasingly complex in the post-industrial era. And whilst I am reflecting on cultural changes in digital communication, I am reminded of the fact that I am sitting at a foreign computer, in a foreign country, where I have just downloaded the first few paragraphs, which I quickly drafted and uploaded online before leaving Britain yesterday. After returning tomorrow I will be using my own computer for the corrections I will have scribbled during the return flight to London. The following day during my lunch break I will supposedly overwork what I have written on yet another computer. Where and when does my mind fit into all this? I am struggling to find the grammar to describe this discontinuous process of writing whilst I am still writing. Where passages of texts are constantly traveling through the Internet to be reassembled at the other end, our traditional notion of time fails to prevail. Always present, always accessible, digital technologies do not allow us to rest anymore. Eventually my paper will emerge, like an image from a puzzle. It will have been written in fragments. Nevertheless it will have been written 'fluidly', without wasting any time, written during those gaps between working, traveling, eating and sleeping. Always online, always busy, we are always productive.

Reading, too, is a productive process. It produces thoughts, knowledge, opinions. The lack of waiting time combined with the constant universal presence of information urges us to acquire information often faster than we can possibly digest it. Critical reflection requires a moment of rest, a moment of silence. To provide room for such pausing moments, I consider to be the main challenge in the context of virtual typography. To achieve such deceleration without compromising the reader's general level of interest, the typographer needs to undermine the short attention span mentioned earlier. But what is it that induces readers to apply such patience? Motion may occupy the reader, so that his eyes rest on the screen. And where rests his mind? On the one hand motion may easily distract the reader of kinetic information. But at the same time it engages his senses. Motion therefore communicates on a different level of abstraction. Only if people's sensuous perception supports the literal content of the message, is the communication process likely to succeed.

My first typographic experiments were aimed at exploring the boundaries of legibility of transitional texts. Quite surprisingly it was the moments, before abstract motion patterns changed into legible text elements, which have attained the most attention amongst readers. So the phases of illegibility were given equal, if not more importance than the process of reading itself. It may in fact seem disputable to speak of reading as such. The process of scanning the screen for legible patterns resembles rather the way photographic images are being depicted. The reader hereby becomes a viewer. Indeed have the media quite fundamentally changed our customs of reading. Reading word by word, it seems, is becoming an increasingly unpopular activity. If this is the case, the appreciation of texts will be fading. My typographic work, as it is being featured on [www.virtualtypography.com](http://www.virtualtypography.com), may be considered an experimental investigation into the limits of legibility. The initial lack of recognizability, I thought, should discourage the reader. Given the sufficient indication of an emerging content, however, people appear to seek meaning. Structural decoding of visual information involves a process, which in the field of Gestalt psychology is known as 'grouping' [15]. When individual elements are interpreted as connected constellations, meaning is attributed to the abstract shapes on a speculative basis. Iterative motion supports the grouping process, while the unfolding of legibility can be timed in order to slow down the reader's perception.

The temporal disposition of contents which contrasts with Real Time communication, but not with 'real world' communication constitutes the main value of virtual typography. The "jumps of intuition and association" no longer need to be coincidental. Will we have to turn into 'information virtuosos' as Heim indicated [16]? I believe we will. If we intend to compromise the efficiency of reading, we will need to rely on the aesthetic effectiveness of typography. In other words: If we want to slow down the reading process, we need not only to attract, but also to maintain our reader's curiosity. And therefore we will have to discover new forms of transporting our message. Maybe forms where intuition complements rational reflection. Or will I have to put it the other way round?

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### ***Author Biography***

Matthias Hillner was born in Germany, where he trained first in photography, then in visual design. He received his M.A. in Communication Art and Design at the Royal College of Art in London in 2001, and worked subsequently for various design agencies in the city. In 2004 Matthias began work as a sessional lecturer at Ravensbourne College for Design and Communication in Kent, and later taught New Media Concepts at the London Metropolitan University. He returned to the Royal College of Art in 2004 to investigate virtual typography.

In 2005 this research initiative led to the formation of the Studio for Virtual Typography ([www.virtualtypography.com](http://www.virtualtypography.com)), a design consultancy that specializes in developing typographic solutions for new media environments. This London-based business development is currently supported by the National Film and Television School (NFTS), and sponsored by National Endowment for Science, Technology and the Arts (NESTA). The Studio's work has been featured in various design publications including *Grafik*, *Creative Review*, *How*, and was presented at the Typo.Graphic Design Conference in Beirut, Lebanon, in 2005. Matthias Hillner further contributed with his work to various exhibitions, such as *Evolution 2006*, at the Leeds City Art Gallery in April, and *The Moving Frame* at the Royal College of Art in September 2006.

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