Relearning Typography: Introducing a Cross-Disciplinary Typographic Framework

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Presented at:

FutureGround Design Research Society Conference 2004
Melbourne, Australia

Biography

Joyce is a practising designer and researcher in New Media design. She is part of the New Media team at the Centre for Design Research, Northumbria University in the United Kingdom. Prior to this, she has worked as a print designer and lecturer in the subject of Typography for 3 years in Malaysia. She completed her post-graduate degree at London's Central Saint Martins School of Art and Design. Her final thesis was about repositioning the role of letterforms in the face of technological change. Joyce is currently pursuing a part-time PhD degree at Northumbria University, on developing a practice-led framework for the application of typography in screen-based interactive media.

Abstract

Current theory and vocabulary used to describe typographic practice and scholarship are based on a historically print-derived framework. As yet, no new paradigm has emerged to address the divergent path that screen-based typography is taking from its traditional print medium. Screen-based typography is becoming as common and widely used as its print counterpart. It is now timely to re-evaluate current typographic references and practices under these environments, which introduces a new visual language and form.

This paper describes a study that utilises a combination of empirical methods and action research projects to form a new conceptual framework for the understanding and practice of screen-based typography. This study is part of a Doctoral programme in the School of Design at Northumbria University, UK. This paper focuses on the research carried out so far, the methodology used and the findings from two stages of the study. It will end by introducing a tentative cross-disciplinary typographic framework that has been developed to date.

This study starts by investigating the relevance of the current framework and evaluates the need for developing an alternate framework through a questionnaire survey. This is followed up by a series of interviews with practitioners working across different disciplines in an effort to identify new media attributes most influential towards the development of screen-based typography.

Results of the surveys have shown that understanding and identifying the future role of typography in screen-based media is key to the developmental strategy of this typographic framework. Typography continues to be one of designers' main tools of communication, regardless of medium. The introduction of the digital medium has not lessened the importance of this role and has in fact increased the reliance on typography to communicate in a clear and straightforward manner.

The influence of other disciplines in the development of new media content has also been strongly supported. Conclusions from this initial research points to the fact that the development of a framework must take into account several key factors. These include the impact of technology on the development and application of typography. The framework should also be responsive to the influences of other disciplines in the development of new media content. Influences from film, computer gaming, interactive digital art and hypertext disciplines must be appropriated into the building of a new knowledge base for screen-based typography. Identifying and understanding the influences brought about by other disciplines should be a major consideration in the development of the framework.

1.0 The Challenge Of New Media On Typography

The expansion of the digital medium and its divergence into many forms of technical invention has truly transformed the way in which we live. In particular, the relevance of typography has been brought into question by the emergence of other forms of communication such as sound, animation and video. For a subject that is so grounded in the materiality of print, screen and time-based environments have 'introduced a new visual language, one which is no longer bound to traditional definitions of words and image and form and place' (Helfand, 1997: p14). Typography's role as a communication form must be re-examined in light of the changes in how we read and view information via a screen-based environment.

2.0 Purpose of TheSurvey

In order to identify, understand and address these new challenges, a survey was designed and carried out as part of a PhD research programme. It was designed specifically to address two key research questions:

1. How relevant is current print-derived typographic knowledge for screen-based interactive medium?
2. What factors have affected the role of typography in screen-based interactive medium?

"Relevance" refers to the value of typographic knowledge derived specifically from the printing tradition. Is it worth learning and practicing or has it become redundant in this era of digital application and display? Instead of learning principles and rules derived from traditional methods of typesetting, would time be better-spent learning medium specific methods based on the characteristics of the new medium? While typography may still be considered the 'lingua franca' of graphic design (Heller, 2004), its role in multi-modal disciplines such as interactive design needs to be re-evaluated.

The survey was divided into two stages. The first stage consisted of an online questionnaire survey. It was primarily aimed at obtaining a clearer understanding of issues held by design practitioners and educators towards the relevance and role of typography in screen-based interactive media. The findings from the questionnaire provided a definitive indicator on how much of the researcher's hypothesis is verified by the sample.

The second stage of the survey consisted of a series of online interviews with subject experts in new media related disciplines. The aim of this stage was to determine which cross-disciplinary issues are the influencing factors towards the development of a new typographic framework.

3.0 Stage One: Questionnaire Survey

3.1 Delivery Method

Due to the geographical location of the targeted sample and the comparative lower level of cost, it was decided that the best way to administer the questionnaire was through the Internet. The questionnaire consisted of 25 questions, out of which 24 were closed questions.

3.2 Sampling Techniques and Criteria

The selection of the respondents was taken non-randomly. This method was preferred because it is based on a 'judgement sample'. According to Oppenheim (1992), a judgement sample relies on the researcher to try to obtain as wide a representation of individuals in their views and experiences. As well as this, a judgment sample involves the choice of subjects who are in a position to provide the information required because of their level of knowledge in this particular subject (Sekaran, 1992). The sample was divided into two major groups: educators and practitioners. The list was compiled by focusing on design and teaching excellence recognized through design journals, awards, annuals and professional organizations.

3.3 Respondents' Profiles

683 participants were contacted through email by the researcher and asked to fill in an online questionnaire. A total of 182 questionnaires were completed and returned to the researcher. This represents a return rate of 26.6%, which should not be perceived as low due to the 'cold-calling' nature of the email.

The survey asked respondents to rate what professional design activities they were involved in. If the respondents answered that they spent more than 50% of their time in a design practice, they would be classed as a practitioner. Table 1 shows the percentage of the respondent groups, while Table 2 shows the breakdown of the principal occupation of respondents. The 'others' occupations indicated in Table 2 consisted of Typographers, Web Developers, Design Writers and Design Researchers.

RESPONDENT GROUPS	% of Respondents
Practitioners	63.5
Educators	25.0
Practitioners and Educators (equal)	6.5
Others	5.0

Table 1: Breakdown of Practitioners and Educators

PRINCIPAL OCCUPATION	% of Respondents
Graphic Designer (GD)	29.5
New Media Designer (NM)	27.5
GD & NM (equal)	2.0
Others	41.0

Table 2: Breakdown of Graphic Designers and New Media Designers

3.4 Data Analysis

Data was analysed based on three components of data analysis as described by Miles and Huberman (1994: p10):

1. Data reduction
2. Data display
3. Conclusion drawing and validation

The researcher set up specific research questions and themes to code the collected data. The questions were grouped into 4 main themes:

a. Relevance of current typographic knowledge and skills in Print and New Media
b. Role and function of current and future typography (the way type is being applied)
c. Influence of the typographic element in Visual Communication
d. Education model for screen-based typography

3.5 Key Findings

3.5.1. Principles of typography are still crucial and relevant

There is a general acknowledgement and awareness that screen-based media brings with it its own nature, characteristics, constraints and freedom. However, most respondents view that print-derived knowledge, history, tradition and skills of typography are still crucial to the understanding and development of any type of typography.

3.5.2. Type remains the main tool of communication

There was not much support for type becoming a more visual or interactive element as first predicted. Designers are still inclined to regard typography as a mainly textual element used to communicate a message.

3.5.3. A typographic education model that is independent of its medium

The respondents were undecided if there should be a separate curriculum developed specifically for screen-based type. However, judging from their responses from other sections of the questionnaire, many would be in favour of a typographic education, which begins by teaching the fundamentals and history of type before moving on to the specific characteristics and limitations of different mediums.

3.5.4. There is no philosophical divide between the four main sample groups

There is no statistically significant difference in opinion between practitioners and educators; and between Graphic and New Media designers. Perhaps this is because a majority of design educators are still practitioners, who may also practice in both print and screen media. These two points may explain the more homogenous responses collected in this survey. It also provides an interesting insight into the relationship between practice and education in the visual communication field. It suggests a close relationship between the world of the design profession and design education; and dispels a common belief that the field of design education is disconnected to the changing nature of the design profession. It also echoes Richard Buchanan's (1998) view of a relationship more akin to a partnership, instead of practice leading education.

3.5.5. An 'extended' rather than an 'alternative' framework

There was wide support towards the development of an alternative framework for screen-based typography. The most common view was that it should be independent on the medium of transmission, focusing first on the fundamentals of typographic knowledge, skills and function. Subjects such as film, communication, information and usability studies should be considered important elements towards the development of new knowledge for screen-based media. Rather than an 'alternative' framework, perhaps it is better to address it as an 'extended' framework in which existing knowledge needs to be appropriated and adapted to the context of screen-based type application.

4.0 Stage Two: Subject Expert Interviews

The findings from the questionnaire survey seemed to indicate that current print-derived typographic knowledge is still relevant for screen-based interactive media. At the same time, the respondents' answers supported the study's initial hypothesis that the construction of an alternative framework needs medium specific knowledge gained through disciplines, which reflect the characteristic of screen-based interactive media. The subject expert interviews were used to draw out medium specific issues that has and will continue to have an impact on the way typography is viewed and applied in screen-based interactive medium.

4.1 Delivery Method

Nine semi-structured (Robson, 1993), one-to-one online interviews were conducted with selected participants. The main factors that determined the delivery method of the interviews were due to the geographical location of the participants, cost and time involved. These interviews were carried out using one of the three online communication methods: Instant Messaging, external chat website and synchronous email.

4.2 Interviewees' Profiles

Individuals were chosen based on their specialist knowledge and interest in areas relating to the practice and theory of screen-based interactive media. The breakdown of the number of respondents from each discipline is listed in Table 3 below:

SUBJECT AREA	No of Response
Design and Media Theory	2
Electronic Literary Theory	2
Interaction Design	2
Digital Type and Typography	3
Interactive and Time-Based Art	0

Table 3: Interviewees' Discipline Breakdown

4.3 Data Analysis

The data collected from the open-ended questions was analyzed using the grounded theory method. Grounded theory 'is a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon' (Strauss & Corbin, 1990: p24). This method was chosen, as it allowed constant 'searching, comparing and interrogating the first few transcripts to establish categories that address the research questions' (Knight & Arksey, 1999: p162).

4.4 Key Findings

Influencing factors on the role of screen-based typography

In trying to identify how the role of typography has change in screen-based media, it is perhaps appropriate to first identify factors that have affected this change. Investigating and understanding these factors will provide clues towards building a framework that reflects the changing boundaries of this discipline. These interviews revealed five main influencing factors:

i. Technology
ii. Characteristics of the medium
iii. Designer's evolving values
iv. Reappropriation of old into new media
v. Balance between communication forms

4.4.1 Technology

A strong and recurring theme that emerged from the questionnaires and interviews suggests that the most prevalent factor dominating many issues regarding new media is, by and large, determined by technology. Typography it seems, is no exception:

> 'Typography has always been a technology problem. It's about using the widget of the year in such a way that the eye and brain find the end results useful to look at.'
> (Excerpt from the interview with a Digital Typographer)

It is inevitable that technology should be the main concern with regards to new media. However, one participant remains skeptical on the level of importance attached to technology:

'Technology has developed so rapidly even in the time I've been interested that certain details are already redundant. It is the opportunities offered that matter, not really the origin of those opportunities.' (Interactive Designer)

It remains to be seen at what stage this digital mode of communication becomes 'second nature' to current and future generations. Up until this time, the focus on exploration of available technology will still remain the main concern of designers. As such, when participants were asked about their main concerns linked to current web-based typography, unsurprisingly most referred to the technical limitations of the screen medium, specifically typographic visual quality and typeface restrictions.

4.4.2 Characteristics of the Medium

Three characteristics were identified from the questionnaires and interviews as being most relevant to screen-based typography: interactivity, hyper-textual links and temporality. Participants were initially asked to consider the key difference between print and screen media is 'interactivity'. While most participants acknowledged it as a key element of new media, it is not considered to be the defining element. Other influential elements listed included time-based motion and multi-linking capability, which will be taken into consideration during the research.

4.4.3 Designers' evolving values

Precise control over typography is no longer viable and realistic in a screen-based environment. Instead designs must be flexible to allow for variation in typeface, font-size, alignment and length available in different browser software. New generations of designers and viewers are less likely to encounter 'negative transfer', which refers to interference of previous learning in the process of new learning. The framework needs to take this natural evolution into consideration and perhaps should be mindful of how it accommodates the next generation of designers and users. This is how one participant described this evolution:

> 'So, yes we all recycle the past whilst tomorrow's youth will create the future. We can but remind the new ones of critical areas of concern, which they will shun or embrace or edit at their will. Our job is to accept the inevitable and offer encouragement. We can continue to be a sounding board or springboard for the revolution.' (Interactive Designer)

4.4.4 Reappropriation of old into new media

In The Language of New Media (2001), Lev Manovich believes that many strategies and techniques relevant to new media design can be found by looking at the history of visual culture and media, in particular cinema. Jay David Bolter and Richard Gruisin's book, Remediation (Bolter & Gruisin, 2000: back cover) argues that 'visual media achieve their cultural significance precisely by paying homage to, rivaling and refashioning earlier media such as perspective painting, photography, film and television.' Screen-based typography is essentially going through the same process of appropriating (or remediating) print-derived knowledge into a usable format for screen. All participants acknowledged that this activity is inevitable as there are few direct precedents to new media. Generally, most participants believed that current designers are far too focused on the appropriation of knowledge rather than the generation of new knowledge from other parallel digital media. One participant went as far as to suggest that 'truly innovative authorship has yet to happen' and went on to predict that the future generation would eventually focus more on new knowledge generation.

4.4.5 Balance between communication forms

The primary role of typography will remain unchanged from its communicative function. The principal issue to be addressed is the balance between typography with other visual and verbal forms of communication available in the digital medium. Designers will need to consider the balance of these competing forms of communication and understands the value each forms brings to the communication of the message.

> 'I can't imagine that language, as a communication medium will diminish. The question is: what will be the balance between oral forms (digitised audio) and verbal forms (typography).' (Professor of New Media Studies)

5.0 Shaping a Tentative Framework

The results from the questionnaire and interview surveys have identified two defining pillars of the framework. They are:

1. Medium independence
2. Cross-disciplinary influence

5.1 Medium Independence

One of the main findings from the survey was a general consensus that the typographic framework should be independent of medium. Participants were asked to comment on an alternative viewpoint, which places a much higher emphasis on the need to understand and cater for the characteristics of screen-based media in the consideration of the framework. All participants agreed that these two viewpoints are not mutually exclusive. Instead, these viewpoints should be taken as two interlocking components of the framework.

The first component consists of a number of global core-principles (set in historical, technological and application context). While the second component consists of a set of medium-specific principles developed for application in screen-based medium. The relationship between these two components could perhaps be illustrated using different metaphorical descriptions:

COMPONENT 1 (Core Principles)	COMPONENT 2 (Applications)
Macro	Micro
Content	Container
Global	Local

Table 4: Relationship between the two components

5.2 Cross-Disciplinary Influence

The characteristics of new media have long been in existence in established disciplines such as the fine arts, filmmaking and literature. The new media attributes that are relevant to typography are generally acknowledged to be:

1. Multi-linking capability
2. Interactivity (in the form of user and system engagement)
3. Time-based motion

In trying to better understand the implications of these media characteristics, it is perhaps best to first look at past and current communicative forms that still employ these methods. Table 5 illustrates the links between each characteristic with existing media most associated with it.

Attributes	Associated Media
Multi-linking capability	Hypertext fiction, computer games, experimental literature
Interactivity	Computer games, virtual reality, interactive art
Time-based motion	Television, film, animation, digital & video art

Table 5: New media characteristics found in different media

5.3 Discussion and future development of the framework

The framework presented in this paper is still in its developmental stage. Further development includes developing a detailed taxonomy of typographic knowledge using a communication intent model and cross-referencing it with medium specific subjects. Subsequently, the application of the framework will be tested through a series of action research teaching projects. The final version will provide the basis for the development and delivery of the subject of typography within a screen-based design curriculum. It is designed to facilitate the integrated learning of typography with other new media subjects, and provide recommendations for the application of screen-based typography in a practice-based environment.

6.0 Conclusion

The development of an alternate typographic framework has relied on a process set out to investigate the relevance of current print-derived typographic knowledge and concluded with the identification of factors (specifically from cross-disciplinary sources) that have affected the application of screen-based typography. These factors point to an environment still ruled by technological changes and the constant cycle of knowledge appropriation. Specifically, this process has:

1. Reinforced the value of current print-derived typographic knowledge.
2. Maintained that typography continues to be one of the main tools of communication in screen-based medium.
3. Identified the need for medium specific knowledge to reflect the differences between print and screen.
4. Identified new media attributes that has and will continue to influence the way typography is used in screen-based medium.

The challenge involved in the development of an alternate framework is not only deciding what goes into it, but devising a practical application for it. The ultimate success of the framework depends on an appropriate implementation plan and strategies to integrate typographic knowledge for specific needs and audiences in both education and practice-based environments.

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