
COMMUNICATION DESIGN
AND PUBLIC SPACES

**ICOGRADA AND THE DEVELOPMENT OF PICTOGRAM STANDARDS:
1963-1986**
WIBO BAKKER

ABSTRACT

The rise of pictograms in the 1960s is usually associated with the Olympic games (Tokyo 1964, Mexico City 1968, München 1972) or world exhibitions (Montréal 1967). It is often suggested that the designers of the symbols for these events, played a pioneering role in their development. Remarkably the role of international organizations that contributed to the development of pictograms in these years has seldom been researched. An organization that was most active in this area was the International Council of Graphic Design Associations (Icograda) as it was then known. President Willy de Majo and his close collaborator Peter Kneebone held the opinion that a standardized and tested pictogram set for general traveller information should be developed. Through its activities Icograda eventually contributed to raising awareness about the necessity of standards for public information symbols. By using the archives of Icograda and researching the organizations and individuals it was dealing with including the ICBLB, UIC, Glyphs Inc., Henry Dreyfuss, and ISO, a more balanced picture of the development of pictograms begins to emerge. This study provides a new, more institutional twist to the history of a popular design theme within the graphic design profession.

Citation: Wibo Bakker (2013). Icograda and the development of pictogram standards: 1963-1986, *Iridescent: Icograda Journal of Design Research*, 2(2).

FULL PAPER

Icograda and Student project nr. 1: Designing an International Symbol Language

The International Council of Graphic Design Associations (Icograda), was established in London in 1963 by a small British working committee. It was the first graphic design organization that represented graphic designers worldwide, and soon counted over a dozen graphic design organizations amongst its members. Icograda strove 'to encourage the better use of graphic design as a means towards the advancement of humanity, regardless of race or creed.' More tangibly, Icograda wanted to 'raise the standards of graphic design and the professional status of graphic designers' (Middleton, 1963: 12). To this end it organized conferences and set up working groups for certain issues. It also sought to improve graphic design education. That is why it organized so-called 'student projects' in which graphic design students from all over the world could participate.

For 'student project nr. 1' Icograda-president Willy de Majo (1917-1993) suggested the development of a 'Symbol language for directional signs in-doors and out' (Icograda, 1963). This was a new idea, since the only other known symbol system for public space was that of the international road signs (Froshaug, 1963). In the design and business worlds at the time, there was a general interest in trademarks and symbols. Scientific research had recently discovered that abstract and

pictorial symbols – as exemplified by their use in visual identities – were important carriers of meaning and could transcend language barriers. It was to be expected that in an increasingly internationally-orientated world, visual symbols would become core elements of communication (Bakker, 2011: 13-29). Icograda later renamed the project ‘Designing an International Symbol Language’. By adding ‘international’ and leaving out ‘signs in-doors and out’, the title alluded to historical examples of artificial ‘languages’ that were intended for universal use such as with Esperanto or Isotype.

Chairman of ‘student project nr. 1’ was designer Peter Kneebone (1923-1990), a close collaborator of de Majo in establishing Icograda. He announced the project at the first Icograda congress in Zurich (1964). A few months later, entry forms were sent to over 600 design schools worldwide ([letter] Kneebone to principal, December 1964). Despite the projects’ ambitious title students would have to develop a limited integrated set of 24 symbols for verbal concepts such as telephone, toilet and emergency exit; that is, stand alone symbols that catered to immediate needs of international travellers. Since it was an educational effort it was not Icograda’s intention for their first student project to deliver a pictogram set for real world application. Eventually at the second Icograda congress in Bled (1966), over one hundred entries for ‘student project nr.1’ could be assessed by a jury of known designers such as Josef Müller-Brockmann, Paul Rand and Masaru Katsumie, the art director of the pictograms for the Tokyo Olympics from 1964 (Kneebone, 1966).

Typically, for the prize-winning entries was that they showed a high degree of abstraction that ensured a clear visual coherence [Figure 1]. Interestingly the jury thought that eventually a figurative pictogram system would work best. Their mixed judgment reflected the increased knowledge that the jury had gained about pictograms since the start of the project. By then Icograda had gotten to know dozens of organizations that started working on similar pictogram design projects. According to Icograda these projects were not coordinated and missed a scientific foundation that guaranteed a successful design process and application. The results of their own student project were no exception to this. In hindsight ‘Student project no. 1’ was the main impetus for Icograda’s involvement with the development of pictograms worldwide. So how did this involvement develop? And more importantly, what does it say about the history of pictograms and Icograda?

Figure 1. Entry for the Icograda ‘Student project nr. 1’ by Jacobus Le Grange (Manchester College of Art and Design), awarded with a ‘Certificate of Merit’, 1966.

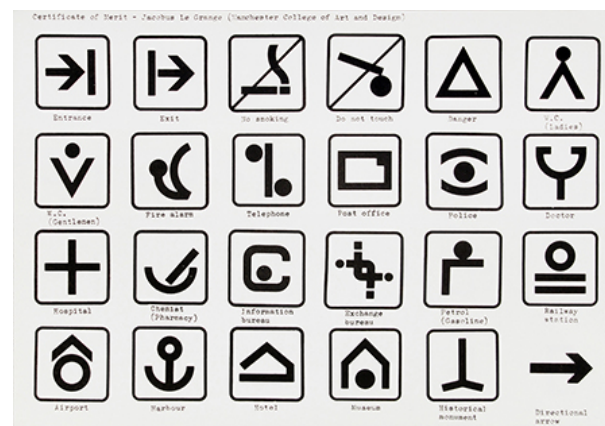


Figure 2. Tokyo Olympics information pictograms designed by Katzumie's team, 1964.



Icograda and the problem of the symbol explosion

When Icoagrada announced ‘student project no. 1’ in 1964, the only other new pictogram project the organisers knew of was that of the Tokyo Olympics [Figure 2]. This changed in 1965 when de Majo and Kneebone were passed on a bundle of letters from an American organization called ‘The International Committee for Breaking the Language Barrier’ (ICBLB). Enclosed was a questionnaire the ICBLB had sent to organizations around the globe. It listed 38 expressions – such as toilet, baggage-check or exit – that travellers should be able to recognize. Each expression was illustrated by one or more symbols. The participants in the questionnaire had to circle the symbols they thought most suitable for an expression or could draw their own proposal. In another letter the ICBLB announced the preliminary results: They had received 300 entries and concluded that ‘cooperation between organizations’, and ‘symbol consistency’ were ‘essential’ ([letter] ICBLB to ICSID, 14 December 1964).

The ICBLB also made de Majo and Kneebone aware of the activities of Union Internationale des Chemins de Fer (UIC), the international organization for railway companies in the Western world. Since 1961 it had been working on what may well have been the first pictogram set designed for general traveller information. Just like Icograda and the ICBLB, the UIC had chosen to symbolize a limited amount of expressions. A committee of railway officials handpicked the final designs. Since 1963, this set had been offered on a provisional basis to UIC-members (Anom, 1965) [Figure 3]. In June 1965, Kneebone participated in a conference of the UIC dedicated to a new iteration of this set. The UIC had invited international travel and transport organizations with the intention of convincing them to accept it as a standard for international traveller symbols.

De Majo and Kneebone were shocked about the careless way in which the ICBLB and the UIC handled symbol development. De Majo wrote to the ICBLB: ‘your questionnaire, as it stands at present, is almost like asking people “do you prefer cyanide or heroin?”. In other words, there seems little point in choosing between two or more bad solutions’ ([letter] de Majo to Kato, 25 June 1965). According to Icograda the considerations for selecting symbols used by the ICBLB, as well as the UIC were not transparent. Also, the symbols themselves were lacking in visual quality and Icograda doubted whether the symbols would be understood by the general public. To the dismay of de Majo and Kneebone, the ICBLB and the UIC were indifferent to their criticism.

According to Kneebone the situation called for ‘immediate action by Icograda (...) International symbols are the most basic graphic problem that we, as an organization, can be concerned with’ ([letter] Kneebone to de Majo, June 1965).

Figure 3. UIC-symbol selection as sent to the Dutch Railways, 1965



That is why in October 1965, Icograda set up a ‘Commission on International Signs and Symbols’ (CISS):

The purpose of the Icograda Commission is to act as a dispassionate, professional, co-ordinating and advisory body (...) the commission will endeavour to prevent duplication and ensure that official organizations concerned with international signs and symbols will be able to carry out their work with full knowledge of what is happening in this field in other parts in the world. All official signs and symbols suggested for international use could then be established with the assistance of professional expert designers rather than only by administrators, and be based on valid principals and a coherent vocabulary’ (Kneebone, 1965).

To aid in the collection and dissemination of information on symbols, Icograda envisioned the establishment of ‘international signs and symbols’ centers in Europe, Africa, India, the Far East and Central America.

Although the committee counted almost a dozen designers and scientists amongst its members, in fact Kneebone and de Majo took care of all most all correspondence and activities of the CISS. They soon became aware that the UIC-conference had not only pressed Icograda into action but also aviation organizations like the Western European Airport Corporation (WEAC), the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA), the equivalent of the UIC for air transport. They instated working groups that started developing their own pictogram systems. Nevertheless, some of the organizations de Majo’s and Kneebone met at the UIC-meeting did lend their ears towards their active lobby for a coordinated symbol effort, like the WEAC, the International Chamber of Commerce (ICC), the World Touring and Automobile Organization (OTA)

and the International Union of Official Travel Organizations (IUOTO) ([Letter] de Majo to Lax, 10 March 1966).

Organizations like the ICC and IUOTO supported Icograda because they represented organizations or travellers who would benefit from effective and standardized symbols worldwide. This is in contrast to transport organizations, which were much less dependent on symbol systems of others for their services. Knowing this, it might come as no surprise that also a second UIC-conference in January 1966, was a disappointment to Icograda. To circumvent the UIC, Icograda now managed – backed by the ICC – to secure a ‘travel signs and symbols’ session at the IUOTO World Conference on Transport and Tourism in April 1966 (Icograda, 1966). Icograda carefully prepared the session and even convinced the UIC to take part. Moreover, for the first time they were able to present a proposal for the scientific research needed to develop pictograms.

The Icograda-Ulm research project

Although Kneebone and de Majo regularly emphasized the need for a scientific approach to symbol development, they had only a vague idea of how this should be carried out. This weakened their negotiating position with other organizations: although they criticized existing symbol developments, they could not offer an alternative approach. This changed in the end of 1965 when Kneebone came in touch with the German scientist Martin Krampen (1928-). Earlier on Krampen had studied Visual Communication at the Hochschule für Gestaltung (HfG) in Ulm. Now he was an assistant professor in design and communication at the University of Waterloo, Canada. There, he was also involved with the design works for the world exhibition in Montreal, called Expo ’67.

He wanted to use this event to test a scientific method that spelled out – as he wrote to Kneebone – ‘step by step the operations a designer or non-designer should go through, today and 200 years from now, to produce elements of a self-renewing pictorial language which has maximum cross-cultural and international impact’ ([letter] Krampen to Kneebone, 3 November 1965). He assumed that communication only took place if ‘sender’ and ‘receiver’ shared a ‘common stock of signs’. To discover this ‘stock’, visitors at the Expo ’67 would be asked to produce symbols based on verbal expressions, a method also known as the ‘production method’. The image contents of the symbols that were produced most often for a certain expression, would potentially also be the ones best understood.

Icograda was quick to recognize the value of Krampens’ method. It became the first step in an extensive proposal for symbol development that Kneebone – together with the ICBLB – presented at the IUOTO World Conference. Further steps consisted of several (re)designs and (re)tests of symbols involving designers and psychologists. To carry out this proposal 400.000 dollars were needed, some of which would also be used for the earlier mentioned symbols centers (Icograda, 1966). However, the participants in the ‘travel signs and symbols’ session were hardly aware that there was a symbol problem, let alone that money and serious research were needed to solve it ([Letter de Majo to Kling, 6 June

1966). Some of them were even under the impression that Icograda was just representing craftsman who wanted to earn money for some 'pretty designs', thus providing the quick fix they wanted. Of course this was exactly the kind of attitude towards the design profession that Icograda intended to change.

Icograda saw graphic designers as problem solvers who – using scientific insights – were able to meet the challenges of the new burgeoning era of 'visual communication'. As Kneebone wrote to one of the CISS-members: 'One of the greatest misconceptions that one has to contend with is that the designers' role is a purely visual or, indeed, purely 'aesthetic'. [...] In his role of problem solver he is usually acting as a coordinator of the various stages and processes which culminate in a visual solution and application. [...] Many of us, in design education, are stressing the fundamental and equal part played in all this by non-visual disciplines' ([Letter] Kneebone to Modley, 17 February 1966).

Icograda's proposal was rejected. At the time such a long-term functionalist approach to graphic design was new, even to the business world, let alone the bureaucratic organizations that Icograda dealt with. Nevertheless, Icograda did manage to convince a dozen non-governmental organizations like the ICC, IUOTO and the UIC to establish an International Committee for Travel Signs and Symbols (ICTSS) that should strive for a coordinated development of pictograms. Icograda took part as an expert body in a consultative capacity. Much to their frustration the outcome of later meetings of the ICTSS proved to be a repetition of the earlier efforts of the ICBLB and the UIC to come to a symbol system: collecting and inventorying symbols, and officials choosing what they thought best. That is why Icograda decided in 1966 to carry out a limited version of the research it had proposed earlier. The ICTSS agreed to view the results as a possible symbol development method (ICTSS, 1969).

Icograda referred to this research as the Icograda-Ulm project. It was the largest research project in the development of symbols yet and was carried out by Krampen – by then, a member of the Commission on International Signs and Symbols' (CISS) – after his return to the HfG Ulm. He designed questionnaires for the WEAC that tested 63 verbal expressions with 3000 international air travellers in 1968. Additional tests were carried out with university students and military men in Germany (Krampen, 1969). However, during the project Krampen increasingly steered his own course, bringing in the United Nations' International Civil Aviation Organization (ICAO) as a partner besides the ICTSS. When Krampen finally presented his report to the ICTSS in April 1969 it read 'ICAO/ICTSS'. References to an Icograda-Ulm project were almost non-existent (ICTSS, 1969). At the same time the ICTSS ceased its activities: after three years they still had no symbol set. The efforts of Icograda to coordinate and steer the development of pictograms with transport and tourism organizations halted.

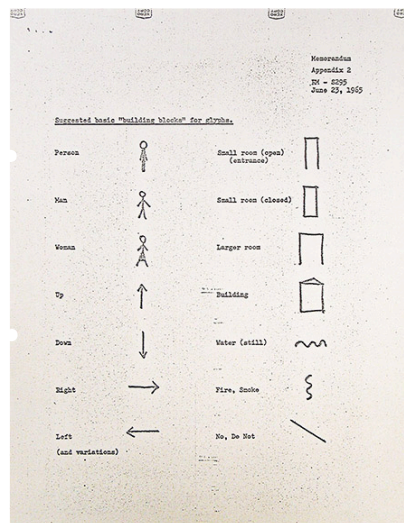
International language and machine instructions: Glyphs Inc and Henry Dreyfuss

By this time Icograda's interest in pictograms had diminished considerably. De Majo's 'student project nr. 1' was concluded in Bled in

1966. At the congress, Norge designer, Knut Yran, was appointed Icograda president. Kneebone had collaborated closely with de Majo in matters regarding the CISS, the both of them taking turns in meeting people and writing letters. Yran on the other hand was not as involved as de Majo was. Kneebone now carried on with the CISS practically on his own, initially hoping that the Icograda-Ulm project would be successful, and later hoping that new funding opportunities would arise. One of the few successes was that Kneebone became a guest editor of a 'signs and symbols' special of *Print* in 1969. It was the main American magazine for graphic design. In addition to an expose dedicated to the CISS, the issue also carried articles from several other organizations and individuals that Icograda had come to know like Glyphs Inc. and Henry Dreyfuss.

Glyphs Inc. was established in 1965. This American organization was co-chaired by the cultural anthropologist Margaret Mead (1901-1978) and Rudolf Modley (1906-1976) – a symbol consultant who had once worked with Otto Neurath during his development of Isotype. According to Mead, Western culture threatened other cultures, leading to a possible 'monoculture'. To counter this threat a culturally neutral language should be developed that enabled communication between cultures on an equal basis: 'a set of glyphs which (...) will, instead form a system of visual signs with universally recognized referents' (Mead, 1965:146-147). Glyphs Inc. invited proposals for a basic and extendable system of a dozen 'Glyphs' [Figure 4] (Modley, 1965). These were to be shown at a large exhibition about the history and use of symbols Glyphs Inc. wanted to organize. This was its main focus for several years. Unfortunately the exhibition was never realized due to a lack of funding.

Figure 4. Glyphs' 'building blocks'- suggestions drawn by Modley, 1965



Henry Dreyfuss (1904-1972) was one of America's foremost industrial designers. He approached Icograda in 1968 asking for their help in developing a symbol dictionary ([letter] Dreyfus to Brattinga, 21 October 1968). Interestingly, over a decade earlier he had initiated a similar project – led by Modley – which halted in its infancy (Krampen, 1965: 22-23, 30). Dreyfuss became interested in symbols in the 1940s when his design agency started making symbols for the operation of machinery. They took less space than descriptions and made it unnecessary to translate 'legends and directions in other languages for the international

market' (Dreyfuss, 1968). This was of particular interest to the United States since it exported large amounts of highly evolved machinery and electronics. In the end Dreyfuss carried out his project alone, publishing his now famous Symbol Sourcebook in 1972. Sadly, his suicide in the same year made further cooperation impossible.

What Icograda, Glyphs Inc. and Dreyfuss had in common was that they were all interested in educating and informing the world at large about effective symbol communication. The main question between them was 'who would be the first to secure a large fund or cooperative framework that could be used to realize design methods, symbol centers, exhibitions and conferences?'. Glyphs Inc. was well positioned to obtain American funds but missed contacts outside America. For Icograda, it was the other way around. From 1966 onwards Icograda and Glyphs Inc. regularly worked together, for example representing each other at conferences. On a more general level they all vied for the attention of the United Nations (UN) in New York, or the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in Paris. In fact de Majo and Kneebone were of the opinion that ideally it was the UN that should provide an institutional framework for the development of international traveller symbols.

International organizations for an international standard: UN and ISO

In 1964 the UN had issued a resolution demanding 'cooperation in expanding the use of symbols' in connection with their upcoming 'International Cooperation Year 1965' (UN:GA: Committee for the International Co-operation Year, 1964). Interestingly, this resolution was proposed to the UN by Mead. Shortly afterwards, the ICBLB used this same resolution as a pretext to send the survey that landed on the desk of Icograda, and that motivated its involvement with pictogram development worldwide. Icograda subsequently asked the UN to support their symbol project but their request was rejected ([letter] de Majo to Kato, 1 April 1964). Another reason to expect the UN to involve itself was that it and its forerunner – the League of Nations – had been instrumental in setting world-wide standards for the most successful standardized symbol system yet: that of the international road signs (Schipper, 2009). However, in the mind of the UN officials, public information signs might have seemed less urgent than the road signs. These last signs had a direct link with road safety and traffic deaths: in the 1960s a few hundreds of thousands of people died in traffic each year.

Apart from the UN there was only one other party fit for setting worldwide standards: the International Standardization Organization. As early as 1965, Icograda had asked ISO for help, but had received no for an answer. ISO could only negotiate standards once a considerable percentage of its national members had voted to do so. For a long time this was not the case. It was only in 1971 that ISO established a Technical Committee (TC) 145 for 'Graphical Symbols' (ISO/TC 145, 1972-1974). Its Sub Committee (SC 1) 'public information symbols' started in 1975 and introduced ISO 7001 in 1980 [Figure 5]. The standard is textual in nature, describing the image contents, although visual examples are also given. It is a copyrighted standard that has to be bought from ISO. Its current

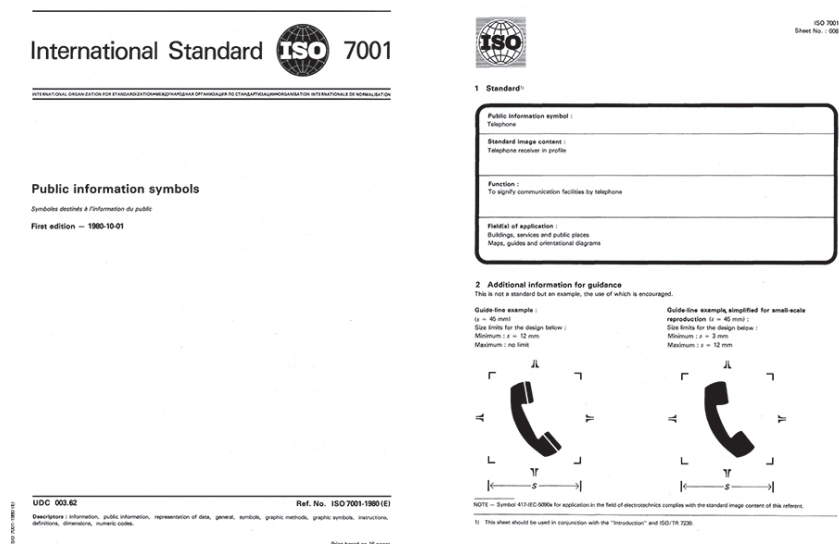
incarnation covers the image contents for 79 public information symbols. The procedure for developing new symbols was based upon the work of the psychologists Ronald Easterby and Harm Zwaga, and was published in 1989: ISO 9186. Since then this standard has been updated several times, keeping up with new scientific insights.

Peter Kneebone was involved in TC 145 almost from the beginning. It is likely he had heard about the ISO-initiative by way of Icograda's 'Unification of Typographic Measurements Commission' that had been in close liaison with ISO for some time (Boag, 1996). When in 1975 SC 1 finally came up to steam it was quick to recognize the important role of Icograda. In a memorandum it sent to Icograda's Edugraphic Conference in 1975 it wrote: 'Icograda (...) has participated through experts from the very beginning of the endeavors of SC1. Close collaboration with Icograda is essential also in further stages of this pilot work of standardizing graphic symbols!' SC 1 specifically asked for the cooperation of designers in critically following its activities, designing test symbols and motivating national ISO-members in participating in its work (ISO, 1975).

Around this time Kneebone's role as the main motivator of Icograda's involvement in symbol standardization was taken over by the graphic designer Jorge Frascara. Disappointed in the quality of symbols used for the tests leading up to the ISO 7001:1980 standard, Frascara set up the Icograda student project 'Graphic Symbols for Public Information: Design of Test Symbols'. The project was approved at the Icograda congress in Lausanne in 1977 and was a successor to Icograda's 'student project nr. 1'. Remarkably one of the few persons who objected was de Majo because he thought students would not deliver symbols of sufficient quality (Frascara, 2011).

The new student project produced over 1200 symbols. A considerable amount of symbol descriptions that ended up in ISO 7001:1980, originated in this project. All in all the development and introduction of ISO 7001 and ISO 9186 should be considered as a triumph for Icograda. The big question is whether the development of a symbol standard had come in time for a design world that they – one way or another – represented. After all designers had designed hundreds of pictogram systems by then.

Figures 5 a & b. Cover and page of ISO 7001:1980 'Public information symbols', 1980



Conclusion

The 1960s were a formative period in the development of pictogram systems. Icograda caught on early with their 'student project nr. 1': 'Designing an International Symbol Language'. Noticing the introduction of various pictogram systems of doubtful merit, Icograda became convinced that a standard for effective public information symbols was needed. To contribute to the development of such a standard de Majo and Kneebone sent carefully written opinions, plans, and articles about symbol developments, to parties involved with symbols, acting as intermediaries and lobbyists. It was British diplomacy at its finest and led to the establishment of the Commission on International Signs and Symbols (CISS) (1965) and the International Committee for Travel Signs and Symbols (ICTSS) (1966).

Although these committees were not successful in fulfilling Icograda's main goal of developing a standard, they did lead to an information exchange and cooperation between design, transport and travel organizations and NGO's in general, which without Icograda would not have existed. By fostering these bonds, Icograda tried to prove its value as an association to its members and the world at large. It concentrated its efforts on transport and tourism organizations like the UIC, ICAO, WEAC etc. However, most of these organizations did not understand why painting images on signs necessitated thorough scientific research.

Icograda never addressed the fact that many graphic designers developed their own pictogram sets and ideas about symbol design. The other way around, the design world hardly acknowledged the symbols developed by the organisations Icograda was dealing with either. In fact during the 1960s there seem to have been two strains of symbol set development: the first strain is that of the pictograms of transport organisations, developed anonymously and not acknowledged in design history, starting with UIC set (1963); while the second strain is that of 'designed' symbol sets for world fairs and Olympic Games, starting with the Tokyo Olympics symbols (1964). Further research might show that the image contents for public information symbols in these strains influenced each other to a large degree.

On a closing note the Icograda archive shows an almost encyclopaedic overview of persons and organisations involved with symbols in the 1960s, making it an important source of information for the history of semiotics, and design and communication in general. It unearths figures and organisations like the ICBLB, Margaret Mead of Glyphs Inc, Henry Dreyfuss and Martin Krampen, who was an early pioneer in symbol development connecting many important figures and institutions.

Acknowledgements

My gratitude to the Research Group Visual Rhetoric of AKV|St. Joost (Avans University of Applied Sciences, Breda) for funding this research. The author also wishes to thank the Design Archives at the University of Brighton.

References

All [letter] references can be found in: Icograda Archive (uncatalogued). Brighton. Design Archives. More extensive MLA-references can be obtained from the author.

Anom. 1965. Signs of the times. The New York Times, 4 April.

Bakker, W. 2011. Droom van helderheid: Huisstijlen, ontwerpbureaus en modernisme in Nederland: 1960-1975. Rotterdam: Uitgeverij 010.

Boag, A. 1996. Typographic measurement: a chronology. *Typographic papers*, (1):105-121.

Dreyfuss, H. 1968. Memorandum to Donald Peyton : Symbols—An Instant language, 26 July. [memorandum]. Icograda Archive (uncatalogued). Brighton. Design Archives.

Frascara, J. 2011. [email to Bakker], 10 September. [personal communication].

Froshaug, A. 1963. Roadside traffic signs. *Design*, (178):37-50, October.

Icograda, 1963. Executive board : minutes of meeting no.2. 19-20 July. [minutes]. Icograda Archive (uncatalogued). Brighton. Design Archives.

Icograda, 1967. International Committee for Travel Signs and Symbols. June. [joint statement]. Icograda Archive (uncatalogued). Brighton. Design Archives.

ICTSS, 1969. International survey on pictographs, June 1968-March 1969. [report] Henry Dreyfuss Archive. Symbol Sourcebook. Preliminary Data Bank. General. General Discussion (18-k). Washington. Cooper-Hewitt. National Design Museum. Washington.

ISO, 1975. ISO/TC 145/SC 1 Graphic Symbols for public information: Special document for ICOGRADA Edugraphic conference 1975, June. [printed letter]. Amsterdam. Paul Mijksenaar Foundation.

ISO/TC 145, 1972-1974. [uncatalogued ISO/TC 145 minutes and reports (German Standards Institution)]. Amsterdam. Paul Mijksenaar Foundation.

Kneebone, P. 1965. Commission on International Signs and Symbols. October. [Expose]. Icograda Archive (uncatalogued). Design Archives. Brighton.

Kneebone, P. 1966. Student Seminar. 11 July. [written speech]. Icograda Archive (uncatalogued). Design Archives. Brighton.

Krampen, M. 1965. Signs and Symbols in Graphic Communication. *Design Quarterly*, (62):1-31.

Krampen, M. 1969. The Production Method in Sign Design Research. *Print*, 23(6): 59-63, November-December.

Mead, M. 1965. The Future as the Basis for Establishing a Shared Culture. *Daedalus*, 94(1):135-155.

Middleton, M. 1963. Icograda London 63. *SIA Journal*, 15:9-12. Reprint.

Modley, R. 1965. Memorandum to designers : Guidelines on designing universally usable graphic symbols. 23 June. [memorandum]. Icograda Archive (uncatalogued). Brighton. Design Archives.

Schipper, F. 2009. Unravelling hieroglyphs : Urban traffic Signs and the League of Nations. *Metropolises*, (6):65-100.

UN:GA: Committee for the International Co-operation Year 1964. 1964. Facilitating Communication. (A/AC.118/L.5). 19 March. Margaret Mead Papers. Mead K64-1. Washington. Library of Congress.

Dr. Wibo Bakker

E: wibo@wibobakker.nl
M: ++31 6 24604300

About the author

Wibo Bakker (1974) studied graphic design at the Artez Institute of the Arts in Arnhem and worked for some years as a designer. In 2009 he obtained a PhD at Utrecht University for his study on the development of visual identity in the Netherlands called *Droom van helderheid: huisstijlen, modernisme en ontwerpbureaus in Nederland: 1960-1975*. It was published in 2011 by 010 Publishers (Rotterdam) as the third volume in the prestigious Prince Bernhard Fund for Culture 'Visual Culture in the Netherlands'-series. Bakker is based in Utrecht and works as an educator, researcher and consultant with a special interest in design history, standardisation, information design, branding. Since 2011 he is part-time affiliated with the Research Group Visual Rhetoric of AKVSt. Joost.

UNDERSTANDING HOW GRAPHIC DESIGN IS ANIMATED THROUGH USE

PRINTED INTERACTIVITY TOWARDS A NEW UNDERSTANDING OF GRAPHIC DESIGN MARCO NEVES

ABSTRACT

Previous definitions of graphic design have not included the notion of time and the extent of the relationship that printed objects establish with their users. The current understanding does not consider a phase after the distribution of these objects, nor the potential interactivity they hold, thereby limiting their study and evaluation to the domain of the strictly visual.

The context in which graphic design operates today is dominated by the influence of digital technologies.

These technologies are inherently interactive, placing the experience of interactivity in closer contact with people. If the design of printed objects can incorporate the same experience of interactivity as a concept, then the work of graphic designers will transform the moment these objects are used.

In order to describe the approach between the two areas, this paper presents a review of the main literature, which explains the beginning of graphic design as an activity dependent on its use. The paper also introduces the concept of interactivity, which is made operational, in order to be understood and distinguished.

Four descriptive and explanatory case studies are presented to demonstrate the similarities between what composes digital creations, i.e., interactivity, user participation and some observable properties in graphic design projects, using print production resources. The examination of these case studies provides evidence of this affinity and makes clear that certain printed objects show concepts that still need to be studied and addressed in our writing of graphic design theory, history and professional practice. The establishment of the relationship between what is a graphic design project and the processes embodied through its conception, with the notion of interactivity, can bring a new understanding of how graphic design activity is influenced by the context of the digital.

Key Words: graphic design, interactivity, user, printed matter

Citation: Marco Neves(2013). Printed Interactivity Towards a new understanding of graphic design, Iridescent: Icoграда Journal of Design Research, 2(2).

1. William Addison Dwiggins came up with the term “graphic design” for the first time in 1922 (Heller 2004: 367). He meant to gather with a single name the practice of typography, advertising and bookmaking (Meggs 1998), thus referring to activities that at the time were meant for print production.

2. In this way digital creations can have other designations, which can be broad as “communication design” or specific as “multimedia”, “interaction design” or “human-computer interaction”.

FULL PAPER

Introduction

A distinction must initially be made between what is graphic design, here considered as the practice that involves printing or with the purpose of being printed, and other related terms¹. This separation seems important given the obvious differences concerning print and digital media². Digital production allows a relationship with its users, which extends in time and makes certain features available, allowing the systematic exchange of information and the continuous modification of objects. As

these digital interactive processes improve, we must also ensure updating printed objects, which can run the risk of being replaced or simply disappear.

In this sense, the concern of the graphic designer cannot be restricted to the assignment of form and utility, it should rather cover the entire process of the relationship with the user. The path that the object makes, from the moment when the problem is formulated until it reaches its users, does not end with its production. But it is until this stage that graphic designers are used to working. Nevertheless, as Meredith Davis has written:

...the demands on design practice in the twenty-first century, however, are significantly different from those of the past, suggesting that these paradigms may require re-examination. A number of current trends challenge the traditional notions of what we do and, more importantly what we need to know (Davis 2008: 72).

At the same time, digital technologies appear to have potential answers for the development of graphic design activity in this context where the user acquires increasing importance. These technologies can influence our experience of printed matter, without imposing a wholesale transition to an electronic existence.

Today we understand digital interaction in the form of, for example, computing, mp3 players, e-books and smartphones. There is, however, evidence of an interactive capacity in objects that use print production. The study of interactivity, as observed in digital creations, can be recognizable in a graphic design project. There is a potential of use within this notion still far from being fully availed. It seems important, in this way, to explore the concept and identify such behaviour in graphic design. The research methods presented below, to address these behaviours, are drawn from my recently completed PhD research titled “Graphic design and the user: interactivity and participation strategies in printed objects”.

Graphic design

Graphic design, as a term, is complex with little agreement amongst academics and designers to draw any specific conclusions as to what it consists of, how is it presented, what is its scope or what analysis and evaluation is possible regarding its causes and effects. The area we are dealing with is broad and its practices are diverse.

We can, however, use Jorge Frascara’s definition as a starting point: “graphic design is the activity that organizes visual communication in society.” (Frascara 1988: 20).

Hollis, on the other hand, suggests that the designer manipulates every graphic element available to give a meaning to the obtained set and in that way, graphic design turns into “the business of making or choosing marks and arranging them on a surface to convey an idea” (Hollis 1997: 7). In addition, Ann Tyler argues that graphic design is a representation that combines text and image, with defined purposes, due to its use or due to its strategy (Tyler 1992).

There is, somehow, a dual role for graphic design. On the one hand, the designer as a creative subject demonstrates an excessive visual and stylistic concern. But on the other hand, pragmatism and efficiency in various objects are required. Nonetheless, most options for presenting graphic design objects employed today, owe their origins to decisions taken in the past when a professional activity was forming, in historical, cultural and technological contexts very different from the current one (Meggs 1998; Satué 1994).

Between receiving and using

Graphic communication is mass-produced and made available to a mass audience, who, upon receiving it, possesses the skills to interpret the messages (Barthes 1964). Graphic design is in that way connected to a group or a society and the objects conceived and produced exist because they become accessible and are used.

The relationship between printed matter and its users is always established in a certain time frame, whatever the object, whatever the use. Nevertheless, graphic designers still create for a flat surface (Avella 2009). It is common for graphic design to be considered two-dimensional, something intended to continually develop compositions through the expected elements: shape, colour, texture, photography, illustration and text. The variation of the results depends on the variation of the order of these elements or on the predominance of one over the others. But “if design used to be a matter of physical form, its subject matter being the material object, it now increasingly seems to be about the user and her experiences” (Redstrom 2005).

Between process and practice

The experience of the object may clash with the work processes carried out, since these processes have become full of prejudices that are obstacles to the development of graphic design. This is mainly due to largely subjective and abstract considerations about visual composition (Foster 2003)³. In getting used to a certain outcome, the designer systematically lowers the options for creating and interpreting. The possibility of generating new solutions to expand the notions of space and time, are thus limited in professional practice.

Even though design gives the opportunity for matter to perform actions (Kwinter 2000) and to engage in them, this ability has not been used in an altered context in which users act as a participating part in defining objects. In fact, Bonsiepe (1999) notes that design undertook an excessive usage of the terms “form”, “function” and “style”, instead of focusing on a practice that should produce an effective action. For this to happen in graphic design, it is desirable to understand an interactive capacity in print media.

Print vs. digital

Print is necessary for graphic design. As a production technology, it enables material achievements and as a communication medium, it causes cultural changes (McLuhan 2001; 2003). Simultaneously, print distinguishes itself from digital technologies and competes with them.

3. Foster considers that current design is made without content. The material outcome of design is not an object in itself, but rather a formatting.

While printed matter is arranged visually, digital existence is inherently interactive (Bolter and Gromala 2003) and, therefore, a source of the study of interactive features.

The digital experience gets richer with the possibility of accessing several groups of information, which are connected. The hypertext allows multiple readings and distances itself from the linear sequence, traditionally embodied by printed books. Also, since the development of the mouse and the desktop, a direct control of the graphical user interface has been established (Moggridge 2007), enabling a higher degree of interaction from the user. All these strategies of hyperlinking, programming and connectivity, increase the interactivity available in the digital environment when compared to print, since “a digital artifact can be designed to unfold in multiple ways” (Bolter and Gromala 2003: 24). The extended use of digital creations alters the way we act, establishing a very specific context in the design of certain objects. For graphic design, it is possible to identify two situations in which this occurs. In a way, printed objects become victims of this extended use. Some tend to disappear by turning expensive or inappropriate, considering newfound solutions for their end use, such as encyclopaedias (Eco 2003). On the other hand, recent phenomena, such as blogs, microblogs, social networks, e-commerce or crowdsourcing, placed interactivity and user participation as priorities, instead of being simple features.

“Web 2.0”, which describes the use of the Internet as a means of promoting this interactive development, holds a considerable production and publishing of content by users. In a sense, by doing so, all these online places oppose the simple visualization of information in websites. As a consequence, the Web becomes not only informative but also participatory (O'Reilly 2005).

Interactivity stands out as a dominant concept and we should expect it to be adopted in different areas.

Despite that, graphic designers lack a sense of interactivity and “do not have a language with which to discuss the design of rich, dynamic behaviour and changing user interfaces” (Cooper, Reimann and Cronin 2007: xxx). It is therefore convenient to explore the concept, as observed in digital technologies, with regard to printed matter.

Interactivity

Interactivity has been widely used as a term but poorly defined as a concept (Rafaeli 1988; Heeter 2000). However, in the definition proposed by Rafaeli (1988), interactivity is a variable characteristic in the definitions of communication. We may understand it, in a broad sense, as the alternating transmission between two parts of a communication relationship. A message sent is related to a previously received one. It is more a matter of precedence, than time, space or content.

If this relationship takes place between a person and an object, interactivity relates to the behaviour of the object as experienced by the person. As a result, interactivity is a feature present at the moment of use and different from the object's visual aspect. This centres the interest in planning this use and turns interactivity into “a contextualising facility” (Richards 2006) rather than an end by itself.

Defined as such, this concept may be observed in almost every medium of electronic communication. The spreading of the word in the context of digital media defined the possibility of change that a user had on an object, and also created an exclusive association with that domain. In fact, a part of the design field has made the word “interaction” its own, in order to explain their area of work. But what is meant by “interaction design” (Moggridge 2007, Saffer 2010) is slightly vague. The presented definition (Lowgren 2008) can easily be applied to all objects of design⁴.

In this way the current notion of interactivity is influenced by digital media and deeply focused on producing content for screen display. Heeter (2000) criticizes this constant use of the term: “interactivity is frequently discussed by designers, often meant as a synonym for navigation and sometimes just generally to refer to good web site design” (Heeter 2000: 4). Actually, the concept of interactivity, when understood in human-computer relationship, is a tautology (Manovich 2001), i.e., the most basic and simple description.

However, interactivity should be understood as a method used differently in the relationship between people and objects, even printed ones, since “visual communication design is not just about looks; it is fundamentally about performance” (Frascara 2004: 12).

To better work with the concept of interactivity, we proceeded to an operationalization of the concept, as shown in Table 1, isolating its main attributes with matching definitions. This information is gathered and synthesized from the review of the main literature.

Table 1 Operationalization of the concept of interactivity.

Concept	Attributes	Definition
Interactivity	Alternating	Mutual transmission between two parties in a communication, in which a sent message is related to the previous one.
	Action/Reaction	Possibility presented in the object, waiting for the user. Provides the context of a relationship between user and object.
	Behaviour	The user defines, even if not completely, which will be the following behaviour of the object.

The question to be addressed is: how can we understand this alternating, action-reaction, behaviour-based concept of interactivity in printed matter that stems from the work graphic designers do? These attributes will be used to identify interactivity in printed matter and, in order to do so, a group of case studies is presented.

4. Interactivity is not what really distinguishes Interaction design, but the fact of dealing with computerized products and systems (Hallnas 2004).

Case studies

The use of the case study research method has the purpose of understanding and interpreting. It is made of four objects that follow a project-oriented practice in the area of graphic design. This application of the method was structured from Yin (1994), being adapted to the specific needs of the research. Thus, each individual case is presented by a description and explanation of an undertaken analysis on a diverse set of sources collected in order to consolidate its internal validity. The formulated question intends to identify the previous defined attributes and examine the means and strategies required in the conception and communication of graphic design objects that allow for interactivity. This being a first step in studying the concept with regard to graphic design practice, we will exclude for now which type of interaction these objects have.

Anni Kuan visual identity, Sagmeister Inc.

Anni Kuan is a graphic design project developed by Sagmeister Inc. for fashion designer Anni Kuan. The commission consisted in the design of a set of objects that, besides visual identity, also included direct mail, brochures and promotional material.

The basis of the project is its visual signature, consisting of a logo, which enables its formal separation into several applications, to allow each user to handle objects and complete this identity.

Figure 1 Anni Kuan visual identity.



The design complies with a preview of this separation across the several materials used.

A letterhead and an envelope were produced, dividing the shapes that make up the signature between the two media. The letterhead is something indistinguishable, we do not know what it says; while the envelope, which is printed in transparent paper, comes in the same way. Together they compose a single message, only possible when they are assembled.

Figure 2 Anni Kuan letterhead.



Figure 3 Anni Kuan letterhead and envelope: once folded, the letterhead is placed in the transparent envelope, showing the complete logo.



Figure 4 Anni Kuan business card.



This composition is made by overlapping in both cases and assumes a level of user participation. Indeed, we may identify all three attributes of interactivity, since users, by acting and transforming the object, will decide its behaviour. There is however, a small degree of alternating messages. The outcome is a particularly different achievement, by not repeating the graphic signature that constitutes the company's visual identity, usually monolithic and indivisible. The design places the user at the centre of communication concerns. At the same time, this media was given a visual presence, on which it is no longer possible to evaluate only the form and the graphic composition.

Birth cover, Non-Format

Birth is the cover for Computer Arts magazine issue 163, a project by the design duo Non-Format. The cover is shown in prevailing white, interrupted by small circular elements and some cuts. When the pieces of paper located next to these cuts are lifted, we can get the word “Birth”, the title of this issue. This effect is produced by placing folds in certain areas of the cover and by printing on the back cover an image that fills the entire spread.

Figure 5 and 6 Birth cover: the way it is presented to the user and after being used.



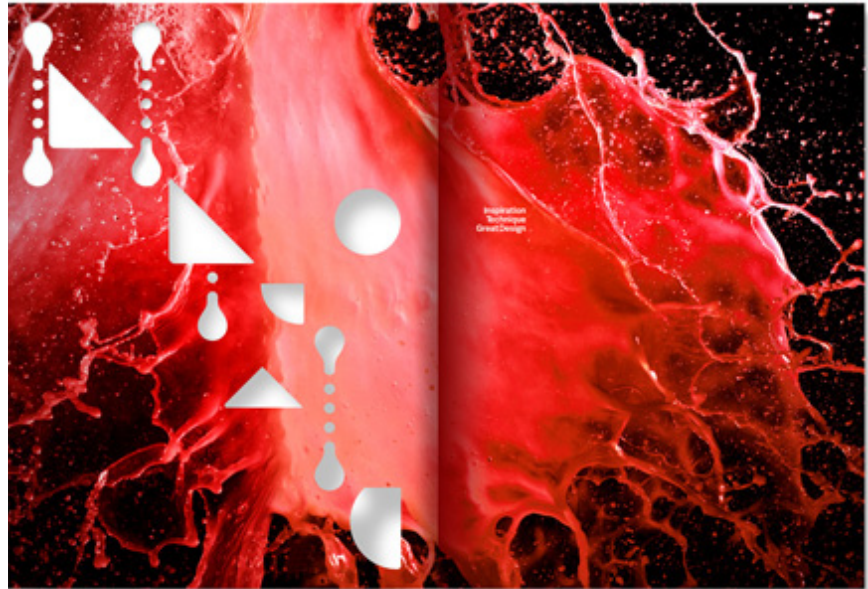
The organization of the cover determines what is essential to communicate first and how other layers of content or meaning can be discovered later. In fact, hierarchy dominates the communication medium, creating an order on which choices that provide a sense of interactivity will take part.

Figure 7 Production detail.



What started out as experiences with forms and finishing techniques, turned out to make sense by the time the designers decided to use the idea

Figure 8 Inside spread.



These options are meant to make the object into something more than it is expected, more expressive and emotional, to connect with people. A number of finishing techniques such as cuts, metallic inks and spot varnish, compose a cover that has become a challenge. And indeed, the design and production elements in this project demonstrate the interactive capacity to be considered in print. The object is designed to incorporate a story that will be told through matter. The object will be seen and touched and therefore, all decisions and details that fit in this understanding will be relevant.

Zeit für die Bombe Book, Agnès Wartner

Zeit für die Bombe is the final graduation project of designer Agnès Wartner, developed at the Basel School of Design. The title comes from the original text written by Susanne Berkenheger in 1997 and it is a hyper-fiction for the Web.

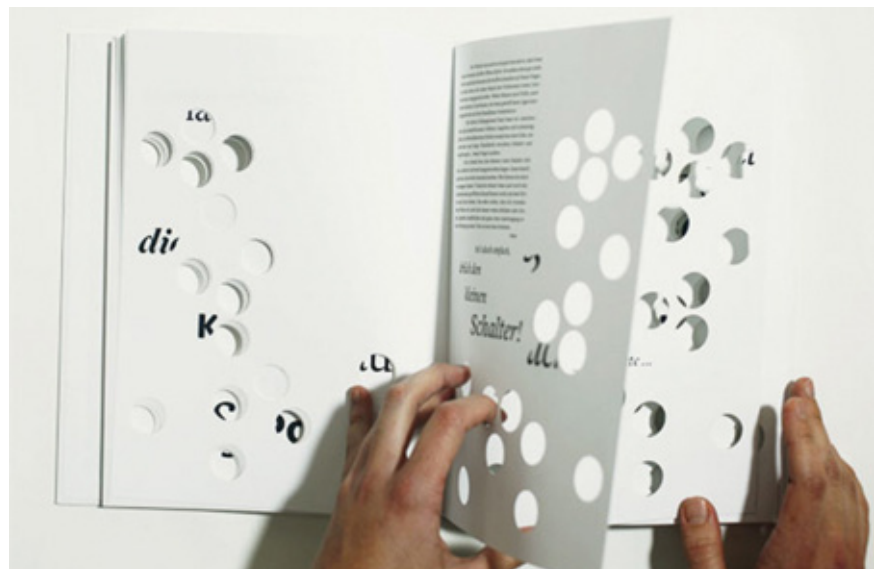
The developed project is a book whose aim is to convert to print form all possible paths and links in online hypertext. This result in a typographic exploration, an object printed only in black and that contains nothing more than text and circular die-cuts.

The 200-page book, with laser-cut finishing and hardcover, has the purpose of achieving a non-linear dimension. This non-sequential order of reading, with several paths, already present in the original text, places an added difficulty when passing to the printed and bounded page. In this way, the entire inside of the book does not comply with the commonly established page order. A navigation system is generated by the circular cuts, through which the user can turn every page. By putting his finger in these cuts, the user chooses what text will follow and what text blocks will he read next. Compelled to use his hands in an active search for a meaningful construction the user relates constantly, not just with the text but also with the object. Therefore, we can identify all three attributes in this object, as we would in digital hypertext.

Figure 9 Zeit für die Bombe cover.



Figure 10 and 11 Inside spreads.



The Night of the Living Dead Pixels interactive folding book, Éditions Volumiques

This is a project that can be classified as a book and as a folding system, with several possibilities for reading, through a group of folds and pages that do not turn necessarily from right to left. It descends from the movie The Night of the Living Dead by George Romero, replacing zombies in the original story by QR codes⁵. Through the incidence of these codes, the object presents us with the chance to be complemented with the use of a smartphone, where user choices allow original videos to be displayed.

Figure 12 The Night of the Living Dead Pixels cover.



Figure 13 and 14 Inside spreads.



The starting point for the Éditions Volumiques projects is the desire to join the beauty provided by paper with technological developments. Here, the symbiosis is built using a smartphone to add content and to emphasize the folding of the book. This shows a transition between media and a possibility for each person to participate in two levels: by alternating the order of the pages and by acting on the development of content. This folding book is interactive, as it allows users to demand actions for which several answers are prepared. It is also open for participation, as it makes the final form dependent on users, involving other electronic media as part of the project, in the way. These are valid options to make the use of paper prevail, in a playful manner.

5. QR (Quick Response) Code is a composition of a pattern formed by black squares on a white background, which may contain different information and can be read by camera phones.

Figure 15 Sequence of smartphone use.



Interactivity within graphic design

If digital creations are inherently interactive, when observing the concept of interactivity in printed matter we may question: “is interaction with a static object different from interaction with a dynamic system?” (Dubberly, Haque and Pangaro 2009). Regardless of the answer perhaps we should not consider printed objects as static ones. It seems as:

...graphic design is becoming more interactive, and not only in the field of multimedia. Printed matter can also suggest new forms of communication and seek an active reaction from the public. These are examples of how design media become a process of mutual participation between the producer and the user. Design awaits your reaction (Prat & Sakamoto 2003: 41).

That appears to be what these cases are precisely doing. Their observation led us to recognize certain attributes that correspond to interactivity in a digital existence. As a consequence we can assume graphic design should relate to interactivity and a presence of this concept in graphic design could enhance the use of all materials involved. The use of any element would not occur exclusively on the flat surface of a paper sheet, but in handling and in the time frame of the relationship

between user and printed object. As information is discovered and built, the object changes.

Conclusion

One of the main considerations that should be present in the understanding of graphic design is its use.

If we fail to incorporate in graphic design something that relates to people, it will most definitely become distant from a user's personal life and in that way, diminishing its importance. The notion of interactivity, as noted in digital creations, by intersecting a project practice mainly concerned with the visual composition of the object, makes way for changes. These may just be experimental, but they predict new relationships with people who use printed matter, and perhaps more importantly, different project assumptions.

The selected cases used in this paper were intended to provide examples of ways in which interactivity has worked effectively. These projects indicate an approach between print and what we consider today as belonging to the digital environment. With this analysis we achieved two new understandings: firstly, in a way, it is possible to connect graphic design with the concept of interactivity and recognizing it in several situations. And secondly, we were able to identify certain attributes that may be applied in a graphic design project.

Interactivity in printed matter seems achievable, at least to a minimum degree, by exploring possibilities that arise from print production. Importantly such consideration needs to take place at the beginning stages of the conceptual/design process. These folds, die-cuts and material overlaps increase the dependence of the printed object from its user. The graphic composition, by taking advantage of time and space, possible with this production, develops an interactive capacity. These strategies work simultaneously in a close resemblance of digital programming, in stimulating an intervention or as an anticipation of what will occur. In that way, we can envision an existence for the printed object, not captive of its visual aspects, but one where we can appreciate a material relationship in which we engage to complete the provided information.

Acknowledgements

The Author would like to thank the support of the Foundation for Science and Technology of the Ministry of Science, Technology and Higher Education of Portugal. A special thanks to Joe Shouldice at Sagmeister Inc., to Kjell Ekhorn and Jon Forss at Non-Format, to Étienne Mineur at Éditions Volumiques and to Agnes Wartner for the permission to use their projects.

References

- Avella, N. 2010. *Diseñar con papel*. 2nd ed., Barcelona: Gustavo Gili. (Original work published *Paper Engineering*, 3-D design techniques for a 2-D material by Rotovision in 2009).
- Barthes, R. 1964. *Rhétorique de l'image*. Communications November 1964. http://www.oasisfle.com/doc_pdf/roland_barthes_rhetorique_image.pdf [08 June 2007].
- Bolter, J. & Gromala, D. 2003. Text rain: the digital experience. In *Windows and mirrors: interaction design, digital art, and the myth of transparency*. MIT Press, Cambridge MA.
- Bonsiepe, G. 1999. *Interface: an approach to design*, Maastricht: Jan van Eyck Akademie. (Original work published *Dall'oggetto all'interfaccia*, Feltrinelli Editore, Milan, 1995).
- Cooper, A., Reimann, R. & Cronin, D. 2007. *About face 3: the essentials of interaction design*, Indianapolis: Wiley Publishing.
- Davis M. 2008. Why do we need doctoral study in design? *International Journal of Design*. Vol.2 No.3. <http://www.ijdesign.org/ojs/index.php/IJDesign/article/view/481/216> [03 July 2009].
- Dubberly, H., Haque, U. & Pangaro, P. 2009. What is interaction? Are there different types? <http://www.dubberly.com/articles/what-is-interaction.html> [18 July 2012].
- Eco, U. 2003. *Vegetal and mineral memory: the future of books*. Alexandria: Bibliotecha Alenxandrina. http://www.bibalex.org/english/Publication/Attachments/Files/Umberto_Eco_.pdf [05 February 2007].
- Foster, H. 2003. *Design and crime: and other diatribes*. London, New York: Verso Books.
- Frascara, J. 1988. Graphic design: fine art or social science? *Design Issues* 5(1): 18-29.
- Hallnas, L. 2004. Interaction design aesthetics: a position paper. In O. W. Bertelsen, M. G. Petersen & S. Pold (eds.) *Aesthetic approaches to human-computer interaction: proceedings of the NordiCHI 2004 workshop*. Aarhus: University of Aarhus. <http://www.daimi.au.dk/PB/572/PB-572.pdf#page=17> [24 January 2010].
- Heeter, C. 2000. Interactivity in the context of designed experiences, *Journal of Interactive Advertising*, 1(1). American Academy of Advertising: 4-15. <http://jiad.org/article2> [05 May 2010].
- Heller, S. 2004. *Design literacy: understanding graphic design*. 2nd Edition, New York: Allworth Press.
- Hollis, R. 1997. *Graphic design: a concise history*. London: Thames and Hudson. (Original work published 1994).
- Kwinter, S. 2000. The Gay Science (What is Life?). In Mau, B. *Life Style*. London: Phaidon: 35-37.
- Lowgren, J. 2008. Interaction design. In: Soegaard, M and Dam, R F (eds.). *Encyclopedia of Human-Computer Interaction*. Aarhus, Denmark: The Interaction Design Foundation. http://www.interaction-design.org/encyclopedia/interaction_design.html [18 July 2012].
- Manovich, L. 2001. *The language of new media*. Cambridge and London: MIT Press.
- McLuhan, M. 2003. *Understanding media: the extensions of man*, London and New York: Routledge. (Original work published 1964).
- McLuhan, M. & Fiore, Q. 2001. *The medium is the message: an inventory of effects*. Corte Madera: Gingko Press. (Original work published 1967).
- Meggs, P. B. 1998. *A History of Graphic Design*. New York: John Wiley & Sons.
- Moggridge, B. 2007, *Designing Interactions*, The MIT Press.
- O'Reilly, T. 2005, *What is Web 2.0? Design patterns and business models for the next generation of software*. <http://oreilly.com/web2/archive/what-is-web-20.html> [21 October 2010].
- Prat, R. & Sakamoto, T. (ed.) 2003. *HD: Holland Design-New Graphics*, Actar.
- Rafaeli, S. 1988. Interactivity: from new media to communication. In: *Advancing communication science: merging mass and interpersonal processes*, London, Sage: 110-134, http://gsb.haifa.ac.il/~sheizaf/interactivity/Rafaeli_interactivity.pdf [05 May 2010].

Redstrom J. 2005. Towards user design? On the shift from object to user as the subject of design. *Design Studies*, Vol 27 No. 2: 123-139.

Richards, R. 2006. Users, interactivity and generation. *New Media and Society*, 8(4), Sage Publications: 531-550.

Saffer, D. 2010. *Designing for interaction*. Berkley: New Riders.

Satué, E 1994, *El diseño gráfico: desde los orígenes hasta nuestros días* [Graphic design: from its origins to nowadays]. Madrid: Alianza Editorial.

Tyler, A. C. 1992. *Shaping belief: the role of audience in visual communication*. Design Issues 9(1), The MIT Press: 21-29.

Yin, R. 1994. *Case study research: design and methods*, 2nd ed. London, New Delhi: Thousand Oaks, Sage Publications.

Marco Neves

Assistant Professor
Faculty of Architecture – Technical
University of Lisbon
Rua Sá Nogueira, Pólo Universitário, Alto
da Ajuda
1349-055 Lisboa, Portugal
E: mneves@fa.utl.pt

About the author

Marco Neves holds a PhD in Design from the Faculty of Architecture, Technical University of Lisbon, where he also teaches on the Master of Communication Design programme. He is also a Member of the Research Centre for Architecture, Urbanism and Design. Previously, Neves was a lecturer on the Communication Design course at the School of Arts and Technology in Lisbon and was a Fellow of the Foundation for Science and Technology. His previous degree was a five-year BA (Hons) in Communication Design from the Faculty of Fine Arts, University of Lisbon. As a graphic designer he has worked with several clients in projects that range from branding, editorial design, web design and illustration.

UNDERSTANDING HOW
GRAPHIC DESIGN IS
ANIMATED THROUGH USE

**THEORETICAL FRAMEWORKS FOR THE CONCEPTUALIZATION OF
GRAPHIC DESIGN IN USE**
JAN-HENNING RAFF

ABSTRACT

The practice and theory of graphic design are surprisingly unimpressed by notions of use. This paper seeks answers for this absence in the discipline's focus on the visual. Visual studies presuppose a disembodied viewer rather than a user of graphic design artifacts. To enable a user-centered perspective in graphic design, three theoretical frameworks are presented and discussed: Distributed Cognition, Activity Theory, and Actor-Network Theory. All these approaches move away from a narrow visual and product centered perspective to a broader contextual view on the socio-material relationship between subjects and graphic design artifacts and the activities they're engaged in. Examples of how the theoretical framework can guide research and practice in graphic design are given.

Key Words: Activity Theory, Actor-Network Theory, Distributed Cognition, Graphic design, Poster, Relational Design, Use, User-Centered Design.

Citation: JAN-HENNING RAFF (2013). Theoretical frameworks for the conceptualization of graphic design in use, *Iridescent: Icoagrada Journal of Design Research*, 2(2).

FULL PAPER

Introduction

This paper proposes three possible theoretical frameworks for understanding how graphic design is 'animated through use'. When talking about graphic design, it is understood as the discipline that produces visual artifacts such as books, posters, advertisements, visual identities, etc. This distinction is necessary if we are to consider graphic design as a separate practice from e.g. interaction design. Although these fields are merging and a sharp distinction is more difficult to draw today, graphic design as a distinct practice still exists. Its classical forms and genres are not vanishing but complementing digital design.

Theoretical progress, however, has been achieved in more technologically driven fields of design. Interaction design for example, has drawn on other disciplines such as ergonomics, psychology, and the social sciences. On these scientific foundations, a user-centered perspective on design has been developed and is now commonplace. It has brought important innovations and new theoretical insights to interaction design.

This approach is rarely taken in graphic design, where the category of use is noticeably absent. Reviewing past issues of scientific design journals (*Design Issues*, *Visual Communication*; 2005–2010) the impression is reinforced that little or no attention is given to the aspect of use in graphic design. Exceptions are the contributions to the international issue of the Italian journal *Progetto Grafico International* that urge for a more user-centered perspective in graphic design. But

they either stick to the semiotic paradigm (Perri, 2011) or are trying to adapt the ‘ethics’ of user-centered design for graphic design (Farrauto, 2011; Perondi, 2011; Sfigiotti, 2011). As a result, the conceptualization of use remains more of a promise than a reality.

Why there is no user in graphic design

In the field of Human Computer Interaction the focus on use has been commonplace since the 1980s. Design methods that take users’ behavior into account like User-Centered Design (Norman & Draper, 1986) and Participatory Design (Schuler & Namioka, 1993) have positively influenced the development of both soft- and hardware. Meanwhile, with User Studies becoming mainstream these methods are undergoing a critical reassessment (Norman, 2005) and new models are being proposed now that ‘the user’ as a resource for innovation has been deemed depleted (e.g. Chow & Jonas, 2010).

Graphic design however, seems to be untouched by this progress. Why is there no discourse about use in graphic design? Apparently, graphic design does not deal with use but – as its alternative name suggests – with visual communication. Visual communication conveys a message to a reader, interpreter, or observer. This reader interprets a message depending on her/his prior knowledge and skills and her/his socio-cultural background. Accordingly, research in visual communication is preoccupied with images and texts and their meaning. Three important approaches exist: rhetorical, semantic and pragmatic approaches (cf. Barnhurst, Vari & Rodríguez, 2004: 629-631; Hope, 2006: 3). The rhetorical approach analyzes how images and texts are configured to convince or persuade people. Semantic approaches treat the visual as text, analyzing its internal structure. The pragmatic (not pragmatist) approach looks at the processes of production and reception of visual artifacts.

A review of two important scientific visual communication journals (Design Studies and Visual Communication, 2005–2010) reveals their focus on the visual and the absence of a conceptualization of use – with the exception of Whyte and Cardellino (2010) who examine ‘visual practices’ in organizations. Some researchers warn that the preoccupation with the visual leads to an ‘ocularcentrism’ (Julier, 2006: 66). Centered on the eye, visual studies reduce the reader to a disembodied actor facing a dematerialized artifact. Consequently, they leave out the very situation of the embodied subject in relation to the material artifact.

The products of visual communication are material artifacts to which subjects relate as embodied actors in specific socio-cultural contexts. When we speculate about graphic design with the body in mind the question of use immediately emerges. For example, a poster, commonly conceived as a visual plane, could also be described as printed matter that is attached to a vertical surface, and is to be read while standing. A poster is not only perceived visually but has to be ‘used’ in certain ways. Likewise, a promotional flyer affords other uses. It can be carried around and read in different postures. Reading a book can’t be reduced to observable eye-movements but is always taking place in a

certain posture involving the hands.

These examples of ‘use’ may be all too obvious to the graphic designer, who is more or less conscious of its implications. Indeed, most formats and genres of graphic design have a long history. Books, posters, letterheads, signage systems, etc., are such familiar forms of cultural expression that their use seems implicitly inscribed in their design. Indeed, designers reproduce their patterns of use by convention, without needing to think about their actual use. In some branches of graphic design, however, usage posits a challenge: Signage systems, packaging, forms, or instruction manuals have specific qualities of use that have to be taken into account in their design. They are not inert artifacts but take part in human activities. In such activities they undergo changes: they are extended, enhanced, transformed, and even redesigned in use. Here, obviously, graphic design gains new insights from studying usage.

In addition, the observed ‘paradigm shift’ in graphic design practice ‘moving from form to content to context’ (Blauvelt, 2008) calls for a rigorous theoretical analysis of use. Blauvelt has labeled this new paradigm Relational Design because it goes beyond form and content. Relational Design practice explores the social contexts of actual use, and critical practitioners such as the Dutch design studio Metahaven embrace these broader contexts. They use their practice to ‘speculate on the future’, they use ‘design as a tool for prototyping rather than implementing stable solutions’ (Metahaven, 2009).

As we can see, there is a need for a theoretical foundation to the study use in graphic design. The aim of this paper is to catch up to current research into use in other fields of design, and make it accessible and transferable to contemporary graphic design practice and research.

Theoretical frameworks to study graphic design in use

The preoccupation with the visual and the obviously ‘inscribed’ usage of the traditional forms of graphic design are reasons why use is rarely explored in practice and research. In order to open the discipline up to the concept of use, broader perspectives on human cognition, activity, and agency must be introduced. Distributed Cognition, Activity Theory, and Actor-Network Theory provide possible theoretical frameworks for this challenge. The purpose of presenting these frameworks is to sensitize and inspire research and practice. They are not theories that offer ready-made solutions for practical problems. Rather, they present a consistent language to reason about a specific problem.

What is common to the three approaches is their ‘post-cognitive’ stance (Kaptelinin and Nardi, 2006). All three strive to overcome the Idealist dichotomy of subject and object, body and mind. In Idealism, the subject acts on a representation of the world in her/his head. The world is separated from the subject. The presented theories however, presuppose that the material world is not divided from the empirical subject, and foreground the real interplay between subject and object. Neither subject nor object are in the center, instead, artifacts take part in human activity. Activity Theory in particular, analyzes the relation of mental and corporeal activity. Activity (and thus use) is not limited to observable, behavioral activity but expands to mental activities that are

mediated by artifacts.

Despite these similarities between Distributed Cognition, Activity Theory, and Actor-Network Theory, each assumes a different concept of man. Distributed Cognition is a critical extension of cognitive psychology, and so inherits its model of the human mind as a computer. The subject is seen as a potential source of error with limited cognitive resources, and therefore an 'optimization' of human cognition is required. Activity Theory started as a Marxist critique of cognitive psychology, and argues that the individual develops through socio-material interactions. The aim of Activity Theory is the 'empowerment' of the individual within society. Actor Network Theory has its origins in sociology. It critiques sociologists' focus on human interaction, and instead searches for the 'missing masses', i.e. the role of artifacts in society (Latour, 1992). Actor Network Theory labels itself as post-human because it admits agency to non-human actors. This has led to interesting critical reassessments of expert behavior as materially and socially constrained activity. The aim of Actor Network Theory is the critical 'deconstruction' of human achievements (cf. Latour & Woolgar, 1979).

In the following sections the theoretical concepts of Distributed Cognition, Activity Theory, and Actor Network Theory are presented and their implications for graphic design are discussed. A common graphic design artifact serves as example: a public poster for an event (of any kind). Although the future of posters has repeatedly been questioned (e.g. Müller-Brockmann and Müller-Brockmann, 1971: 239) posters are still ubiquitous, at least in Western cities. They are one means of advertising a product or service in a specific environment, and are often an important part of an advertising campaign. Posters are a means of mass communication, as their target audiences can't be fully controlled.

In material terms the poster is attached to a vertical surface in the public sphere (or in publicly accessible private property). The individual poster's immobility is overcome by the distributed presentation of copies. It follows that the message of a poster is not directly addressed to a specific recipient, but instead is absorbed by the passersby.

'The persistence of posters' (Blauvelt, 2011) may be due to their enduring task of 'public expression' as opposed to the 'personal expression' of the blogosphere. Additionally, though being a low-tech product the medium actually benefits from progress in high-tech digital printing technology (Blauvelt, 2011). Maybe the classical poster will be relegated to a niche existence but new 'media facades' or 'flat screens' inherit its potentials and audiences. Since capitalist enterprises compete for the limited purchasing power of consumers 'there can be no limit to the effort to saturate public space with advertising.' (Sontag, 1970)

Reconstructing the use of posters with the help of theoretical frameworks posits a particular challenge. Other graphic design artifacts such as books or signage systems expose their use qualities more willingly. But our challenge here is to reconstruct use from a rather simple, non-interactive artifact. In graphic design the usage of a poster is reflected in terms of its legibility and visibility. This admittedly narrow definition will nevertheless allow us to explore new conceptualizations of graphic design in what follows.

Distributed Cognition

Distributed Cognition (DCog) was conceived as a supplement to cognitive psychology. In opposition to cognitive psychology, however, proponents of DCog claim that ‘the “mind” rarely works alone’ (Pea, 1993: 47). Instead, mental activity is accomplished by incorporating the work of other minds, the environment, things, and symbols, which all together form a distributed network. ‘The environments in which humans live are thick with invented artifacts that are in constant use for structuring activity, for saving mental work, or avoiding error, and they are adapted creatively almost without notice.’ (Pea, 1993: 48). Kirsh (1995) describes how the spatial arrangements of things may be used to simplify choice, perception, and internal computation. Mental activity is facilitated and structured by external resources, which means that ‘agents project structure onto the world’ (Kirsh, 1995: 33). One prominent practice is the ‘offloading’ of cognitive resources into the environment. For example, an office worker uses piles of paper as reminders for tasks (Malone, 1983; Sellen & Harper, 2003). Kirsh (2005) shows how taking these aspects of cognition into account may enhance visual design.

With DCog we can appreciate how graphic design artifacts take part in cognitive processes. Let’s have a look at a promotional poster for an event in the street. Someone passes by the poster and shows an interest in the promoted event (specific form and content are not important at this point). The best way to remember the event would be to detach the poster and carry it away – but this is neither practical, nor desirable. Instead, according to DCog theory, the memory of the poster in its specific spatial context may become a cue enabling the passerby to remember the event. Indeed, location is an important cue for retrieving information from memory (Baddeley, 1990), and thus the poster becomes the mental representation of the event. The visual qualities of the poster itself and the contextual properties of its specific location, help to ‘offload’ the cognitive effort required to remember the event. Later, one can look up the event on the Internet or visit the poster again (although the poster may have disappeared). Another option is to take a personal note of the information given on the poster, perhaps by taking a photo of it. Either way, the poster is entered into a person’s distributed cognitive system. It takes part in a broader context. Designing a poster is thus not only about creating an isolated artifact that a potential viewer may digest. According to DCog the poster may become a part of peoples’ personal information systems. Designing a poster means designing a part of a cognitive system.

The obvious design lesson here is that a poster should provide distinct visible or physical cues that can be entered into peoples’ cognitive systems. Another way to facilitate the processing of the message is to offer some information on the poster that may be taken away. Currently, one solution here are Quick Response Codes i.e. small two-dimensional printed barcodes on posters that may be scanned using the camera of a smart phone (<http://www.qrcode.com/en/index.html>). The code contains information such as the link to an Internet site. In this way, the poster’s information is transferred to a personal information system. Designing with Dcog in mind, means to treat graphic design artifacts as only one, but

nevertheless active, part of peoples' cognitive systems.

Activity Theory

Activity Theory (AT) originated in Soviet psychology of the 1920s, where it was developed by Vygotsky and later, Leontiev (1978; 1980). Vygotsky and Leontiev presupposed that human actions are cultural-historical products that should be analyzed within broader contexts than those confined to the laboratory settings of cognitive psychology. As a result they proposed a minimal meaningful context for human activity. In an activity, subjects make use of artifacts (including non-material artifacts such as languages or other symbolic systems), which mediate between the subject and their goal, and so are considered tools. The tool enables and – as a specific way to access the world – structures the activity. The tool, therefore, both enables and constrains action (Wertsch, 1998). AT analyzes tool mediation from a developmental perspective. External tools mediate an activity, but they become obsolete when that activity is internalized. For example, children use their fingers to count or accomplish simple calculations up until the time when these external symbolic operations become mental operations. AT does not solely promote the process of internalization. The externalization of tools is often necessary, especially when difficulties arise. The example of the child shows how AT tries to unite behavioral and mental operations within the concept of activity. Studies that employ an AT framework, show how tools seldom appear ready-to-use, and are often invented and redesigned by the subjects (Béguin & Rabardel, 2000; Kyhlbäck & Sutter, 2009).

AT has been proposed as a conceptual framework to model and study design activity (Tarbox, 2006; Kang, 2009; Tan and Melles, 2010). Equally, AT helps us understand the use of graphic design. First, it enables us to reconstruct the context in which graphic design artifacts are used, where the artifact is often only one part of a larger system. From there we can narrow down its actual uses to more concrete actions, and then to specific corporeal or mental operations (AT proposes a hierarchical structure for this). Given a concrete activity, we can then ask how the graphic design artifact is mediating this activity as a tool.

This is rather hard to do for posters, which are generally designed to be 'happened upon'. One seldom deliberately visits posters, except in dedicated poster exhibitions. People passing by posters are already involved in an activity, and at the very least, they are going from A to B. Some of these routes are routine routes such as going to or from work. On the way one regularly encounters posters, and such accidental encounters with posters are routine. Posters may then become a tool for being up-to-date, or for planning ones cultural life, and in these cases one expects posters to change regularly. A poster alone is not a tool for planning, but within a routine activity, posters may become tools for planning. Although visible behavior hasn't changed, the existing activity system is enhanced by another activity.

One could also deliberately enhance an existing activity, such as going to lunch, by paying increased attention to promotional posters. Additionally, from the developmental perspective of AT we could imagine that for someone who has just moved to a town posters promoting

events provide a valuable source of information, and he/she may even develop some routines to visit posters. Eventually, when the new inhabitant has made some acquaintances, the posters may become less important or even obsolete as a source for news, and more direct forms of communication replace the tool. This example shows how AT facilitates the reconstruction of social interrelations taking place within an activity. Engeström (1987) has proposed a model for studying activity systems within larger contexts, where rules, community, and division of labor provide the framing. AT then becomes a research tool to investigate the social functions of graphic design from the bottom up. In such inquiries the graphic design artifact is like a probe that explores social relations.

The design lesson here is that for posters to become tools they must exploit existing activity systems. Posters and their location have to be designed around such activity systems. Thereby, they may reinforce or contribute to a change of social activity systems. Thus, the study of the use of graphic design artifacts has to go beyond the immediate issues of perception; and in the case of posters, beyond the issue of readability. The AT framework usefully complexifies any notion of a universal user, and also allows a poster's life to be understood beyond the moment of its apprehension.

Actor-Network-Theory

Actor-Network-Theory (ANT) originated with Bruno Latour, Michael Callon, and John Law, and tries to blur the distinction between intentional subjects and inert objects. According to them the world consists of human and non-human actors – both social and technical parts (signs, things) – having different degrees of agency. These actors may (or may not) work together and this cooperation results in networks with differing stability. ANT integrates the role of technical artifacts within networks, and offers a broader context for studying these practices. The human is just another actor in a network – that is why ANT is regarded as a ‘posthumanist’ theory (Schatzki, 2001: 2).

But how can things around us have agency? The key is ANT's concept of ‘delegation to nonhumans’ (Latour, 1992: 232). When humans produce an artifact it may be described as delegating: Humans delegate tasks to a non-human actor. The non-human actor follows a ‘script’ that the human actor has written for it. Put simply, a non-human actor, such as a machine, replaces human labor. This is one reason why ANT speaks of actors. ANT now looks at the new actor that acts independently. Having a dedicated behavior, the new actor imposes scripts back on the human: ‘The nonhumans take over the selective attitude of those who engineered them.’ (Latour, 1992: 233). Latour gives the example of an ‘unfriendly’ door that replaces a human doorman. The door automatically closes with a certain force thereby discriminating against small and old people. Hence, the prescriptions imposed by non-human actors on human actors are not only physical constraints, but carry with them beliefs about how the world should be: non-human actors are also moral actors. The automatic door suggests to the aged: ‘What do you want here? This is no place for you.’ The world is full of such delegated actors that may be compared to humans. ANT invites us to imagine

artifacts as our counterparts. When artifacts are conceptualized as partly social beings, they are not only waiting to be used, but take part in social relationships. As with human beings, such relationships may be stronger or weaker, hierarchical, intimate, etc.

How can we transfer these ideas to our graphic design artifact? We may begin asking: Which tasks have been delegated to a poster? What would a human actor in place of a poster do? Let's imagine this for a moment. A human being replacing a poster would probably wave at us, beckoning us to approach. When we're within speaking distance he/she would invite us to an event, or advertise a product. This behavior is more obtrusive than the behavior of the poster. Indeed, an individual poster, however visually aggressive, is nice and quiet compared to its human counterpart. But, the individual poster's modesty is outweighed by its omnipresence. Another copy of the poster is waiting for us around the corner. The poster is a stalker!

We see now how human work has been delegated to the poster: The chore of standing and waiting for passersby is delegated to a visual plane that can be attached anywhere. While the poster performs this task more reliably, it is rather unskilled in addressing passersby personally. On the other hand, the poster prescribes behavior on us: it requires us to approach. If we really want to absorb its information we have to stop. But stopping in the flow of passersby is sometimes difficult. People may denigrate this as 'hanging around' (Goffman, 1966). That means, socially accepted behavior toward a poster is achieved only when one passes by the poster and absorbs its information 'en passant'. This way the poster's message is disclosed through a more and more acute angle. The best viewing angle is achieved when the body is oriented orthogonally to the poster. But this posture requires us to turn our head, distracting us from our goal. Standing before a poster is only acceptable when we make our behavior 'visibly-rational-and-reportable-for-all-practical-purposes, i.e. "accountable"' (Garfinkel, 1967: vii) as waiting. Indeed, longer exposure to a poster is only acceptable at places where idling is expected: on railway platforms, in subway trains etc.

The poster implies methods of use that go beyond the constraints that its visual attributes prescribe. In fact, the poster is an actor within a network: the street and its unwritten laws are reinforced by the 'morality' of the poster. ANT understands networks as arrangements of human and non-human actors that transform one another through their interaction. A disruptive transformation occurs when a poster is taken home. Susan Sontag has described such usage of posters. She notices that 'the voting American and European bourgeoisie' (Sontag, 1970) voluntarily puts posters of events, movies, and political posters on the walls of their homes. There, the posters become 'a souvenir of an event' or more often (as the promoted event was not attended) 'substitutes of experience' (Sontag, 1970). Sontag is very critical about this use: 'Collecting posters is a species of emotional and moral tourism, a taste for which precludes, or at least contradicts, serious political commitment.' (Sontag, 1970) The home use of a poster is seen as an act of symbolic appropriation without real commitment.

In terms of ANT, what happens here? Put in a private place, the poster-actor has changed. It's not a delegate of the person or institution

that organizes the event anymore. Of what use would it be to promote an event at home? The actor is here engaged in another job, it has become a delegate of the owner that addresses visitors with the message: the owner is a respectable person because he/she has attended this event or at least has enough taste to wish he/she had done so. Of course, the poster fulfills the need for decoration too. Whereas in public it may seem unacceptable to immerse oneself in the contemplation of a poster, at home it can be endlessly appreciated.

ANT invites us to imagine the human counterpart of an artifact, and reconstructing the delegation of human work to the artifact helps us do this. This unveils the sociality of artifacts, and the more or less acceptable prescriptions that artifacts impose on human behavior, to the point of revealing the ‘morality’ of artifacts, how they strengthen certain socially accepted behavior.

Conclusion

The presentation of possible theoretical frameworks to study graphic design in use has revealed different aspects of the relations between subjects and graphic design artifacts. These frameworks provide us with new perspectives to think about how graphic design is taking part in everyday practice. Distributed Cognition offers a concrete way to understand how graphic design artifacts are used as external resources that facilitate cognitive processes. DCog’s focus is on the optimization of cognitive processes by enhancing the engaged artifacts. Activity Theory offers plausible concepts with which to model activities and their mediation by artifacts. The artifacts may then be evaluated as more or less adequate tools in activities. Particularly, the developmental perspective of Activity Theory invites us to study and reflect how such tools evolve and eventually disappear in use. Finally, Actor-Network-Theory points us to the agency of these artifacts and their possible participation in socio-material structures. As it conceptualizes the power of artifacts to prescribe uses it unveils their ‘morality’.

All approaches move away from a visual and product centered perspective to a broader view on the role of graphic design in everyday life. The approaches do not conceive use in the narrow sense of handling artifacts, but it does not follow that implications for design can’t be directly derived from them. Surely, Distributed Cognition’s concept of ‘offloading’ cognitive effort to an artifact is easily applicable to graphic design artifacts. It is one important consideration for ‘print usability’. Transferring this concept to other graphic design artifacts like books, flyers, signage systems, etc., is effortless. Furthermore, design practice may find inspiration in the concepts of Distributed Cognition, Activity Theory, and Actor-Network Theory to model use cases, scenarios, and personas (Cooper, Reimann, and Cronin, 2007) in order to gather requirements and to derive constraints that guide the design process.

The theories also offer heuristics and frameworks for design research. They raise sensitivity and offer a shared language for research (Corbin & Strauss, 2008). Ethnographic methods like participatory observation and interviews are best suited to such studies, as they result in thick descriptions of practices. But designers may find it hard

to translate such descriptions back into ‘implications for design’, and so more reactive methods such as research through design (Findeli, Brouillet, Martin, Moineau and Tarrago, 2008; Friedman, 2008) where a prototype plays a role as a probe might be better employed.

Most importantly, the frameworks enable a critical perspective on graphic design. They carry us away from narrow graphic design problems by considering visual artifacts in their broader social contexts. Within these contexts the function of graphic design artifacts can be explored and discussed. What efforts do they leave to the subject? What questionable practices do they promote? Which social behavior do they sanction? The frameworks are an invitation to critical practice and research in graphic design.

Acknowledgements

The author wishes to thank the reviewers for valuable comments and critique on previous versions of this paper.

References

- Alexander, C. 1964. Notes on the synthesis of form. Cambridge: Harvard University Press.
- Baddeley, A.D. 1990. Human memory. Theory and practice. Boston: Allyn and Bacon.
- Barnhurst, K.G., Vari, M. & Rodríguez, Í. 2004. Mapping visual studies in communication. *Journal of Communication*, 54(4): 616-644.
- Béguin, P. & Rabardel, P. 2000. Designing for instrument-mediated activity. *Scandinavian Journal of Information Systems*, 12(1-2): 173-190.
- Blauvelt, A. 2008. Towards Relational Design. *The Design Observer*. Retrieved October 27, 2011, from <http://observatory.designobserver.com/feature/towards-relational-design/7557/>
- Blauvelt, A., 2011. The persistence of posters. In: A. Blauvelt & E. Lupton (ed.). *Graphic design: now in production*. Minneapolis: Walker Art Center: 92-111.
- Chow, R. & Jonas, W. 2010. Case transfer: a design approach by artifacts and projection. *Design Issues*, 26(4): 9-19.
- Cooper, A., Reimann, R., & Cronin, D. (2007). *About face 3 - the essentials of interaction design*. Indianapolis: Wiley.
- Corbin, J. M., & Strauss, A. L. 2008. Basics of qualitative research – techniques and procedures for developing grounded theory. Los Angeles: Sage.
- Farrauto, L. 2011. The revenge of the ghosts, the New Age of information design. *Progetto Grafico International*, 9(19): 90-92.
- Engeström, Y. 1987. Learning by Expanding – an activity-theoretical approach to developmental research. Helsinki: Orienta-Konsultit Oy.
- Findeli, A., Brouillet, D., Martin, S., Moineau, C., & Tarrago, R. (2008). Research through design and transdisciplinary: a tentative contribution to the methodology of design research. *Proceedings of Focused, Swiss Design Network Symposium 2008*, Bern, Schweiz (pp. 67-91).
- Friedman, K. 2008. Research into, by and for Design. *Journal of Visual Art Practice*, 7(2), 153-160.
- Garfinkel, H. 1967. *Studies in ethnomethodology*. Upper Saddle River: Prentice-Hall.
- Goffman, E. 1966. *Behavior in Public Places: Notes on the Social Organization of Gatherings*. Free Press.
- Gregory, J. 2000. Activity theory in a ‘trading zone’ for design research and practice. In: D. Durling & K. Friedman (ed.). *Proceedings of doctoral education in design: foundations for the future, international conference, La Clusaz France 9-12 July 2000*. Staffordshire: Staffordshire University Press.
- Hope, D.S. 2006. Identity and visual communication. In: Hope, D.S. (ed.). *Visual communication: perception, rhetoric, and technology*. Hampton Press: Cresskill: 1-27.

- Kang, S. 2009. Designing for design activity. In: Undisciplined! Design Research Society Conference 2008. Sheffield Hallam University, Sheffield, UK, 16-19 July 2008.
- Kaptelinin, V. & Nardi, B.A. 2006. Acting with technology. Activity theory and interaction design. Cambridge: MIT Press.
- Kirsh, D. 1995. The intelligent use of space. *Artificial Intelligence*, 73(1-2): 31-68.
- Kirsh, D. 2005. Metacognition, Distributed Cognition and visual design. In: Gardenfors P., Johansson P. (eds.). *Cognition, education, and communication technology*. Mahwah, N.J: Erlbaum: 147-180.
- Kyhlbäck, H. & Sutter, B. 2009. Office work in shop floor work: a case of cast metal machining. 17th Congress of the International Ergonomics Association (IEA 2009), Beijing, China.
- Latour, B. 1992. Where are the missing masses? In: Bijker, W.E. & Law, J. (eds.), *Shaping technology/building society: studies in sociotechnical change*. Cambridge: MIT Press: 225-258.
- Latour, B. & Woolgar, S. 1979. *Laboratory life: the social construction of scientific facts*. Sage: Beverly Hills.
- Leontiev, A.N. 1978. *Activity, consciousness, and personality*. Prentice-Hall: Hillsdale.
- Leontiev, A.N. 1981. *Problems of the development of the mind*. Progress: Moscow.
- Malone, T.W. 1983. How do people organize their desks? *ACM Trans. Inf. Syst.*, 1(1): 99-112.
- Metahaven, 2009. On design and research. In: M. Ericson et al., (ed.). *The Reader – Iaspis Forum on Design and Critical Practice*. Berlin: Sternberg Press: 239–263.
- Müller-Brockmann, J. & Müller-Brockmann, S. 1971. *History of the poster*. Zürich: ABC Verlag.
- Norman, D.A. & Draper, S.W. 1986. *User centered system design*. Erlbaum: Hillsdale.
- Norman, D.A. 2005. Human-centered design considered harmful. *Interactions*, 12(4): 14-19.
- Pea, R.D. 1993. Practices of distributed intelligence and designs for education. In: G. Salomon (ed.), *Distributed cognitions: psychological and educational considerations*. Cambridge: Cambridge University Press: 47-87.
- Perondi, L. 2011. People and things: hypothesis for a neutral space between theory, research and design practices. *Progetto Grafico International*, 9(19): 86-89.
- Perri, A. 2011. From user to interpreter: how to avoid getting lost while chasing ghosts (and in the subway). *Progetto Grafico International*, 9(19): 76-81.
- Schatzki, T.R. 2001. Introduction: practice theory. In: Schatzki, T.R., Knorr Cetina, K. & von Savigny, E. (eds.). *The practice turn in contemporary theory*. London: Routledge: 1-14.
- Schuler, D. & Namioka, A. 1993. *Participatory design*. Erlbaum: Hillsdale.
- Sellen, A.J. & Harper, R.H. 2003. *The myth of the paperless office*. MIT Press: Cambridge.
- Sfligiotti, S. 2011. The final user is not prosecutable: design for, with or against the user? *Progetto Grafico International*, 9(19): 82-85.
- Sontag, S., 1970. Posters: advertisement, art, political artifact, commodity. In: D. Stermer (ed.). *The art of revolution: 96 posters from Cuba*. New York: McGraw-Hill.
- Tan, S. & Melles, G. 2010. An activity theory focused case study of graphic designers' tool-mediated activities during the conceptual design phase. *Design Studies*, 31(5): 461-478.
- Tarbox, J.D. 2006. Activity Theory: a model for design research. In: Bennett, B. (ed.), *Design studies: theory and research in graphic design*. New York: Princeton Architectural Press: 73-83.
- Wertsch, J.V. 1998. *Mind as action*. Oxford Univ. Press: New York.
- Whyte, J.K. & Cardellino, P. 2010. Learning by design: visual practices and organizational transformation in schools. *Design Issues*, 26(2): 59-69.

Jan-Henning Raff

Address: Heckmannufer 4
10997 Berlin
Germany
E: janhenning.raff@gmail.com

About the author

Dr. Jan-Henning Raff holds a diploma in communication design from Kunsthochschule Berlin Weissensee (Germany). He has been research assistant at the media centre of Technische Universität Dresden (Germany) where he has built up and headed the department of media design (2004–2010). His PhD thesis is on everyday design practices of student learners (published in 2012).

Currently he is lecturer for design and owns his design studio in Berlin. His research interests include design research, technology enhanced learning, everyday design, and usability/user experience.

ABSTRACT

An increasing number of designers are reflecting critically on the nature of the profession and their place within it by conceptualising graphic design as a form of practice-based research. The model of the ‘practitioner-researcher’ is seeing the self-conscious designer forming a more critical disposition in relation to her discipline. Captured in scholarly work, but also often in more open and less prescriptive environments (online forums, Readers, catalogue essays, interviews, independent press publications, etc.), critical exchanges from the community of practice and practitioner-produced writing and theory offer an alternative to the model of the outside critic looking in. This paper discusses the nature and form of this discourse and considers its potentially overlooked contribution to a developing criticism for graphic design.

Key Words: Graphic design writing, practitioner-researcher, practice-based research, critical graphic design, design critique.

Citation: Tara Winters (2013). The practitioner-researcher contribution to a developing criticism for graphic design, *Iridescent: Icograda Journal of Design Research*, 2(2).

FULL PAPER

Introduction

“Design has its own distinct things to know, ways of knowing them, and ways of finding out about them” (Nigel Cross, 1982).

Positioning graphic design as a form of research opens it up to empirical and philosophical forms of inquiry. Motivated by a critically reflective approach to their work, there is an increasing trend for graphic designers to become involved in this kind of activity - asking questions of what they do and becoming active researchers of their own discipline. Graphic design is a deeply reflexive process whose practice can be considered its own research, and whose inquiry motivates its further practice. Conducting research through design (Frayling, 1993) practitioner-researchers are using the practice of designing as a research method for investigating how designers design, for investigating the nature of design, and for critically examining a wide range of contextual issues.

These practitioner-researchers are contributing in a range of ways to knowledge about graphic designs’ products and its activities. The following discusses the nature and form of this critically reflective work by designers and explores the varied forms and locations of writing that is capturing practitioners’ thinking with regard to this part of their practice. It is suggested that a less prescriptive, alternative form of critical exchange is taking place via reports and reflections by practitioner-researchers and that this represents a rich source of content

for the advancing criticism of graphic design.

Practitioners working in what can be described as more experimental and open-ended ways within the context of graphic design are increasingly describing what they do as research, inquiry, and simply 'work'. Active in an expanded field, and working on non-client projects in addition to paid work, graphic designers, motivated by more speculative and experimental projects, talk about their practice as designers, rather than simply talking about end products. They are extending the traditional role of the designer by engaging graphic design as medium of critical and reflective inquiry. Self-generated, research-based projects are integrated into their daily work and are seen as an important part of their professional development. These projects utilise the potential of graphic design as medium to explore issues, to critique, to develop new theories, to offer new insights on design praxis, and to question fundamentals of the discipline. Often working between art and design these research investigations engage designers in a problem-finding mode, turning the tables on the traditional notion of graphic designers as problem solvers.

The practitioner-researcher

The nature and purpose of research in art and design has been widely debated. Durling (2002) points out that the term 'research' means different things to different people. He has noted that: "for some it indicates investigation, for others it indicates practice. For some it refers to objective findings, for others it refers to subjective opinion" (Durling, 2002). The continued lack of clarity around a definition of graphic design and graphic design research has also been seen as an advantage in allowing practitioners' own experience to influence future directions and perspectives on the relationship between practice and research (see Banham, 2007 & Buchannan, 2004).

The term 'practitioner-researcher' has been applied to academics and professional practitioners who share a research-orientation to graphic design. Design writer Stephen Banham's (2007) notion of a 'hybrid practitioner/researcher' is a designer who is "both at ease with the ever changing demands of commercial practice as well as being engaged on a critical, academic and even philosophical level" (Banham, 2007:2). Driven by a revived sense of agency, or sometimes a professional requirement to engage in research activity, the practitioner-researcher model is becoming an increasingly common model for graphic designers to practice under.

One notable example of a group interested in the possibilities of graphic design as research is Amsterdam design studio 'Metahaven' who describe themselves as "designers and researchers" (Kyes & Owens, 2007:82). They use design as a medium of inquiry. Both their commissioned and self-directed work reflects a concern with political and social issues. They engage in client based work, research, and writing which may be exhibited, printed or experienced online. Using traditional scientific research rhetoric Metahaven talk of their studio as a 'think tank' where assignments often result from 'case studies' and are concerned with answering questions or investigative work. Metahaven say that by 'research' they intend: "a gathering of data, inquiry, imagination, and,

ultimately, speculation, which informs their work in graphic design, branding, and iconography, as well as in architecture” (Metahaven, 2008). In a published interview by The Reader (a book about critical design practice that is part of The Iaspis Forum on Design and Critical Practice initiated in Stockholm), the group describe their motivation to extend on traditional ways of operating as graphic designers: “We started because we wanted to create a more informed method for design, to create a space for speculative thinking, and to combine this with the visual output one expects of a design practice” (Ericson, et al. 2009:241).

Figure 1: Essay ‘Models for the Political’ by Metahaven
in Forms of Inquiry: The Architecture of Critical Graphic
Design.



Another widely regarded practitioner-researcher is British/Australian designer James Goggin. Goggin has continued to work on both client and self-initiated projects often categorising his work under the heading ‘research’. For example, his ongoing project titled ‘Pop Culture Colour Theory’ is described as a research project that explores humankind’s attempts at codifying and commodifying colour. He frequently talks of a ‘critical engagement with context’ when describing his approach. A critical eye on the systems and processes in which graphic design operates drive his practice-based research explorations. Goggin is interested in the potential of graphic design to utilise these systems in critical ways (Ericson, et al. 2009:35).

Conceptualising graphic design as a form of practice-based research opens up new possibilities and new skills for the practice of design. Noble and Bestley (2005) introduce the idea that work done under the guise of experimental or explorative graphic design has opened the way for research methodologies to become a more active part of a designers’ repertoire:

“In many instances these [speculative & experimental practices] offer new visual grammars and graphic forms and often focus on areas of graphic design previously constrained and under-examined by a singular, commercial definition of the discipline. This recent concentration upon the processes and methods involved in graphic design, the how and the why has allowed the area of research methodologies to take on a greater degree of significance to the subject” (Noble & Bestley, 2005:27).

Long time commentator on the development of design research

Professor Richard Buchanan identifies one form of design inquiry as ‘the nature of design’ saying it is tasked to: “seek to understand not simply what and how but why design and its products and activities are as they are” (Buchanan, 2004:12).

These kind of questions probe at an empirical and philosophical level, inviting designers to reflect on their practice, rethink their profession, and to develop their own epistemological and methodological approaches to research in their field. A widely accepted understanding of the nature of knowledge in art and design, and the methods and conventions of its research is yet to be achieved. Academia is currently working through the complexities of interpreting art and design as research. With an increasing interest by practicing designers to ask these kinds of questions of their practice and engage in research activity, they are becoming more involved in these ongoing academic debates.

For example, Australian practitioner-researcher Lisa Grocott investigates the dichotomy established between client projects and experimental research asking why the speculative-driven nature of performative [practice-based] research can’t have as much agency within the academy as the evidence-driven culture of quantitative research? (Grocott, 2006). At a time when widespread agreement on the details of what constitutes research in art and design does not exist, practitioner-researchers have a unique historical opportunity to inform developing standards and contribute to critical debate on the issues surrounding design as research. Through her practice-based research studies she has taken on the very question of the relationship between speculative research and commercial activities, seeking to ‘naturalise’ the link between the two. The results of Grocotts’ research, disseminated across a number of published formats, contribute to our greater understanding of the design process and to design thinking. Specifically, how a critical space for speculation can play a significant role in creating a practice model that allows designers to avoid familiar, derivative work and embrace the unfamiliar (Grocott, 2006:1).

Stephen Banham (2007) raises the issue of the perceived lack of financial benefit to industry of this kind of design research asking that this be called into question. Banham says: “Why can’t a critical reflection on practice (practice-led research) be seen as offering favourable economic outcomes as well as research outcomes?” (2007:2). Grocotts’ research also offers insight here. She reports that being simultaneously active in studio-initiated research and client commissioned projects had a positive impact in business terms: “It was clear that the timesheet hours we committed to the studio-initiated projects not only generated a playful body of work that aesthetically and conceptually influenced our client projects, but that they also advanced our client relationships” (Grocott, 2006:12).

Open frameworks for criticism

While discussion continues on how the visual outcomes of practice-based research themselves contain or reflect knowledge, the written word prevails as the most established means for communicating critical thought. Writing report-style scholarly papers is not the best fit for

every practitioner-researcher, nor do many have an interest in making a contribution in this context. The established forms of argument and critical rhetoric of the scholarly paper can seem like an uneasy place for commentary on a more personal, experiential level. Less formal, but genuinely reflective writing can hold equally important critical insights.

Reflecting on an apparent lack of a relevant critical discourse in design and introducing her co-authored book “In Case of Design–Inject Critical Thinking’ Jeppsson (2010) argues for an alternative way of developing a language for critical writing on graphic design. This is based on a more discursive approach, one that is open and interactive, inviting thoughts and ideas that develop original texts allowing a critical language to slowly develop. Jeppsson says of this approach that: “An open and inviting language may therefore hold fragments of philosophical elaborations, personal and emotive evaluations, ideological reflections and humour as well as provocation... where the writer is allowed space to interpret, analyse and discuss – rather than report” (Jeppsson, 2010).

With designers taking an increasingly reflective approach to their practice, and with an increasing number becoming involved in practitioner-research, the call for an alternative to standard academic forms of critique for advancing a critical language comes at a good time. An alternative kind of commentary that relies less on a body of existing theory or established structure and more on a discursive, personally reflective model as Jeppsson suggests seems a good fit for the ephemeral, everyday nature of graphic design and its sites of commentary which range from the informal blog to the critical magazine article.

Via the published interview, the catalogue essay, the position statement, or the reflective self-report, designers offer original writing that reveals the values, philosophies and ideologies that inform their practice. This represents one form of contribution to critique and knowledge in the subject. Here you find designers critically considering the foundations, limits and very definition of graphic design and the nature of their practice as designers. For example, in a catalogue essay accompanying the exhibition ‘Graphic Design and The White Cube’ graphic designer/researcher Stuart Bailey is quoted as offering the following view on the location of the subject of graphic design: “... graphic design only exists when other subjects exist first. It isn’t an a priori discipline, but a ghost; both a grey area and a meeting point...” (Bailey, 2006). Critical thinking in graphic design has often turned to the fundamental question of a definition for graphic design. The contributions of practitioner-researchers on this topic are vital to a critique that remains relevant to a professional field.

Bailey works as a writer, editor and a graphic designer actively involved in researching new models for publishing and distributing books. As a practitioner-researcher Bailey has contributed to the critique of graphic design through a number of ‘smaller’ forums most notably via Dot Dot Dot journal (now out of production, but continued by a new publication: Bulletins of The Serving Library). Bailey calls attention to an idea that many designers struggle with - the way that they refer to their activity in their field transcends the established notion of its definition. He notes that designers represented in the exhibition Graphic Design in the White Cube move fluently between the worlds of art, design, music,

theatre and writing and adds: “I and everyone I work with just think of what we do as merely “work”. I studied typography and graphic design—that’s my background and it informs what I do—but now I do a variety of work, which may or may not come under those headings’ (Bailey, 2006).

Other topics of critical interest in graphic design have been the potential relationship between relational aesthetics and graphic design and the long-standing question of the relationship of art to design. As well as articles in more official, critical forums (such as *Eye Magazine*) smaller publications have captured discussion and analysis on these themes by practitioner-researchers. In a conversation published by *The Reader* practitioners James Goggin (Practice) and Mia Frostner, Robert Sollis, Paul Tisdell & Rasmus Troelsen (Europa) discuss the application of the term relational aesthetics to graphic design, as well the relationship of design to art, producing an insightful piece of writing. This text offers a take on these topics of critical debate that draw on reflections of practice as well as offering accounts of personal positions and philosophies.

Figure 2: Interview with Practice & Europa in *THE READER*, Iaspis Forum on Design and Critical Practice.



Online forums and independent, small press publications have continued to supply graphic design with an alternative critical voice, capturing views from a wide perspective. Numerous art, design and visual culture magazines past and present such as *Émigré* (USA), *Dot Dot Dot* (NL), *Cabinet* (USA), *2wice* (USA), *Elephant* (NL), *The National Grid* (NZ), *Design Philosophy Papers* (AU), *Design Observer* (USA), *e-flux* (USA) have published the voice of the graphic design practitioner/researcher. These venues support a variety of contribution types from causal comment to more scholarly styles of writing. They easily represent the kind of alternative, discursive, open and interactive forum that Jeppsson (2010) argues is required for a critical language to develop slowly in graphic design, allowing it to find its own means of critique and develop its own subject rhetoric.

Design critic/researcher Kenneth FitzGerald says he found a place for writing in his postgraduate study years in *Émigré* magazine, which he describes as a “unique forum that fostered an expansive and challenging

view of graphic design” (FitzGerald, 2010:11). The journal *Dot Dot Dot* (previously mentioned) was a small, independent publication from the Netherlands edited by Peter Bilak and Stuart Bailey, and is described by FitzGerald as providing an avenue where “design writing can be eclectic, thoughtful and imaginative...the journal proves there’s plenty of unexplored territory for design investigations and the forms they may take” (FitzGerald, 2010:89). Design critic Rick Poynor has also praised *Dot Dot Dot* noting “its unpredictability and intelligence, its enthusiasm for pointing a flashlight into corners of culture that tend to be overlooked, makes it one of our more valuable design publications” (Poynor, 2005).

In her studies of the history of design, Teal Triggs (2009) has similarly commended small press and self-published magazines by graphic designers that sit outside traditional academic and historiographic practice, as providing “some of the most interesting criticism, plus new ways of conceiving of the visual and written documentation of graphic design” (2009:325). Triggs explores how ‘little magazines’ have had an impact on the positioning and documenting of graphic design within theoretical and historical frameworks, arguing that “self-produced design publications provide valuable insights into the theoretical and visual concerns that enrich our understanding of the history of the profession, graphic artifacts and their cultural contexts” (2009:339). As an alternative form of knowledge production operating on the margins little magazines have captured the here and now, have focused on the everyday, and have supplied a venue for the practitioner voice. Texts from these smaller sources, exempt from the systems and conventions of academic writing and accompanied by visual content, are often more pertinent and relevant for their open, untested and more radical flavour.

Looking to other fields of criticism for models of a more free-ranging and open-ended approach to critique in our own subject can also prove very productive. The unsystematic nature of essayist Susan Sontag, who often looked to personal experience and response in her critique of culture, representing a departure from the standard methods of her structuralist and post-structuralist contemporaries (Kennedy, 1990) provides one example. Sontag was a long-suffering cancer patient herself when she wrote ‘Illness as Metaphor’ and drew on her own experience in her critique of the metaphors and myths surrounding illness. Cultural critic John Berger, whose writing defies conventional boundaries, mixing the genres of criticism, autobiography, poetry and diary entries provides another example; Berger’s poignant critique of art and life, and of the operations of the human world deal in experience. He speaks both of and to ordinary experience, using self-reflection as a tool to understand lived experience.

Writers like these offer a model of critique that is often quite personal, open and conversational in approach echoing the flavor of existing practitioner-produced critique in graphic design. These models demonstrate how alternative approaches to standard forms of critique are always possible and how you can always show people things in new ways. A critical discourse for graphic design needs to consider the many and varied forms of criticism and approaches to critical writing that exist

in other fields as a way of progressing its own unique forms.

Conclusion

Designers who have adopted a research-orientation to their practice and who are regularly involved in experimental, self-directed and speculative project work seem to have in common a critically reflective approach to their practice. They regularly ask interrogative questions of their discipline contributing to critical thought and discussion on a range of topics including: conceptualising graphic design as research; the relationship between speculative projects and commercial work; critically engaging with aspects of the social, cultural and economic context of graphic design; expanding the definition of what a graphic designer is/does.

Some of these practitioner-researchers are communicating their ideas through scholarly means. But more often, their experiential knowledge and critical, personal, reflective voice appears in a variety of smaller forums where an alternative kind of language is possible. Helping to sustain a vibrant and relevant culture of critical writing for graphic design the contribution of the practitioner-researcher regularly features in smaller press publications that support a more flexible form of contribution to the 'test and report' style format of many academic publications. The nature of graphic design as a young, interdisciplinary field connected to the everyday means it can escape the more sterile academic forms of rhetoric found in many other fields and find a more balanced and meaningful form of critical discourse, where a wide responsibility for critical writing is achieved.

References

- Bailey, S. In: Bi ak, P. 2006. Graphic Design in the White Cube. Essay accompanying the exhibition Graphic Design in the White Cube during the 22nd International Biennale of Graphic Design, Brno. http://www.typotheque.com/articles/graphic_design_in_the_white_cube [10 Jan 2011]
- Banham, S. 2007. Because there's always a space in-between. Position Statements & Resource Reviews. <http://www.agda.com.au> [15 May 2010]
- Buchanan, R. 2004. Design as Inquiry: The Common, future and current ground of design, Presidential Address. Proceedings of the Design Research Society Futureground International Conference, Monash University, Australia, 17-21 Nov 2004.
- Cross, N. 1982. Designerly Ways of Knowing. *Design Studies*, 3(4):221-227, October 1982.
- Drenttel, W. A. 2010. Conversation with Daniel van der Velden of Metahaven: Observatory: Design Observer. <http://observatory.designobserver.com/entry.html?entry=23688> [27 December 2010]
- Durling, D. 2000. Reliable knowledge in design. Working Papers in Art and Design, 1. http://sitem.herts.ac.uk/artdes_research/papers/wpades/vol1/durling2.html [24 March 2010]
- Ericson, M., Frostner, M., Kyes, Z., Telemann, S., Williamson, J. (eds). 2009. *Iaspis Forum on Design and Critical Practice: The Reader*. Stockholm: Sternberg Press.
- Fitzgerald, K. 2010. *Volume: Writings on Graphic Design, Music, Art, and Culture*. New York: Princeton Architectural Press.
- Frayling, C. 1993. Research in Art and Design. Royal College of Art - Research Papers 1(1).
- Grocott, L. 2006. Designing a Space for Speculation. *visual:design:scholarship*, 2(2):1-15. <http://www.agda.com.au/vds/vds020201.pdf> [17 May 2010]

Jeppsson, F. 2010. Design Criticism in the public sphere, Limited Language. <http://www.limitedlanguage.org/discussion/index.php/archive/2010/10/> [10 March, 2011]

Kennedy, L. 1990. Precocious Archaeology: Susan Sontag and the Criticism of Culture. *Journal of American Studies*, 24(1):23-39.

Kyes, Z., & Owens, M. 2007. *Forms of Inquiry: The Architecture of Critical Graphic Design*. London: AA Publications.

Metahaven, 2008. Brand States: Postmodern Power, Democratic Pluralism, and Design, *eflux*. <http://www.e-flux.com/journal/brand-states-postmodern-power-democratic-pluralism-and-design/> [23 June, 2010]

Noble, I., & Bestley, R. 2005. *Visual Research: An Introduction to Research Methodologies in Graphic Design*. Worthing: AVA Publishing.

Poynor, R. 2005. Dot Dot Dot Dot Dot Dot Dot Dot, Design Observatory, The Design Observer. <http://observatory.designobserver.com/entry.html?entry=3167> [20 May, 2011]

Triggs, T. 2009. Designing Graphic Design History. *Journal of Design History*, 22(2):325-340.

Tara Winters

Lecturer
The University of Auckland
Elam School of Fine Arts
PO Box 92019, Auckland, New Zealand
E: t.winters@auckland.ac.nz

About the author

Tara Winters is a Lecturer in Design at the Elam School of Fine Arts, The National Institute of Creative Arts and Industries at the University of Auckland, Aotearoa, New Zealand. Her research interests include art and design pedagogy, computing in design education, design as an interface between different fields of knowledge, and the crossovers between contemporary art and graphic design.