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Special issue on
Design as Semiosis

edited by
Miltos Frangopoulos and Evripides Zantides

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and Evripides Zantides

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the eyes of citizens: a contemporary take on traditional culture

John Reid Perkins Buzo

Semiotics in a regional designer/maker community

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INTRODUCTION

Design as Semiosis

Miltos Frangopoulos and Evripides Zantides

Ever since Roland Barthes, back in the mid-1950s, commented on the ideological myths infusing the design of the new Citroen DS or of the cover of *Paris Match*, the fates of design and semiotics have been inextricably entwined. From 'les trente glorieuses' of expanding mass production and mass consumption, however, to the current trend for customization, sustainable design, collaborative and participatory design, parametric design combined with 3D printing, we discern a reorientation from a use-centered, scientific design to a user-centered design driven by post-materialism and intuitive 'design thinking'. At the same time, semioticians moved from unraveling the mystifying effects of design upon a beguiled mass-consumer to championing a more expanded understanding of design as a fundamental dimension of the human activity of meaning-making, world-making and identity-making.

This shift of semiotic emphasis from ideological critique to an encompassing, anthropological concept of design may be seen as a reflection of a society that becomes all the more design-centered and 'design conscious', with the ceaseless invention of new media, artifacts, environments and man-machine interfaces constantly opening up novel fields for design activity; an activity, moreover, which has widely adopted semiotics in order to develop more meaningful and effective designs, as well as enhance its self-reflexivity as semiotic work.

This special issue of *Punctum* aims to explore the shifts and turns marking the decades-long relationship between semiotics and design, and to foreground the role and significance of semiotics in the contemporary transdisciplinary engagement with and research in design. Is it possible, finally, to sustain the critical project of semiotics, beyond both the wholesale reduction of the artifact to a fetish or an ideologeme, and the abstract notion of design as semiotic work underlying all human activity?

The issue brings together contributions that address one or more of the above concerns,

drawing their research material from diverse areas of contemporary design. Sonia Andreou explores the meanings of postage stamp design as part of a country's official repertoire, the ideologies behind them, and how they are perceived by the citizens of the state, focusing on the Republic of Cyprus, a relatively newly-founded, post-colonial state, independent since 1960. The author presents findings of a survey, according to which the official state repertoire favored topics pointing to Cyprus' ancient past and religion, while citizens sought renewed ways for the official representation of their country through stamps depicting local folklore culture, suggesting more 'subversive' forms of self-representation. After discussing specific examples, she concludes that postage stamp imagery not only offers historical evidence regarding the country and time period studied, but also provides insights as to the negotiated character of official culture and its ongoing interaction with the citizens.

John Reid Perkins Buzo discusses the development of 'maker' communities that usually originate from designers who employ technology in their own work, but then tend to embrace a larger vision of community empowerment, as they diffuse technological skills to the non-technical and non-academic public. Following John Deely's reading of the concept of *Umwelt*, the author investigates the semiotic environment in which these efforts take shape, focusing on the staged process of the development of two specific examples in Southern Illinois. This process is likened to a passage from the *Innenwelt* of private concern to the *Umwelt* of public space leading to an expansion of the *Lebenswelt* of human community forms, bringing together more people within the semiotic network.

Parthena Charalambidou presents a comparative semiotic analysis of university website design in the US, the UK and Greece. Using concepts derived from Greimas, Barthes and Lotman, and focusing on the image/text relationship, the author examines the field of University website design and highlights points of convergence or divergence regarding education ideology in university websites. Looking into the different approaches to University marketing adopted by US, UK and Greek Universities, the author demonstrates that University online identity-making bears many similarities in Britain and the USA but ideological conceptions of education in Greece seem to form a rather separate semiosphere.

Robin Fuller investigates the work of Rick Griffin, one of the leading figures of the psychedelic design movement in late 1960s San Francisco. Fuller argues that, although not an overt theorist, Griffin reveals aspects of the visual semiotics of writing that provide insights for the semiotic study of graphically-embodied language. Suggesting that it is only in recent years that semioticians and sociolinguists have begun to pay more attention to how language functions in its graphic manifestation, Fuller explores Griffin's experimental and innovative work discussing aspects of the visual semiotics of alphabetic writing, and, more specifically, the relationship of embodied tokens to alphabetical symbols, the socio-semiotic function of styles of letter, and lettering as aesthetic signification.

Bianca Hottschke studies a selection of twenty maps of the metro network of Madrid,

pointing to their remarkable diversity in terms of visual form, while seeking the common elements they share in terms of the basic features that constitute them as depictions of reality, or their 'semantic core'. As 'graphics offer an unlimited choice of constructions for any given information' (Bertin), the author examines the various maps, arguing that, since no map offers a naturalistic representation, the transcription of the object 'city' into the medium 'map' must be treated as a new constitution, based on the interplay between denotation and connotation, and the comparative efficiency of schema vs detailed image.

Massimo Leone articulates a typology of visual communication imperfections and argues that each of them appeals to a different semiotic ideology that produces specific pragmatic responses. Within this framework, he examines pixels as semiotic signs that elicit a wide spectrum of different significations in digital and physical culture. While a centrifugal aesthetic view on the pixel turns it into the origin of a possible 'visual expansion' toward a horizon of autonomous signification, the trend of aesthetic reflection that has developed from the adoption of parameters in digital art tends to turn the pixel into a pure numeric expression, whose semantic potential is completely predetermined by a series of set parameters.

Mohammad Shahid and Dharmalingam Udaya Kumar examine the visual attributes of Bollywood movie titles' design and discuss its role in the overall meaning-making process. By implementing a syntactic and semantic semiotic approach, their study reveals that significant visual characteristics of letterforms are used to design influential movie titles. In so doing, they examine a range of visual techniques used by designers or lettering artists for producing more persuasive typography/lettering.

From a socio-semiotic perspective, Dimitar Trendafilov explores IKEA's practices regarding the use of design as the main basis on which it creates, delivers and maintains value for its global audience. While the company implements a multimodal approach towards a wide spectrum of design applications and gains a unique profile to its customers, it also develops its own unique semiosphere. Cleverly organized mass production of products is combined with aesthetic taste education, home decisions and solutions, creativity, variety, entertainment and sustainability, all provided and stimulated under the framework of customer-centered design.

Jonathan Ventura and Galit Shvo introduce a hermeneutic framework out of three dimensions, *classic semiotics*, *semioclastics* and *design situation*, in order to investigate healthcare design and specifically the band-aid. While taking under consideration that, in general, design deals with questions of usability, they portray the changes in attitude towards the product and its sign, and examine it through a 'semioclastics filter'. In so doing, they suggest an alternative approach for integrating hermeneutic knowledge in the design of the band-aid and focus on the very design situation of the product instead of its style.

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Postage stamp design in the Republic of Cyprus through the eyes of citizens: a contemporary take on traditional culture

Sonia Andreou

The present study is part of a larger research into the connoted messages transmitted via postage stamp design as part of a country's official image repertoire, the ideologies behind them, and how they are perceived by the citizens of the state. We concentrated on the Republic of Cyprus, a relatively newly-founded, post-colonial state, which gained its independence in 1960. We followed a mixed methods approach which allowed the deeper comprehension of the messages promoted by the authorities through postage stamp designs, while simultaneously studying the views of Cypriot citizens. During the first phase we categorized the corpus of stamps (998) with the aid of quantitative content analysis, a tool that enabled us to map the messages that the issuing authorities aimed to transfer. The second phase involved the exploration of how citizens perceive the official image repertoire through stamp design using a survey research (384 adult participants), followed by focus group interviews and photo elicitation. Furthermore, we employed semiotics to study a variety of stamp imagery taking into consideration parameters such as colour and shape, point of view and frame, as well as verbal elements. According to our findings the official image repertoire favoured topics that underline Cyprus' ancient heritage and the role of religion. The citizens nevertheless sought a renewed way for the official representation of their country. Their need for a more inclusive repertoire was expressed through stamp design depicting local folklore culture, ideologically linking it with an almost 'rebellious' way of expression not imposed by any hierarchy. This newfound interest in folklore forms of expression intensified in recent years due to the difficulties arising from the financial crisis of 2012, as well as the current discussions for resolving the Cyprus dispute. The aim of this study is to examine how design becomes embedded in the everyday and cultivates a shared sense of belonging to the citizens of the state.

KEYWORDS postage stamps, Cyprus, folk culture, visual communication, ideology

Introduction

The research presented here concerns postage stamps, a peculiar and relatively under-studied category of official visual texts, and aims to better comprehend their potential and function as a means of constructing a country's image. Our interest focuses not only on the ever-changing visual language employed by stamps, but also on the views and perceptions of the citizens that use them. Stamp imagery has been studied in the past mainly as a vehicle for geo-political promotion and propaganda. Our literature review, however, detected a gap in the field arising from a failure to discuss stamp design as an artefact, as a carrier of cultural meanings which are negotiated daily by its actual users, the citizens.

In previous studies (Andreou, Stylianou & Zantides 2016) we explained how postage stamps can be seen as media of public visual communication, which relay powerful collective representations. At the same time, though, we have demonstrated how citizens do not necessarily accept and adopt these messages, since their views on the kind of images that best represent their collective cultural identity do not always match those of the official culture (Andreou 2017). The consideration of the citizens' viewpoint adds a crucial new dimension to the study of official visual media, which is traditionally an exclusively text-centred enterprise. This was managed via a mixed methods research approach, combining quantitative content analysis, survey research and focus group interviews, inspired by a theoretical framework that, next to the postulate of official culture as oriented to the cultivation of the collective feelings of national belonging and pride, admits, in addition, the heterogeneity of citizens' views regarding their collective identity and representation. The inclusion of the citizens' perspective was also vital in investigating from up close how the meaning-making role of everyday objects, such as postage stamps, contributes to the shaping of collectiveness within a state, as Edensor (2002) suggested. The article focuses on a specific thematic category of postage stamps that, throughout the research, citizens singled out as the most significant concerning their country's official representation.

Literature Review

Theoretical Framework

Postage stamps simultaneously address two different audiences and serve different needs. On one hand, they address the citizens of a state, serving a practical function embedded in their ordinary, everyday routines; on the other hand, they are official documents conveying symbolic representations of a country to both home and foreign audiences. Our research adopted a framework that deals explicitly with the importance of ordinary, mundane objects and imagery in the construction of national identity and sense of belonging.

We approached postage stamps on the basis of Anderson's (1991) idea of 'print nationalism', Billig's (1995) 'banal nationalism' and Edensor's (2002) emphasis on how official, state representations are integrated in the mundane, everyday aspects of a culture. Eventhough receiving only cursory mention by Anderson and Billig, the symbolic significance of stamps is fully acknowledged by Edensor (2002) who underscores the ability of these commonplace, unassuming objects to relay meaning through repetition, all the while drawing little attention to themselves.

In order to better frame the dual nature of postage stamps, we adopted the term 'official culture' as understood by both Debord (1957) and Lewis (1992). Official culture can be defined as the form of culture that has been socially accepted and most importantly politically legitimized (Lewis 1992). In order to create a consistent official culture, the state uses various sources including the mainstream, popular and everyday forms of culture. The process also involves the existence of institutional support, which guarantees consistency, hierarchy and focus on the national imagined community's values and cultural norms (Edensor 2002). The latter, informing the deeper layers of stamps' social and cultural meaning form what Barthes (1973) assigns to the 'ideological order'.

Other Research

Postage stamps' depiction of traditional culture as part of official culture has been noted (e.g. Kent 2006; Raento and Brunn 2005) but not really explored in any depth. Raento and Brunn (2005) suggest that modern Finnish stamp imagery reflects the official policy of Finnish governments to promote the image of a peaceful and progressive country. The representation of 'Finnishness', through folk aspects of culture, was quite popular during the early part of the twentieth century, when a romanticized version of Finnish traditional tales, mythology and language was instrumental to the creation of the country's national image. In the aftermath of World War II, however, under the national elite's influence, the images that appeared on postage stamps were exclusively derived from 'high culture'. As a result, till today, depictions of folk and traditional forms of culture on stamps became almost non-existent, or at least of secondary importance (Raento & Brunn 2005).

In relation to the stamps of the Republic of Cyprus, Kent (2006) discusses a series of stamps depicting traditional dances that was jointly issued by Cyprus and India. Kent speculates that this topic was chosen as folk dances and music are widely thought to be a cross-cultural institution, understood and appreciated by virtually every society in the world. Albeit interesting, the thoughts on the particular stamps and traditional culture depiction on stamp design were not further explored by Kent, leaving a lot of questions open to investigation. An especially promising line of investigation pursued here, is the exploration of the citizens'

views on this particular category of stamp design. An equally fruitful prospect for future research is the cross-cultural comparison of stamp designs depicting traditional culture, in order to better comprehend the variety of meaning construction involved in different cases.

Purpose and Research Questions

This study aims to discuss the representation of Cyprus' official culture through stamps, and most specifically, stamps depicting themes concerning the country's traditional culture. We have found that this thematic group has been quite popular among the Cypriot citizens who took part in relevant research (Andreou 2017) concerning official culture representation through stamps. Thus, we aim to discuss and semiotically analyse the representations, as well as the views of Cypriot citizens regarding the particular theme and its presence in official culture representation. The present paper aims to answer the following research questions:

1. How is the theme of traditional culture represented through the postage stamps issued by the Republic of Cyprus? Could these findings be linked with Cyprus' socio-political background?
2. How do Cypriot citizens view the particular theme on their country's stamp designs, and could their perceptions be attributed to their socio-cultural background and even their country's socio-political situation?

The significance of the present study is based on its attempt to study official visual documents, by putting them in direct conversation with their actual users. Our goal was furthermore to prove through a mixed methods research, that the role of the citizen in this exchange is not a passive one and how their views on certain aspects of official culture can be empirically studied.

Method and Definitions

The present article is part of a larger study that employed the following methodological tools: quantitative content analysis, survey research and focus groups. Quantitative content analysis was used in order to determine the thematic categories of the corpus of stamps (Table 1) and significant findings emerged regarding the kind of topics and messages that the state attempts to send towards the citizens (Andreou & Zantides 2018) through this process. A sample of 998 postage stamps (out of the collected corpus of 1121) has been studied as the researcher did not consider stamp designs that simply reproduced earlier postage stamp depictions, for the coding to be valid. In other words, the remaining 123 postage stamps have been excluded from the corpus, since the image they displayed has been used on previously

issued stamps and remained unchanged. The entire corpus was studied without sampling, since the aim was to have a comprehensive corpus consisting of all the postage stamps issued by the Republic of Cyprus, from its independence till the present day (1960-2013).

CATEGORY	QUANTITY	%
1. Archaeological findings/sites	147	14.729
2. Religion	145	14.529
3. Flora and fauna	132	13.226
4. Social themes	82	8.216
5. Sports	78	7.815
6. Other	69	6.913
7. Notables	59	5.911
8. Architecture	57	5.711
9. Folklore/traditional culture	49	4.909
10. Transport and communications	36	3.607
11. Education and research	25	2.505
12. Fine arts	16	1.603
13. Landscapes	16	1.603
14. Maps	16	1.603
15. References to the Republic of Cyprus	14	1.402
16. Technology/technological achievements	12	1.202
17. References to other countries/states	11	1.102
18. Tourism	10	1.002
19. Flags	8	0.801
20. Heritage and its preservation	8	0.801
21. Professions	8	0.801
TOTAL	998	100

Table 1. Numbers and percentages for all postage stamp categories

Based on this content analysis, a survey was designed in order to detect the citizens' views regarding the topics and messages reflected on stamps and the significance of this practice (Andreou 2017). The survey included a sample of 384 adult (above 18 years old) Cypriot participants. The required information has been collected via administering door-to-door, printed questionnaires. The participants were briefed on the purpose of the survey and assured that the questionnaires would remain anonymous and processed solely for research purposes. The results indicated certain variations in the way the citizens regarded the themes that should be depicted on postage stamps (Table 2) and therefore further exploration was needed.

The next step involved the setting-up of a focus group, as the final stage of triangulation. This allowed us to actively interact with the participants, focusing on the ideas and patterns

which emerged from the questionnaires and needed further exploration. For this reason, the design of the focus groups' protocol was based on the questions of the survey which have shown potential for further interpretation. This design gave us a variety of data with both quantitative and qualitative characteristics resulting in a more comprehensive interpretation of the findings. The 20 participants, consisting of people of both sexes, of different age and level of education, belonged to the sample that has already been used for the administration of the survey and had volunteered to take part in the focus group. We designed a protocol based on a number of modified questions of the survey research that showed potential for qualitative analysis. The participants were only shown postage stamps at the end of the interview sessions, in order to ensure that their replies would not be biased. Photo elicitation as a methodological tool is based on the notion of inserting images in an interview. It is considered that participants will respond in a different way when presented with imagery, in comparison to a traditional interview, as verbal and visual information are affecting them in different ways (Collier 1957; Harper 2002). The imagery selected for this study was drawn from the thematic groups that proved the most popular during the previous stage of the research (i.e. Archaeological findings, Religion, Flora and fauna, Folklore/Traditional culture). A summarized version of the most important themes that emerged from this stage, can be seen on the table below (Table 3).

Categories	Observed Frequency	Percentage	Expected Frequency	Residual
Folklore/Traditional culture	84	21.9%	27.4	56.6
Archaeological findings	60	15.6%	27.4	32.6
Flora and Fauna	45	11.7%	27.4	17.6
Religion	35	9.1%	27.4	7.6
Landscape	32	8.3%	27.4	4.6
Maps	21	5.5%	27.4	-6.4
Flags	20	5.2%	27.4	-7.4
Sports	17	4.4%	27.4	-10.4
Social Themes	15	3.9%	27.4	-12.4
Heritage and its Preservation	14	3.6%	27.4	-13.4
Notables	12	3.1%	27.4	-15.4
Tourism	11	2.9%	27.4	-16.4
Architecture, Professions and Education	10	2.6%	27.4	-17.4
Fine Arts	8	2.1%	27.4	-19.4
Total	384	100.0%		

Table 2. Numbers and percentages for the postage stamp categories selected by the participants.

Attitude towards stamps/ philately	Memorable stamp designs	Proposed topics and images for stamp design	Perceptions of largest stamp categories (Archaeological sites)	Perceptions of largest stamp categories (Religion)	Perceptions of largest stamp categories (Endemic species)	Perceptions of largest stamp categories (Traditional culture)
Disinterest	Repetition	Nature	Connection to Greece	Strong presence in society	Familiarity / Everyday life	Familiarity / Everyday life
Curiosity	Historical importance	Greek Orthodoxy	National pride	Strategically / Politically important	Cyprus' unique identity	Not shameful
Collector	Imagery evoking emotions	Archaeological findings	Tourism	Cyprus' unique identity	Neutrality	Cyprus' unique identity
	Personal interests/ taste	Contemporary Cyprus	Detachment	Respect	Positivity	National pride
		Traditional culture	Respect	Majority's religion	Not a strong symbol	Tourism
		Turkish occupation	Connection to the EU	Detachment		Nostalgia
			Strategically / Politically important			

Table 3. Summary of the themes resulting from the focus group interviews

Results

The content analysis of our corpus revealed that the state has favoured topics concerned the country's ancient heritage and religion (Table 1). Images of archaeological findings and Greek Orthodox-related themes underscored the Greek Cypriot identity of the newly-formed and soon after divided country. Nonetheless, there are strong indications that there has been a shift in the representation of official culture after the country became a member of the European Union. During this period the emphasis shifts towards more culture-neutral topics, as well as themes that relate to the more general issues of education and progress (Andreou & Zantides 2018). These findings seemed quite unexpected, as other, perhaps more suitable thematic categories – e.g. those concerning the promotion of tourism, or the representation of traditional culture – were avoided in favour of the depiction of endemic species (Andreou & Zantides 2018). An explanation of this choice was sought in the past, where once more flora and fauna presented a plausible rationale as the Republic of Cyprus had turned to representations of nature when it was about to design its flag (1960). In that case, the brief underlined the need for promoting peacefulness and prosperity, avoiding any symbol that would encourage conflict between the

two communities residing on the island. As negotiations for uniting Cyprus have restarted in 2003 and the country became a member of the EU in 2004, the need for an official repertoire that avoided divisive ideological messages emerged once more (Andreou & Zantides 2018).

The survey research and focus group interviews aimed to explore the citizens' views, how they interact, agree or actively disagree with the topics that appear on Cyprus' stamps, as part of their country's official culture. There were certainly instances where the citizens' perspective matched and reflected that of the official culture. On both occasions, for example, they agreed with the need for religious imagery on Cyprus' stamps (see Table 2 and 3). The most favoured topics of Cyprus' official culture, such as depictions concerned with religion and archaeological findings, were certainly accepted by the citizens as sources of crucial political and ideological messages. Additionally, some of these images were linked by the participants with the traumatic events of 1974. It is obvious from our findings and the subsequent analysis, that while respect for the past and for institutions such as the Church is embedded in the citizens, they tend to choose other forms of representation for themselves and their country in present day.

Most importantly however, we noted instances where citizens' opinions contrasted with the results of content analysis. The shift of Cyprus' official culture, for example, towards representing neutrality and peacefulness through flora and fauna, was not necessarily approved by some of the respondents who did not regard this theme as a suitable form of national representation. Additionally, we investigated cases where the two sides had a completely different idea regarding the most suitable way of representation. The disagreement concerned folklore, a topic overlooked by the existing official culture on stamps (Table 3). The respondents gravitated towards traditional culture as a means of showcasing locality and a form of uniqueness that is not imposed by any authority, expressed through every day practices, manifestations and objects.

Discussion

The theme of preference for both the survey's and the focus group's participants was the traditional/folklore culture of the island (Table 2 and 3). The participants claimed that the particular thematic category was the most suitable for the representation of Cyprus through its postage stamp designs. This was in direct contrast with the content analysis finding that this particular thematic category was relatively small in comparison to other categories (Table 1). In this section, we will be discussing the reasons behind the citizens' fondness for this thematic category, juxtaposing it with the way in which the category was designed and presented through Cyprus' stamps.

Firstly, the participants were asked to suggest specific images they would place under this particular category. Their selection included several aspects of folklore: traditional customs and

forms of dance, music and cuisine. Throughout the focus group discussions, we had the opportunity to ask the participants why their preference for this category was so strong, especially if we consider official culture's lack of favour for this category. All of the participants agreed that these aspects of folklore showcase a more '*fun and light side of Cyprus*', one that can be enjoyed or even understood by tourists and locals alike. Some of the participants claimed that tradition is a distinctive feature of a country, but, at the same time, an aspect that can be appreciated and understood even by non-locals. As 48-year-old Yiannis explained: '*We should not look down at our tradition at all. It is a form of expression... [] Something that we understand and something we can relate to. Everyday life, that is*'.

The examples offered by the participants reflected aspects of ordinary, everyday life with a distinctively multisensorial character. They described various tastes from traditional cuisine, as well as the sounds of traditional instruments, songs, festivals and events, both old and contemporary, which according to them show a side of Cyprus, that is not only tied to its heritage, but remains relevant and embedded in their contemporary way of life. Morrison (2003) argues that traditional culture serves as a symbolic identity not imposed by the social elite within a community. It is transmitted from one generation to another, rejuvenating itself in the process and adapting to the environment. According to Dundes and Bronner (2007), folklore can be used as a constructive power of internationalism as many aspects of it rely on universal or quasi-universal human experiences. For this reason, many aspects of folklore belonging to a specific nation, may bear similarities with another nation's without losing its distinctive nature. A female participant claimed that '*we all know these objects and things more or less. They are about having a good time and enjoying yourself. On the other hand, I believe that traditional culture is something that can be understood by people all over the world more or less. We might not share the same customs, but we all share the need for having a good time, or being close to our family, enjoy ourselves during a gathering, enjoying our food, etc... In this sense I believe that this is a good way to represent us*'. A 65 year-old woman added, '*this is the spirit of Cyprus! And these images you are showing us have a sense of happiness about them. Despite all of the hardships, we Cypriots are quite happy people*'.

A younger male participant similarly asserted that '*I have seen lots of those objects in my life. This is Cyprus, you know... I can recognize this flask you are showing us. I have seen it many times. In traditional restaurants, in my grandparents' house, I even think we had one at school. Hm... Well, I sort of feel I know these objects and representations well enough, they are hm... well known to me. Here you have this couple dancing. Again, it's something familiar. This is how I feel about them. I feel I know these objects and stuff well. You get invited to a wedding in certain places of Cyprus and you can see people dancing the same dances. In this sense, judging by the familiarity of these images, I can say that they represent the country*'. The majority of the participants shared this view of connecting with topics related to tradition, not as something to be respected and regarded from a distance, but as something shared and experienced in

their everyday lives. Some of the participants referred to folklore as an *'inside joke'* that can be understood and appreciated by the Cypriot society, tying its members together through a *'fun and familiar way'*.

According to Demetriou (2015), the idea that Cypriot folklore should be preserved and *'mutated'* in order to become a part of contemporary Cyprus has been an emergent narrative in recent public discourse. Events such as the current financial crisis made people *'look inwards'* for forms of expression and reinvent them to fit their everyday and contemporary needs. In her study on Cyprus' folklore, Demetriou (2015), interviewed Monsieur Doumani, a Cypriot band formed in 2011, whose goal is to rearrange Cypriot traditional songs adding modern sounds and feelings to them. As the members of the band described *'we cannot keep turning our back to folklore music. There is something to it that we call root, when you hear it'*.

The participants of our focus groups seem to echo Monsieur Doumanis' opinion. 50-year-old Marios, explained that traditional aspects of culture have lately made their way to national TV channels and this is a positive step towards abolishing the idea of folklore as being somehow inferior to other forms of expression and thus unsuitable for representing the country and its citizens as official parts of culture, like stamps. A 65-year-old female participant highlighted this by adding: *'Maybe this promotion both on TV and through stamps can help our youngsters get close to their traditional culture once more'*. Another account coming from 65-year-old Lukas addressed the issue of being ashamed when represented by forms of folklore by stating *'well I guess that forms of folklore wouldn't be posh enough for them [referring to the part of the population who might not accept it as a suitable form of representation]. They wouldn't be very modern or foreign-like enough for them. Having said that, I've noticed more and more of our folklore being shown on TV nowadays, not only by RIK [Cyprus' public broadcasting service], but other channels too. Perhaps we have decided that our folklore is not shameful'*.

Despite these claims the younger generation amongst our participants seem to have found ways of bonding with traditional culture through contemporary forms of expression. An example of this would be 25-year-old Georgia's attitude towards local festivals organized in Cyprus such as the Fengaros music festival: *'We can combine our local tradition and the images from our picturesque villages with contemporary ideas, music, workshops, and performances. This type of events attracts us as locals but could interest a tourist as well. It's a good idea to bring our tradition closer to the contemporary aspects of art and expression'*. These accounts reflected both the findings of our survey (Table 2) as well as Demetriou's (2015), concerning folkloric forms of expression in Cyprus. It became obvious how even the younger generations have negotiated the *'reading'* of traditional forms of expression whether they encounter them in music, TV or even official documents, such as stamps. They have mostly exonerated the notion that they present something *'peasant'* and now they perceive it as part of *'ours'* with the

connotations of authenticity firmly attached on them. The arrival of these views seem to have coincided with a generalized turn towards 'all things traditional' and a rediscovery of what we might call 'Cypriotness'.

Let us now explore how the existing official culture of the Republic of Cyprus presented the particular thematic category through its stamp designs. It is a fact that Cyprus' stamp designs have concentrated on themes depicting neutrality this past decade, as relevant studies revealed, possibly due to the country's EU membership, as well as the recommencement of discussions for the reunification of the island, in 2004 (Andreou and Zantides 2018). The notion of neutrality was expressed mainly through themes derived from nature, endemic species of plants and animals. In fact, this particular thematic category was accompanied with very bright coloring, the introduction of the first triangular-shaped stamp of Cyprus, as well as award-winning designs (Andreou 2017). The design of stamps depicting traditional forms of culture, on the other hand, has not been given the same consideration, at least until recent years. This particular category ranked quite low in the content analysis of the corpus of Cyprus' stamps, as it contained only 49 postage stamps (Table 1). Additionally, as we can see below, the images on these stamps were not exceptionally creative or meticulously designed, especially during the previous decades (Figure 1).



Figure 1. Violin, lute, flute, May 6, 1985, designed by A. Koutas

The stamp was designed in 1985 and depicts a violin, a lute and a flute topic, three musical instruments which are closely tied to the folk music culture in Cyprus. They are a staple of social events and customs like weddings, christenings and religious festivals, and considered part of the country's Byzantine heritage. However, the way they are depicted lacks the vivacity and energy that was evoked by the participants' explanations. The three musical instruments are placed against a neutral light blue surface, as if mounted on a wall, or in a display case. The placement of objects is a quite important aspect of their 'reading', as Jewitt and Oyama (2004) commented, and in this case the viewer is not granted access, or a sense of familiarity with these objects. Their almost clinical placement makes them appear like old and unused objects, belonging in a museum collection, rather than instruments which are being frequently

used in contemporary celebrations, and even in Cyprus' musical TV shows. In fact, the only reference to the music world, are the two bar lines placed on the upper side of the image. However, the typography used for the notes does not hint at the origin of the musical piece they represent, nor adds any sense of character to the entire composition. The song or musical piece they represent is not explained, leaving the viewer wondering what the depicted notes actually refer to other than reiterating the obvious.

The specific stamp design is characteristic of an era when folklore was not considered important for the representation of official culture, a finding corroborated also by Pieridou-Skoutela's (2007) study on folklore music as part of the public school curriculum. Consequently, however, as folklore rose in prominence and importance in Cypriot mainstream culture, the perspective of country's official culture also shifted. The notions of inclusivity and locality, considered as characteristic of folklore culture by our focus group participants, seem to reflect the attempt of the authorities to redesign folklore-related stamps in a more involving and expressive manner (Figure 2 and Figure 3).

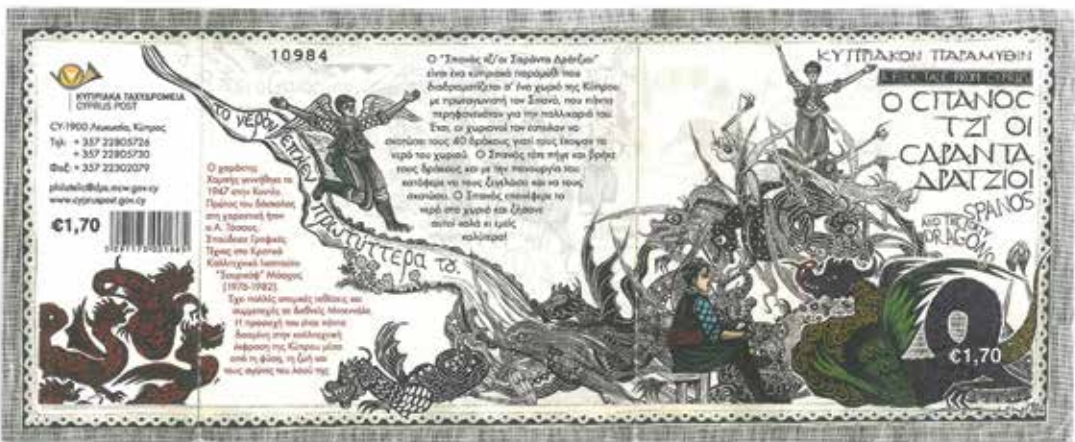


Figure 2. A fairy tale from Cyprus: Spanos and the 40 dragons, November 13, 2013, designed by C. Vasiliadou-Mezavorian, based on an engraving by H. Tsangaris

This attempt is especially evident in a set of stamps issued in 2013 and based on an engraving by Cypriot artist Hampis Tsangaris. The choice of artist is quite significant. Tsangaris is well-known in Cyprus, not only for his iconic engravings, but also for his passion for the country's folklore culture. The topics he chooses for his works, as well as his persistence in using Cypriot dialect on his artworks, express his enthusiasm for traditional culture and local traditions. This particular set of stamps (Figure 2 and 3) is entitled *Ο Σπανός τζΐ' οι Σαράντα Δράτζιοι* [Spanos and the forty dragons] and is inspired by a local folk tale, about a young man and his quest to rid his village of a pack of hostile dragons that terrorize the locals.

The design of the set is quite different from the older stamps depicting themes of tra-



Figure 3. A fairy tale from Cyprus: Spanos and the 40 dragons, November 13, 2013, designed by C. Vasiliadou-Mezavorian, based on an engraving by H. Tsangaris

ditional culture in many ways. It is the first time in Cyprus' stamp design history, where the frame becomes an integral part of the artwork. His choice represents a deliberate attempt to establish a link with the island's folklore culture, as it is a direct reference to Cyprus' traditional art of embroidery. In fact, the entire scene takes place on what appears to be a piece of embroidered fabric. In addition, his attempt to make the scene lively and energetic is aided by the occasional reversal of the frame's role, that is to bound the scene. As we can see (Image 3), certain elements and characters of the story escape the confines of the illustration, making the scene more interesting and, in line with Jewitt and Oyama's problematic (2004), more accessible, open and familiar to the viewer.

The scene and the characters supply us with a wide range of connotations, linked with Cyprus' rural way of life, as well as the aesthetic naivety of folk tales and artworks. An example is provided by the last part of the tale, situated on the far right corner (Figure 3 and 5), depicting Spanos returning to his village after defeating the dragons. We see the villagers and the hero dressed in folk costumes, expressing their happiness for their newfound safety, surrounded by easily comprehensible symbols of peace. The hero is depicted with angelic wings, while white pigeons fly overhead and a young woman lifts up an olive wreath. The olive wreath is considered to be one of the most popular and recognizable symbols of peace and prosperity for over two millennia (Rosenthal 1994). Furthermore, in Ancient Greece olive wreaths were given as a symbolic award to the winners of Olympic Games, and thus establish a direct link of the local fictional hero Spanos with the legendary champions.

Another noteworthy aspect of this design is the quite intricate usage of the Cypriot dialect. In fact, this is the first time that we see such an extensive usage of the island's dialect on a Cypriot stamp. The typography here is quite interesting in its expressiveness, as it supports the retelling of the story of *Spanos and the Forty Dragons*, all the while respecting the local di-

alect, but also highlighting certain important facets of the fairy tale. As Zantides (2016) asserted, typography contains a unique semiotic power that can trigger assumptions about cultural and social values and meaning. Taking into consideration this perspective, we can explore the stamp's typography by tending to the semiotic parameters of graphic design, as suggested by Bertin (1967) and used in relevant works on Cypriot dialect (Papadima 2017), namely: shape, size, value, texture, colour, orientation and placement.

According to Tsangaris (2016) the original font he created for the design of the folk tale is perhaps one of the most significant parts of the entire composition. As Tsangaris asserted, the goal was to approach this unique story through the lens of 'Cypriotness' and, at the same time, showcase the artistic and expressive strengths of the traditional art of engraving through image and font design. Accordingly, Tsangaris proceeded to engrave the entire scene, both image and texts, on a single linoleum block, mimicking the practice and aesthetic of traditional woodcuts. In order to achieve this, the artist studied methods of typography and font creation associated with Cyprus' folklore culture, traced back to the 15th century. Through the aesthetic of the font he created for this engraving, Tsangaris explicitly celebrates folklore culture and arts as manifestations of a unique identity that existed on the island for centuries and needs to be revived in contemporary Cyprus.

Upon close examination of the stamp we observe that, throughout the design, the text appears interweaved with the illustration, becoming part of the storytelling. The curvy, carved font exudes a sense of intimacy with the fairy tale, and contributes to the sense of wonder and magic suffusing the story. Three instances of the story-telling merit special attention. The first concerns the hero's venture into the dark forest where the dragons reside (Figure 4).



Figure 4. Figure 3 - Detail

The phrase reads, **Μεσ' στο δάσος** [Into the forest], and we observe that the text is placed on top of the black forest-like illustration, in order to give the viewer a foreboding feeling. An equally interesting instance is the segment of the image where the hero returns to his village,

bringing fresh water from the nearby river, which was now cleaned due to the extermination of the dragons (Figure 5).



Figure 5. Figure 3 - Detail

The text reads, *το νερόν επύεν ηρωτύττερα του* [the water arrived before him], and once more we see the typography placed on top of the object it refers to. However, in this case in order to add energy and rhetorical force the orientation and placement of the text follow the flowing shape of the river's waters. Perhaps the most intriguing instance is found in the final scene of the fairy tale (Figure 6).



Figure 6. Figure 3 - Detail

The text, *Πράβο!* [Bravo! Well done!], accompanies the celebrations of the villagers as they greet their hero. The interesting part is contained within the first letter of the word, as its size is quite larger than any other around it, but also its texture has been altered in order to mimic the olive wreaths that the villagers are offering to their saviour. As in a calligram, text and image are interweaved in order to enhance the meaning and make the storytelling a vivid, multisensorial experience, the way it is typically performed in the folk story-telling tradition.

It is obvious that in the case of Tsangaris' stamps, the official culture has embraced a design

approach that represents folklore culture without museumifying it, without shying away from its actual, lived nature and context. Our findings are corroborated by the explanatory note appearing in the webpage of the Cyprus Post (2018) devoted to the presentation of the particular stamp set. The note suggests that this set was meant to highlight through the island's folklore culture, the notions of justice, the battle of good and evil, as well as the prosperity that comes in the end, to the younger generations. Tsangaris himself (2016) argues that the style and the meaning of the particular engraving can also be understood as a Cyprus-specific tale, a story that can be allegorically interpreted as the struggle to reunite the island and live in harmony.

In this sense our analysis in combination with the findings of the focus groups, have proven how both the official culture and citizens of the Republic of Cyprus, seek renewed ways to express their unique locality. In both cases they seem to approach traditional culture as a means to express themselves and also communicate universal meanings, such as the sense of belonging and their need for a peaceful and promising future on the island.

Conclusion

In the light of our research findings and our analysis we can safely argue that the imagery of postage stamps is not simply the mirror of a static and monolithic official culture but always context-bound, dependent on specific socio-historical experiences and circumstances, as well as part of the broader, ongoing conversation between the official culture and the citizens. In this sense, the issue of a country's self-representation in stamp design should not be thought of in terms of official culture monologue, but as a process during which the latter is constantly challenged to negotiate with these circumstances as well as with society's changing values, ideas and attitudes. The success of official culture's response to these two basic challenges opens up new horizons of research strategy for the social semiotics of stamp design, which, by going beyond purely descriptive-analytical objectives, engage researchers in the *in situ* study of design as a social process, with all the openness and uncertainty that this implies.

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Semiotics in a Regional Designer/Maker Community

John Reid Perkins Buzo

Designer/Maker communities have most often sprung first from designers, makers, and artists seeking to employ technology in their own work, but then they have often extended to embrace a larger vision of community empowerment via technology. According to John Deely, the movement from the Innenwelt of private concern, to the Umwelt of public exhibition or spectacle, to the Lebenswelt of human community forms an anthroposemiosis of social-historical significance. Following Deely, this article briefly examines the historical account of Philadelphia's Hacktory, exploring the anthroposemiosis that shaped its development as a Designer/Maker community. Subsequently, it turns to the budding Designer/Maker community near Southern Illinois University. From obscure beginnings, the varied praxes of design have always played the critical role of disseminating the existence and activities of the OpenSpace organization of the Carbondale-Murphysboro area around Southern Illinois University. Notably, the anthroposemiosis leading from the Innenwelt to Umwelt to Lebenswelt has been remarkably similar, despite the large differences in circumstances. In place of a conclusion, the article makes an abductive conjecture that Deely's philosophical semiotics, applied to the design praxes of these two Designer/Maker communities, accounts for their common anthroposemiotic trajectory, yet also clarifies their unique regional differences.

KEYWORDS

Maker communities, John Deely, Umwelt, Lebenswelt

Parallel Lives

Philadelphia's *Hacktory* has a fascinating history: beginning in 2007 from the informal meetings of the makers' group *MakePhilly*, it initially sought to inform artists and others on incorporating digital technologies into their work. Since then, with the help of grants and partnerships, they have evolved a broader collaborative focus in a new space named *The De-*

partment of Making + Doing (DM+D) at the University City Science Center (which is just West on Market Street from Temple University City Campus). Through this partnership, several organizations have collaborated to create a diverse selection of programs that provide hands-on learning for a citywide cohort. As it solidifies its status as an institutional member of the Philadelphia science and technology educational infrastructure, it has applied for 501c3 non-profit status to guarantee sustainable funding and independence. What began as self-education for artists has developed into a broad educational program for the city population in general. This broadened focus and maturing institutional status is reflected on their website where they write, 'the Hacktory has continued to provide classes and events [at the *The Department of Making + Doing (DM+D)* in the UCity Science Center] that build our mission to inspire and empower people to use technology for their own personal expression'.

Seeing parallels between the history just recounted and OpenSpace, the budding maker community of the Carbondale-Murphysboro area around Southern Illinois University, is easy. It is true that the urban location of Hacktory makes possible a rich network of partnerships, whereas the rural location of the SIU makes this network much more diffuse, while retaining a sustained set of committed volunteers is made much more difficult. Yet, I am struck by the similarity in their evolving goals (their telos) over time. This reflection, seeks to understand this telic evolution through the semiotic theory of John Deely, in the hope that it can contribute to the continuing search for a sustainable Maker movement in the Southern Illinois region.

Semiotic Preliminaries

In his book, *Purely Objective Reality*, John Deely portrays 'the social construction of reality' as 'an order of post-linguistic objects as such – objects that may be perceptible as physical constructs but are understandable as cultural realities only through and on the basis of linguistic communication, understanding in its difference from perception' (Deely 2009: 114). These post-linguistic objects form part of the species-specific objective world that 'is a mixture of *ens rationis* [mind-dependent being] and *ens reale* [mind-independent being] in the presentation and maintenance of objects we need in order to survive, grow, and flourish' (Deely 2003: 144). The human-species-specific objective world consists of a way of modeling the world (*Innenwelt*), the objective world so-modeled (*Umwelt*), and the linguistic sign which aims to signify to another who 'can pick up enough clues in turn to modify its *Innenwelt*', thereby beginning 'the transformation of the *Umwelt* into the *Lebenswelt*' (Deely 2009: 101-102). Indeed, in an earlier work Deely had observed that 'the coding of the anthroposemiotic *Umwelt* – its transformation into a *Lebenswelt* – is the accumulation of marks made by the intelligence on the objective world in whatever respect and whether deliberately or as a concomitant attribute of intelligent action' (emphasis in the original) (Deely 1994: 68). All of human science, culture,

social activities, technologies, etcetera, are communicated through this ever-shifting semiotic network, a network that arises as signs are used to proportion and correlate an internal world-model (*Innenwelt*) with the experienced-world (*Umwelt*). The production of this semiotic network (*Lebenswelt*) is an intersubjective affair occurring across the human species, and termed *anthroposemiosis*.

The *Lebenswelt* subsists, thus, of ‘the social world, but also the cultural world ... an objective world to which only the semiotic animal has direct and full access through the species-specific channel of linguistic communication which it itself has created within anthroposemiosis’ (Deely 2009: 103). This objective world, the *Lebenswelt*, is where both nature and the socio-cultural are brought together through the human use of signs. Anthroposemiosis forms a code that correlates and proportions sensibly-accessible constituents to previously understood objectivities, and moreover, humans understand the code as just such a correlation-and-proportion of their species-specific *Umwelt* and *Innenwelt* (Deely 1994: 64-65). Knowing and manipulating the code – using it to perceive, understand, and act on objects of the *Umwelt* in physical, social and cultural ways – is how humanity constructs the *Lebenswelt*, and gives rise to science, technology and ethics (Deely 1994: 48, 70).

OpenSpace in the Southern Illinois Region

The beginnings of the OpenSpace Maker movement in the Southern Illinois University are obscure. From a scattered history, it may be traced to individuals drawing from an as yet unshared *Innenwelt* that consisted of their private pursuits, including personal hobbies and student work. These early founders, mostly former Southern Illinois University at Carbondale (SIUC) or John A. Logan Community College students, had cobbled together a modeling of the world which moved beyond their collegiate experiences. They brought into being creative technology ‘happenings’ in the region of Southern Illinois, and by so doing, simultaneously building a semiosis of ‘Maker’ for their nascent community. For example, Will Blankenship was the founder of HackSI, the sole local 48-hour hack-a-thon in the Southern Illinois region, as well as OpenSpace. A native of Springfield, Illinois, Blankenship had come to SIUC in 2012 to major in Computer Science (the city of Springfield is not normally included in the region). He became the main actor in the early days of the movement that spawned OpenSpace (Crosby 2015). He graduated in May 2015, and left immediately for New York. In similar fashion, others, once critical for the OpenSpace organization, no longer have maintained involvement as they once did. However, from this early period, the anthroposemiosis within the OpenSpace organization began to point toward a community of inquiry seeking a permanence that would impart the semiotic scaffolding of their *Innenwelt* to the local area’s *Umwelt* (Cam 2011: 103, Deely 2015: 341-342, Peirce 1877: §V).

In April 2014, OpenSpace received permission from the Murphysboro school board to

use the converted trailer building at 80 Candy Lane in Murphysboro, which had formerly been used as a classroom. This building provided the necessary base for the emerging organization. The shift from the private *Innenwelt* of the individual founders to an *Umwelt* of public space and equipment occurred during this period of establishment in Murphysboro. Additionally, the Murphysboro Superintendent of Schools, Chris Grode, became an ardent supporter of the project, with the hope that it would contribute to technology education in the region (Richardson 2014). Consequently, through this permission for use of classroom spaces in the public schools, the OpenSpace organization became integrated into the knowledge infrastructure of the Southern Illinois region.

Together SIUC computer science and electrical engineering students renovated the classroom building and made it ready to conduct workshops (Knight 2016, Payne 2016). Furniture was remaindered from the school — four large rectangular tables, five smaller round tables, a couch, and three large bookshelves — which allowed for basic gatherings and places to work. Early participant and SIUC student, Dean Payne, constructed a large screen for projection, although at that stage an actual projector was lacking (Payne).

In terms of technology, a handful of older Dells were donated by a local business, and the non-profit organization New Blankets donated the first of a series of 3D Printers, a then cutting-edge Bukobot printer. Basic soldering and electrical assembly equipment were donated or scrounged from a variety of sources including Southern Illinois University and John A Logan Community College. Software development was dedicated to Linux-platform variants (whose usage has always been a sign of the true Maker community, and remains so to this day). It also acquired a handful of Arduinos and Raspberry Pis.

All of this innovative activity occurred in March and April of 2014. Students involved in this included Nate Knight, Dean Payne, Scott Weaver, Ben Willig, and Will Blankenship (others were involved as well, but it was not possible to track down all their names). Thus, in a relatively short time, the *Umwelt* corresponding to the founders' *Innenwelt* had been produced through a series of semiotic actions: an anthroposemiosis. But the resulting objective world so-modeled was made with the further aim of transforming this *Umwelt* into part of the *Lebenswelt* of the Southern Illinois region. Accordingly, a plan of action emerged that included both an Internet presence as well as local workshops to disseminate the knowledge of the OpenSpace founders.

The first OpenSpace website (www.openspace.io) went live on March 17, 2014 due to the efforts of two students, Dean Payne and Scott Weaver.¹ The OpenSpace facility officially opened on March 22. A news article in the *Daily Egyptian* (SIUC's student newspaper), stated at the time that '[t]he space provides anyone interested in technology with assistance, space and classes while providing a variety of hardware to work with' (Richardson 2014). It was in September, 2014, that I first became involved with OpenSpace.

OpenSpace offered its first workshop, a Web Development Crash Course, on April 26th,

2014 (OpenSpaces, FB 26 April 2014). Its goals according to the publicity graphic, was to help people ‘learn how to write HTML and CSS to make a website’; ‘find out what cool tools are out there to help you as a developer’ and ‘get your hands dirty and start coding your own website!’ Subsequent workshops have included building a Bukobot 3D printer from a kit (September 27, 2014), Google Cardboard (June 25, 2015), machine embroidery, soft-material cutting using the Brother Curio cutter machine, a more advanced 3D printing workshop (January 30, 2016), SketchUp (February 20, 2016; July 30, 2016), an advanced embroidery workshop (March 12, 2016), 3D modeling for 3D printing (March 19, 2016), and 3D scanning using the Next Engine scanner (March 26, 2016). As can be seen from the growing range of the workshops, there has been a move away from those solely focused on hard tech skills such as coding and electrical construction, toward a craft-centric ground.

Such a shift reflects the skills and interests of a non-student public that most Maker movements learn to tap into, both as support for the movement, and as a genuine growth in their goals. As OpenSpace seeks to solidify its status as part of the small technology infrastructure of Southern Illinois, what began as self-education for students of computer science and engineering has developed into a broad educational program for the region’s population in general. In this way, the *Umwelt* that the original founders created from their *Innenwelt*, was incorporated into the *Lebenswelt* of the broader public through exaptation to skills such as embroidery and soft-material cutting — done, however, on high-tech computerized devices.

A new website for OpenSpace came live on January 27, 2015. Coincidentally, or perhaps not so coincidentally, this website was created by Brandon Byars, who is the present director of the organization. As I noted above for the Hacktory, the broadened focus and maturing institutional status of OpenSpace is reflected on the website where they write ‘[t]here are a lot of great ideas out there that may never become a reality because of the lack of knowledge on how to take those ideas to the next step or the lack of equipment to make prototypes. That is where makerspaces come into the scenario. Makerspaces give people affordable access to the equipment that they will need to make their products’ (OpenSpaces 2016). OpenSpace has clearly evolved along an anthroposemiosis building the semiotic network from the *Innenwelt* of the original founders, to an *Umwelt* of the physical space and equipment, and finally to the *Lebenswelt* of a functioning educational organization embedded in the region of southern Illinois.

A Conjecture in lieu of Conclusion

This article has been a very brief examination of two Maker spaces, and it would be impossible to make a claim of *definitive* insight into the semiosis of another local Maker space based on these two alone. What is clear is that Maker spaces are a part of the *Lebenswelt*, that is, part of the network of signs produced over time and space that communicate the species-specific

human approach.² They exist to bring people together for cultural, social and technological purposes. Plainly, over time, they have effected a semiosis that adapts or exapts³ into the broader semiosis of the *Lebenswelt* to suit the work and code of the Maker movement. For example, magazines such as *Make* (makezine.com), *Nuts and Volts* (www.nutsvolts.com), *Elektor* (www.elektor.com), *Robot* (www.botmag.com), and *Robotic* (www.roboticmagazine.com), as well as several others, provide a sample of the human use of signs within the Maker movement (while leaving out much as well). A more focused example of the semiosis across Maker communities might be the social hierarchies communicated through the use of the various versions of Linux (Ubuntu, Fedora, Debian, CentOS [RedHat], etcetera). That is, who uses which version and what that means as to their status within Maker community coders and developers. Perhaps more particularly, how the changing historical conditions of Linux usage within the Maker community may outline another example of semiotic development.

So, given the scope of the study, I end not with a conclusion, which promises definitive results, but instead with a conjecture or *abduction* on the anthroposemiosis of a Maker space community. As Peirce says, ‘abduction consists in studying facts and devising a theory to explain them. Its only justification is that if we are ever to understand things at all, it must be in that way’ (Peirce 1902: 197). An abduction is a guess, based on a limited number of experiences, which can only be verified over the long run (Deely 2001: 412). It provides the basis for ‘a semiosis spiraling through time in what characterizes not only the action of signs as unlimited, but also the very formation and identity of the individual as a “finite conscious self” through participation in the broader semiosis of which that self forms a temporary and local part’ (Deely 2001:726). In Peircean semiotic terms, beginning to understand anything comes by the formation of abductions, upon which we can then build deductive and *retroductive* inferences.⁴ Ending this brief study with an abduction or conjecture, sets the stage for further research and perhaps more definitive insights in the future.

So here is my conjecture on the semiotic development of local Maker spaces: they usually begin with a narrow technological or artisanal goal; that is, provide a training place where knowledge of this or that technological skill set will be communicated to other technologists or artists through an inexpensive, hands-on process. The people who begin a MakerSpace movement perceive themselves as holders of valuable *techne*⁵ that they need to communicate to others similar to themselves, that is, practitioners of technology. In my speculative trajectory, they correspond to an *Innenwelt*, a world-model, which has to be brought conjunction with the *Umwelt*, the world of the public *hic et nunc* which was critical in Walter Benjamin’s approach to artisanal education (Benjamin 1936: 41-42). As OpenSpace (and I would argue, the Hacktory) moved repeatedly into the pattern of publically offered workshops, the communication between the founders with those whom they sought to come to their offerings, as well as communication with potential funding organizations, broadened their original semiosis beyond the purely technical or artistic, to include basic science on the one hand, and contemporary crafts on the other. This has had the

intended effect of widening the social reach of the OpenSpace (and I would argue, the Hacktory) beyond what its student founders envisioned. As the *Innenwelt* of private concern joins to the *Umwelt* of public space (for exhibition and spectacle), a new expansion of the *Lebenswelt* of human community forms, bringing together more people within the semiotic network. And so thereby it may become a semiosis of socio-historical significance.

NOTES

1 This website is now defunct.

2 This communication occurs mostly between humans, but often inter-species communication happens as well (Martinelli 2010: 41).

3 An exaptation is a trait that originally served one purpose, but then subsequently comes to serve another unrelated purpose.

4 Retrodution is also known as ‘descending induction’, while abduction is sometimes called ‘ascending induction’ (Deely 2001: 911).

5 *Techne*: skills to make; *phronesis*: skills of practical life (i.e., ethical and political skills), *poesis*: imitative skills to present things from life that may never have existed until the poet imagined them, and make experiences accessible that would come only through the poet (Aristotle [1447a]).

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In search of the myth in multicultural website design: the case of English university website versions in the British, American and Greek locale

Parthena Charalampidou

Barthes (1957) has argued that the two orders of signification, namely denotation and connotation, combine to produce a myth which usually remains unobserved as it is very often taken for granted. Myths traverse various aspects of life in western societies and become evident in different forms of communication. In the present article we will attempt to investigate the ideology behind university website design through the comparative study of British and American website macrostructure with Greek websites translated into English. The present research is expected to shed some light on the unexplored area of university website design as semiosis and highlight possible points of convergence or divergence regarding education ideology in original English and translated (into English) Greek university websites.

KEYWORDS polysemiotic meaning making, website design, web identity, myth in multicultural website design

Introduction

This article addresses the issue of multicultural website design from a semiotic perspective with the aim of deciphering educational ideology in different socio-cultural contexts, namely in Britain, the U.S.A. and Greece. American and British universities, which mainly draw on private resources, have been increasingly using promotional rhetoric in their websites (Tomášková 2015: 2,18) which, according to Fairclough (1993), is characteristic of companies trying to attract customers. However, this is not the case in university websites from smaller countries such as Czech Republic or Iran, whose main resources come from the government (Tomášková

2015, Simin, Tavangar and Pinna 2011). The question that arises regarding Greek universities concerns their web identity-making and the polysemiotic rhetoric that they use when addressing a non-Greek audience.

A comparative semiotic analysis of university website design at the macrolevel, that is at the level of content categories, which can be verbal, non-verbal or polysemiotic, will allow to draw some conclusions regarding the third order of signification which is highly culture-specific. The methodological tools that we have considered suitable for exploring the social and cultural parameters that define the choice of specific content categories in this multisemiotic text type are: a) the concept of *isotopies* (Greimas 1966/1983), b) *image-text relation* (Barthes 2007) and c) the concept of *myth* (Barthes 1957). Moreover, d) the concept of *semiosphere* (Lotman 2005 [1984], 1990) will be adopted for a comparative study of web-mediated university communication on the mythical level. A brief overview of university website genre communicative functions and of website design parameters will set the context for a semiotics-oriented analysis of university website macrostructure.

Technological development and the extensive use of the internet have dramatically changed the way people communicate. In this context, websites constitute a crucial means of communication in various fields of social life, from information and education to entertainment and consumption. However, the borderline between different genres is very often blurred and discursive characteristics of one genre may be found in another. In this way, it is highly possible that users perceive a text as informative although its main function may be an operative one.

Operative discourse is extensively used in various communicative situations even in cases when it is not expected. University websites seem to constitute such an example since they represent higher education institutions which, according to Fairclough (1993: 143), 'come increasingly to operate as if they were ordinary businesses competing to sell their products to consumers'. The author refers to the marketization of education in Britain giving examples of university brochures which articulate 'together a variety of genres and discourses including elements of advertising and other promotional genres' and identifies 'new hybrid, partly promotional genres' (Fairclough 1993:146). The promotionalization of genres has been favoured through the expansion of technological means of communication since there is a plethora of multimodal message conveyance which reinforces the text's operative function.

According to Reiss (1971/2002: 42-63) there are four textual types: the informative, the expressive, the operative and the audio-medial, each with their respective functions. The last category (the audio-medial one) is, in fact, a hyper-category of multimedial texts which are accompanied by supplementary information realized through non-verbal semiotic systems. Reiss (1971/2002: 63) describes the category of audio-medial texts as an umbrella category which can include any of the other three textual types, either in isolation or in combination and are, thus, texts that can perform many functions in parallel. However, usually only one of these

functions prevails. Similarly, in university websites verbal and non-verbal elements combine to convey meaning and more than one functions are expected to be found. In literature, British and American universities are described as extremely competitive and commodified (Saunders 2010, Hill and Kumar 2009, Olssen and Peters 2005, Hill 2003, Torres and Schugurensky 2002). Thus, we expect the operative function to be more prevalent in their websites, similarly to what Fairclough (1993) found twenty-five years ago in university brochures. On the contrary, research has shown that in university websites from smaller countries such as Czech Republic or Iran, whose main resources come from the government, the rhetoric used is quite different (Tomášková 2015, Simin, Tavangar & Pinna 2011). The prevailing function of university websites in the Greek socio-cultural context remains to be analyzed.

The university website which is the object of our analysis is a product of design and as such it consists of signs. According to Nadin (1990: 428),

design principles are semiotic by nature. To design means to structure systems of signs in such a way as to make possible the achievement of human goals: communication (as a form of social interaction), engineering (as a form of applied technical rationality), business (as a form of shared efficiency), architecture, art, education, etc. Design comes about in an environment traditionally called *culture*, [...]. (Nadin 1990:428)

Design scholars have suggested specific principles regarding the design stage of organizational websites. Kent and Taylor (1998) have proposed a theory of dialogic communication for effective organizational website design in the form of five principles. Van der Geest (2001), in addition, offers a series of checklists that aim to improve communication design for organizational websites. University website design comprises of a series of decisions that the designer should take so as to ensure the best possible communication between the institution and the user. However, decision-making is influenced by the cultural context and the goals of the University which may differ in the three cases that we are going to examine. Nadin states that 'designers work towards a goal (product) to be achieved with the help of representations of this goal, i.e. with the help of semiotic means, sometimes used according to identifiable aesthetic criteria and/or cultural, economic or political factors' (Nadin 1990: 424).

Our research aims to analyse the socio-cultural factors that affect the goals of the institutions as they are semiotically represented in the design of their websites. Thus, the main research questions that will lead our analysis are the following:

i) can a multisemiotic analysis of native and non-native English university website homepages in three locales (USA, Britain and Greece) reveal differences/similarities in the respective universities' online identity-making? and

ii) can such an analysis unveil divergent/convergent education ideologies encrypted in their online presence?

In our analysis, we also take into consideration the fact that in American and British websites the target audience is both international and original while in Greek websites the native Greek audience is not addressed. Before embarking on the comparative analysis of university website design in different socio-cultural contexts a) we will describe the multisemiotic nature of the website genre and its implications for designing and b) we will present the theoretical framework and the methodological tools that allow for such an analysis.

Multisemiotic textuality

According to Yli-Jokipii (2001: 111), websites constitute a distinct genre, that of hypertexts. Some of its differentiating features in relation to printed texts are the use of hyperlinks for the formation of their hierarchical structure, which is mostly non-linear, as well as the low level of cohesion usually attained on the macrolevel, mainly through non-linguistic means, such as the clicking of a link. In fact, the visual semiotic system very often contributes to the creation of textual cohesion in hypertexts. Additionally, Storrer (1999: 40) states that coherence is not inherent in hypertexts but it can be created during the process. Thus, communicative context contributes to meaning connection.

Low level cohesion in hypertexts is a result of the fact that each web hyperlink leads to a separate and independent text, which can be the object of reading without necessarily precedent reading of the website's other textual units. This contributes to extensive use of content repetition which may be available multiple times through various sources (links). Additionally, hypertexts allow multiple reading paths since the reader is not limited to a unique linear path predefined by the author. On the contrary, the reader can create his/her own reading paths by selecting different links and even leap parts of the website and pass on to other websites (Janoschka 2004: 171-172, Yli-Jokipii 2001: 106, Fritz 1999: 222, Landow 1997: 3).

The absence of linearity found in hypertexts creates new standards in the way of reading and writing and, thus, in the way of creating meaning. It is characteristic of the genre that there are theoretically many points of introduction to the text and these are not limited to one semiotic system. The reader may focus initially on a non-verbal sign depending on the way the webpage is structured. The multimodal nature of hypertexts, such as websites, leads to the integration of multiple semiotic sources and, as a result, the reader moves very quickly from verbal signs to visual ones. Kress and van Leeuwen (1998: 205) have suggested that the process of scanning precedes the process of reading, and that scanning is related to the degree of emphasis given on various semiotic signs found in a multimodal page. During scanning, the

reader's eyes focus on the centre of visual impact, which according to Wee (1999: 21), constitutes the point of introduction to the reading path of a multisemiotic text and is its main theme. Bohle (1990: 36) points out that without the centre of visual impact the webpage remains for the reader a sum of complicated signs which compete with each other to attract his/her attention. Thus, the semiotic choices made by the website designer seem to play a decisive role in the reading process of multimodal texts and in the meaning that they manage to convey.

Theoretical background and methodological tools

For the purposes of our analysis we have adopted theories and methodological tools mainly from the field of social semiotics and Translation Studies. The comparative analysis of university websites is going to focus on the macrolevel of university website homepages, that is on the content, both verbal and visual that has been included in each linguistic version. Thus, an analytical tool is needed that will allow for the study of information units and their connection in the website. According to Nord,

The crucial concept in the analysis of the subject matter at the level of lexical items is that of isotopy. Isotopic features are semes shared by various lexical items in a text thus interconnecting the lexical items and forming a kind of chain or line of isotopies throughout the text. The lexical items linked by isotopy are referred to as the 'isotopic level', which may indicate the subject matter(s) of the text. There can be various isotopic levels in the text either complementing each other or hierarchically subordinate to one another. (Nord 2005:95)

Moreover, according to Mudersbach and Gerzymisch-Argobast (1989: 147), isotopic structures constitute a 'network of semantic relations' and, in this way, they serve to display the coherence of the text (Nord 2005: 95).

The notion of *isotopy* is a key term in social semiotics and has been suggested by Greimas (1966), a central figure in the Paris School of Semiotics. His theory of structural semantic isotopy can be applied both on lexical and non-lexical units allowing for the description of the coherence and homogeneity of meaning in a multimodal text, such as the website, by connecting figures different from one another. Through the detection of repetitive *semes* (parts of the meaning of a word) the isotopies in a text can be identified and, thus, content analysis is enhanced. Since the aim of our research is to detect similarities and differences regarding content in university websites, the notion of *isotopy* will be adopted.

Due to the multisemiotic nature of the genre we are dealing with, our study focuses on

meaning creation through the synergy of image and text. Another concept that is drawn from the field of social semiotics is that of *image-text relation*. According to Barthes (2007:50-59), the iconic message can be divided into a) literal and b) symbolic. This distinction actually refers to the separation of the denotational description of an image from the connotations that it bears. Taking for granted that every image is polysemous, Barthes (2007: 46) suggests that through verbal messages the receiver of the message is directed to the selection of specific signifieds related to the image's signifiers and to the avoidance of others. The verbal message's function in relation to the visual one he called *anchorage* and, elsewhere than in advertising, its principal function is ideological, since the reader is directed to a preselected concept (Barthes 2007: 48). In the light of these notions we can look for the connoted verbo-pictorial messages within university websites and correlate them to their communicative function in each linguistic version.

However, the aim of our analysis, which is comparative in nature, is to look for causal relations and move beyond mere description of convergence and divergence in university website content. Barthes (1957) has argued that besides the two orders of signification, namely denotation and connotation, there is a third one, that of *myth* which usually remains unobserved as it is very often taken for granted. In fact, the major function of myth is to naturalize a concept, a belief (1957:128). According to Barthes, myth comes with communicative intentions and 'its intention is somehow frozen, purified, eternalized, *made absent* by this literal sense' (1957: 122-123). The myth's effects change depending on the context of use. At the same time, myth itself participates in the creation of ideology. According to Barthes, myth doesn't seek to show or to hide the truth when creating an ideology, it seeks to deviate from reality (1957:131). He characteristically claims that 'myth is a value, truth is no guarantee for it' (1957: 122). Adopting the perspective of a mythologist, in Barthes' terms (1957: 128), we will attempt to undo the signification of the myth in university websites and realize the distortion that it imposes on the *myth-consumer*.

Moreover, through the concept of 'semiosphere' (Lotman 2005 [1984]), a central notion of cultural semiotics, analysis can be extended even further. Lotman (2005 [1984]: 205) has suggested that 'only within such a space is it possible for communicative processes and the creation of new information to be realized'. Attempting to clarify the notion of semiosphere, he has suggested that:

any one language turns out to be immersed in a semiotic space and it can only function by interaction with that space. The unit of semiosis the smallest functioning mechanism, is not the separate language but the whole semiotic space of the culture in question. This is the space we term the semiosphere. (Lotman 1990: 124-125)

Web-mediated university communication in a specific socio-cultural context constitutes

a separate semiosphere which interacts with and can be included in the wider European or even a global semiosphere. The boundaries that separate one from the other, as well as possible integration among them, can be examined through the lens of this specific notion. Thus, the notion of *semiosphere* offers a tool for the observation and analysis of the interaction of various semiotic spaces involved in our study and will help extend our research even further.

Research has shown that the cultural parameter plays a significant role in the type of information included in a website, as well as on the way information is presented and interconnected both verbally and non-verbally. Cultural differences in design, on the other hand, have been extensively studied in international marketing research (Al-Olayan and Karande 2000, Albers-Miller and Gelb 1996, Cutler and Javalgi 1992, Tansey and Hyman 1990). Also, research in international interface design has focused on differences in visual representation and website layout in different cultures (Dormann and Chisalita 2002, Schmid-Isler 2000). The culture-specific parameter of colour has also been studied at length both in Human-Computer Interaction literature (Russo and Boor 1993, del Galdo 1990) and in empirical studies (Duncker, Theng and Mohd-Nasir 2000, Barber and Badre 1998). Additionally, several studies have attempted to relate website design to Hofstede's cultural dimensions (Callahan 2011, Charalampidou 2011, Simin, Tavangar and Pinna 2011, Singh and Baack 2004, Dormann and Chisalita 2002, Marcus and Gould 2000, Robbins and Stylianou 2000). All these studies have revealed differences in various levels of website design related to the receivers' cultural background. Thus, British, American and Greek translated websites are expected to differ on the macrostructural level to which our study has been limited.

The corpus of analysis consists both of original websites in English and the translations of Greek websites into English. The present study is part of a wider research which aims to decipher the online identity-making of Greek universities when addressing a non-Greek audience. The English original websites are in fact analyzed as a point of reference for the analysis of original Greek websites and their translations into English. Thus, a translation-oriented approach is adopted focusing mainly on the translation product's adequacy with reference to its communicative goal as posited by Skopos Theory (Reiss and Vermeer, 1984). The translation product (English versions of Greek university websites) is studied through the lens of the concept of functionality and the principle of loyalty as defined in the model suggested by Nord (1991: 28 and 1997: 123-128). In the present paper our research is limited to the comparison of the translated (non-native) Greek websites to original (native) English websites which act as a monolingual comparable corpus¹. Function-oriented parameters to be taken into consideration are the addressed audiences and the macrostructural communication strategies served by the website designers in both native and non-native English versions. The question that arises is whether translated university websites from Greek into English adopt similar or different

strategies of self-projection at the macrostructural level as the ones selected by British and American universities.

Previous research results from a comparative analysis of English university websites, mainly from the USA and Britain, to smaller countries' university websites (Apperson 2015, Tomášková 2015, Callahan & Herring 2012, Simin, Tavangar & Pinna 2011, Bernardini, Ferraresi, Gaspari 2010, Callahan 2006) will constitute a point of departure for the specific research. The Greek locale has been included in two of the above studies but in the first case (Callahan & Herring 2012) the scope of research was limited to the study of linguistic choices in each website while the second one (Callahan 2006) was conducted twelve years ago and major differences have been observed in relation to the current Greek universities' online presence.

Methodology and Corpus of Analysis

The present study moves across the three levels of signification as they have been defined by Barthes (1957). At first, through the analysis of meaning-making on the denotational and the connotational level, we will attempt to answer the question of whether native and non-native English versions of website homepages use similar or different verbal and non-verbal content to portray universities in three different countries. More specifically, our aim is to detect possible *isotopies* (Greimas 1966/1983) within university websites and then study the British, American and Greek linguistic versions in English comparatively in order to find similarities and differences in the choice of website content. The concept of *image-text relation* (Barthes 2007) will allow for the study of multisemiotic isotopic realizations in a university website and will enhance a multimodal analysis at the connotational level. Moving on to the *mythical level* we will attempt to correlate monosemiotic and multisemiotic isotopies to university online identity-making and to the ideology that defines such self-portrayal. The notion of *semiosphere* (Lotman 2005 [1984]) will allow for the comparative analysis of university web-mediated communication in different sociocultural contexts on the mythical level.

The choice of website genre as an object of analysis for such research can be justified by the fact that websites are nowadays used extensively as a basic means of communication not only by private companies for commercial reasons but also by public organizations and institutions. Our study is limited to the homepage, which, according to Gambier and Suomela-Salmi (2007:248), acts as an introductory point to the website's general content and provides the user with the means and the links needed to navigate through it. The authors compare the website homepage to a table of contents which aims to attract and maintain the potential user's attention. Stockinger (2002-2003: 31-33, 47-52, 60-61, 183-190) adds that the homepage is not just the central point of access to information but also the space where the web-

site's identity (representation of the self) as well as the image of the potential receiver (representation of the other) is defined. Similarly, university website homepages mirror the whole website's content and allow for a comparative analysis in different cultural contexts.

Our corpus of analysis has been drawn from World University Rankings for 2017 and comprises of six university websites from the three locales under study, i) California University of Technology (Caltech), ii) Princeton University, iii) Oxford University, iv) London School of Economics and Political Science (LSE), v) Aristotle University of Thessaloniki (AUTH) and vi) National and Kapodistrian University of Athens (UOA). The websites from British and American universities (i, ii, iii and iv) were randomly selected (the first and the fifth in the rankings for each country) while the Greek ones (v and vi) were ranked among the best 1,102 universities in the world.

Multisemiotic isotopies in university websites

Predictably, an isotopy-oriented study of university website design in three different locales reveals both similarities and differences. In American and British universities we detect the repetitive use of several similar isotopies that relate to one another contributing to the coherence of the website. The most prevalent isotopy found in all four universities (Caltech, Princeton, Oxford and LSE) was that of *quality* which can be subdivided into *quality of research*, *quality of teaching*, *quality of facilities* and *quality of working environment*. These isotopies emerge from different semes found in the verbal and the visual semiotic systems. For example, the *quality of research* isotopy, which mainly defines the native English versions' design, is related to semes such as *innovation*, *critical mind development*, *competitiveness*, *efficiency*, *scientific progress*, *knowledge expertise exchange* etc. In other cases, the semes of *innovation* and *critical mind development* are related to *teaching quality*, as we will see in the example that follows. The isotopies detected are realized either monosemiotically or polysemiotically, through the use of text and image. For reasons of economy, we will present only some indicative examples drawn from the British and American websites.

In the Caltech website the user is exposed to various images accompanied by text which realize mainly isotopies related to different types of *quality* that characterize the institution. One such isotopy emerges from the use of the rhetorical figure of pictorial metaphor, which presents animals dressed as humans accompanied by the title 'New Humanities Class Explores Blurry Line Between Humans and Animals: The course takes students on a literary, historic, and philosophical journey through Ideas about what makes a human, what makes an animal, and what makes them different' (Fig. 1).

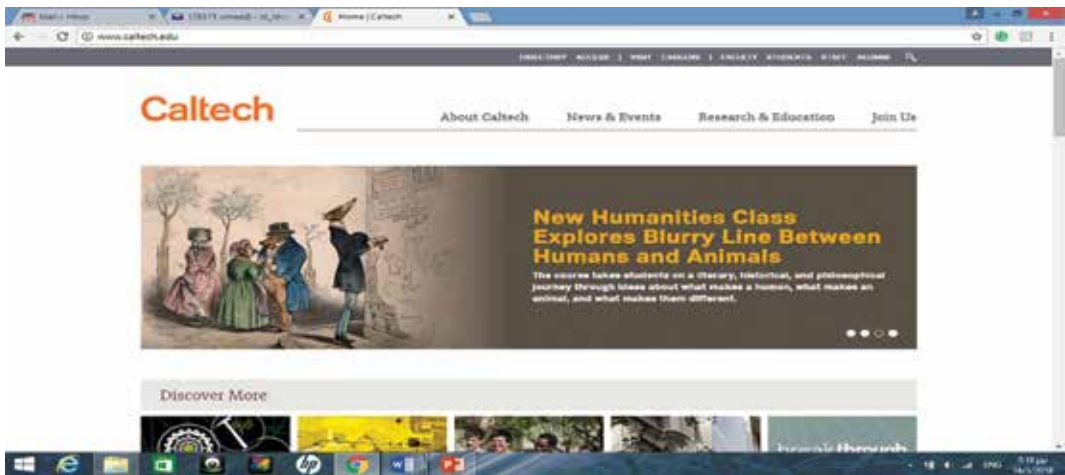


Figure 1. California University of Technology website

The image itself is polysemous (Barthes 2007) and can, thus, be interpreted in different ways. However, through the function of anchorage, the user is led to the meaning intended by the speaker, in this case the isotopy of *teaching quality* which is related to the development of students' *critical mind* as well as to the *innovative* nature of the object under study. In fact, the connotation of *innovation* ('Blurry Line Between Humans and Animals') in the text, is the one that anchors the image and directs the user to select only relevant semes that arise from the optical metaphor. In turn, the image visualizes the object of study and at the same time functions as a decorative element that adds to the aesthetics of the website design and softens the seriousness of the subject. The semantic network that is being created through the use of the above-mentioned isotopies is indicative of the perception of quality in education in the American educational culture in terms of innovativeness and development of critical thinking. The projection of this concept through the website creates, in Barthes' terms, a myth regarding the quality criteria one should set for their education always in line with the specific semiosphere's educational values.

Similarly, the isotopy of *research quality* is very often used in both British and American universities in the 'News' section. In the following example, drawn from Oxford University (Fig. 2), the semes of *innovation* and *research* are the ones that interconnect the semiotic units placed in horizontal order.

Starting from the left side we observe that in the first semiotic unit the isotopy arises from the synergy between visual and verbal semiotic systems. The image itself bears the connotation of *innovation* since it is found in the context of a university website and the text is there to further clarify its meaning leading to the selection of specific meanings found in the phrase 'computer simulations'. In the second semiotic unit the isotopic connections are created main-

ly through the verbal semiotic system ('research network') while the image relates mainly to location ('sub-saharan Africa'). The lexical unit 'network' creates additional isotopies related to other semiotic units in the website, such as the isotopy of *internationalization*, which is very often found in both British and American websites. The specific isotopy is absent in most Greek university websites, as we will see further on. This discrepancy in terms of isotopies could be interpreted as a discrepancy in educational ideology. Although the international character of the institution is highly valued in the American and the British educational culture it is not valorised in the Greek one and, thus, it is not projected. British and American universities address a wider audience and attempt to attract students from different cultural backgrounds. The promotion of an international profile serves this purpose contrary to Greek universities which focus on a more nation-oriented profile as we will see later on.

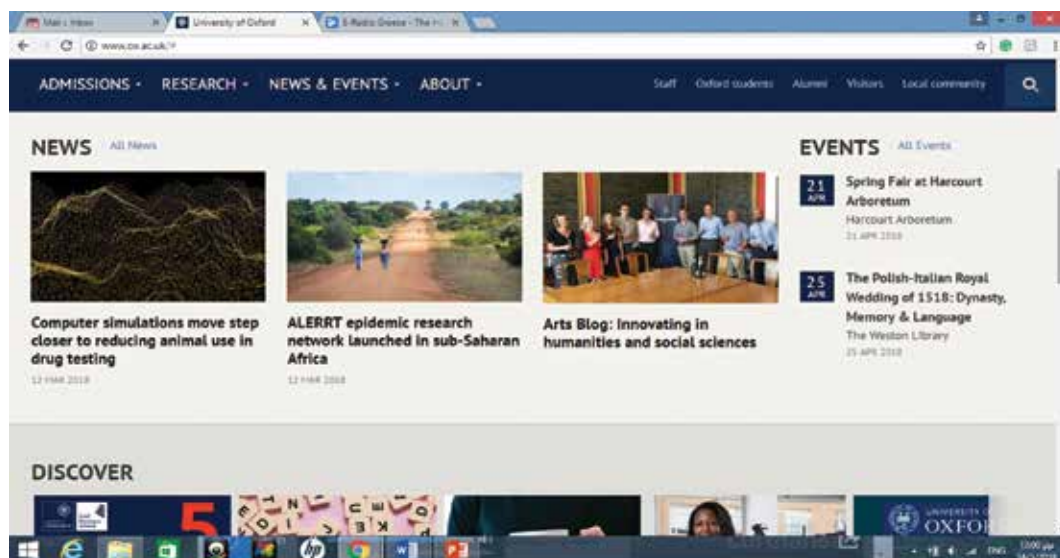


Figure 2. Oxford University website

We should stress that the isotopic interconnections can be numerous but we will attempt to restrict our analysis to the most repetitive ones. The third isotopic unit in horizontal order seems to create an isotopy with the first one through the seme of *innovation* which arises from the textual elements ('Innovation'). All three examples interconnect to create, once more, the general isotopy of *quality*, which runs across the whole homepage of the Oxford website, as well as of the other three native English university websites under study. The fact that quality is closely related to innovation in both British and American university websites is an indication of the way quality in education is perceived in these sociocultural contexts. A future orientation and a quest for the undone and the unsaid is one of the criteria set for quality definition in the two semiospheres.

The isotopic level of *quality* in its various forms is very often related to the isotopy of *respect* from the part of the institution for *women's rights*, *animals' rights*, *diversity* and *recognized academics* who are, in most cases, related to the institution. This last form of respect reaches the level of *honouring* when it is addressed towards people who are no longer alive as we can see in the following examples (Fig. 3 and Fig. 4):

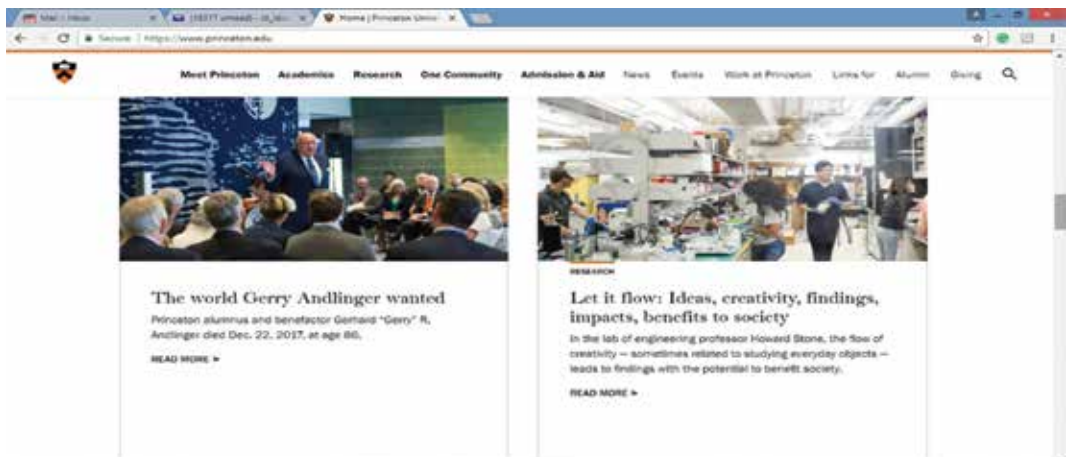


Figure 3. Princeton University website

The isotopy of *respect* in this case (Fig. 3) is related both to *university quality* since the person who is worth the institution's respect is actually a 'Princeton alumnus', as well as to the isotopy of *value of giving*, for the honoured person has donated to the specific university. The reference to the person is visualized through the image where the honoured figure is depicted in complete contrast to the seme of *death* but in harmony to the semes of *offer*, *prestige* and *expertise*. Thus, the *value of giving* isotopy is intensified through the connotation of *reputation after death*. This is also the case in the example drawn from Caltech website referring to Stephen Hawking's death (Fig. 4).

In the example cited, the isotopy of *respect towards a renowned academic* is interrelated with the isotopy of *research quality* in the institution through the phrase 'Stephen Hawking [...] a frequent visitor to Caltech [...]' (Fig. 4). The specific isotopy is repeated further down, in the lower part of the homepage, where it is overtly expressed that Stephen Hawking was one, among other renowned scholars, such as Albert Einstein and Niels Bohr (Fig. 5), of the university's visiting professors contributing, thus, to the website's coherence.

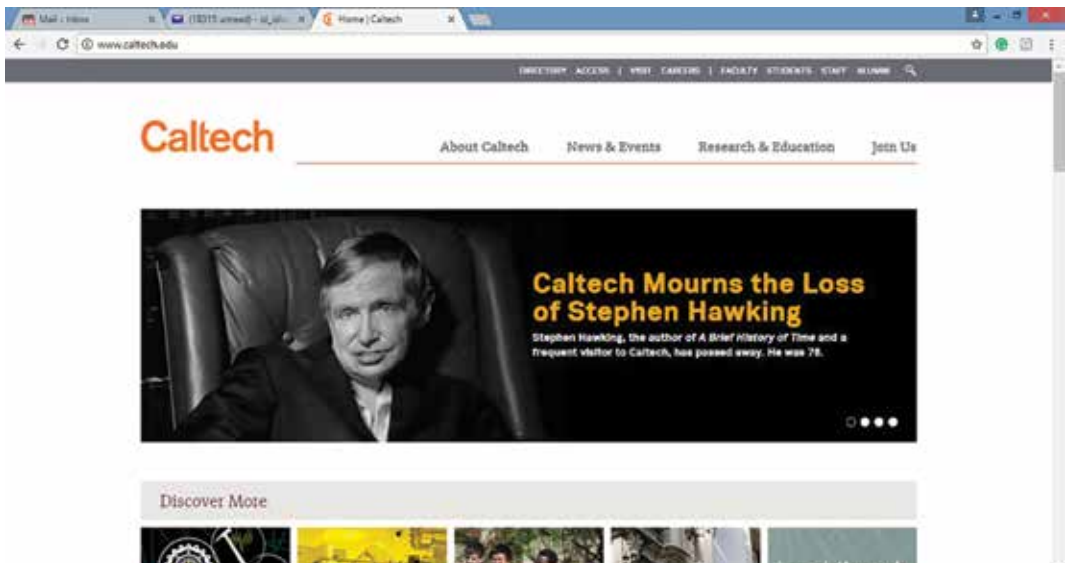


Figure 4. California University of Technology website

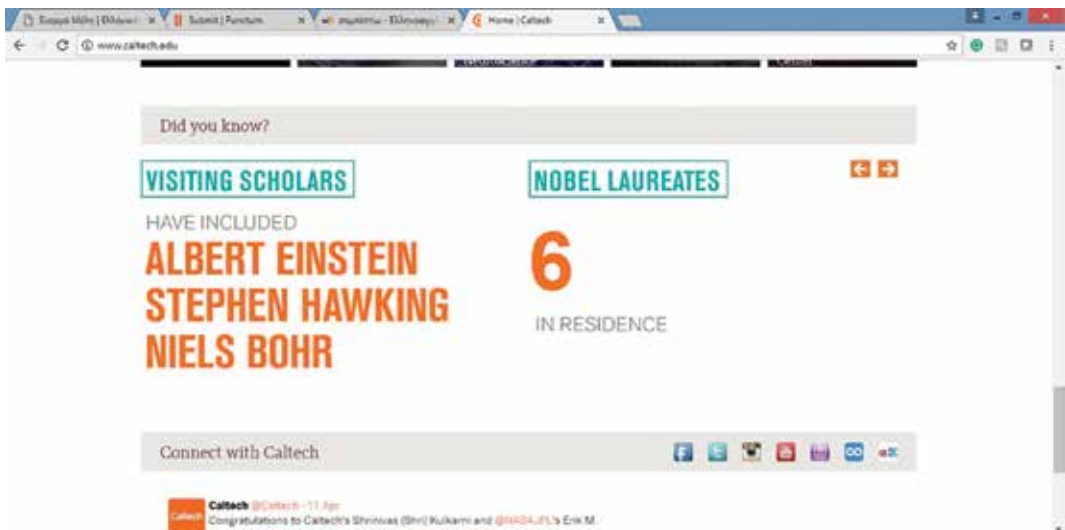


Figure 5. California University of Technology website

It is quite interesting to mention at this point that none of these isotopies actually appear in the English versions of Greek university websites, as it will become evident in the presentation of the relevant websites further down. The emphasis on the notion of *respect* towards human and animal rights as well as towards diversity found in British and American websites, absent though in Greek ones, is closely interconnected to their attempt to build an international profile that would address students around the globe. Additionally, both in British and in

American websites the isotopy of respect towards renowned academics reflects the valorization of academic excellence in both educational cultures and one more space of convergence between them.

The *value of giving* isotopy, as well as the *quality isotopy*, are both interconnected to the isotopy of *societal benefit*. The LSE website is designed in such a way that the user's introduction to the homepage is a simulation of an actual tour around the university's premises which are of high standard and quality (Fig. 6).

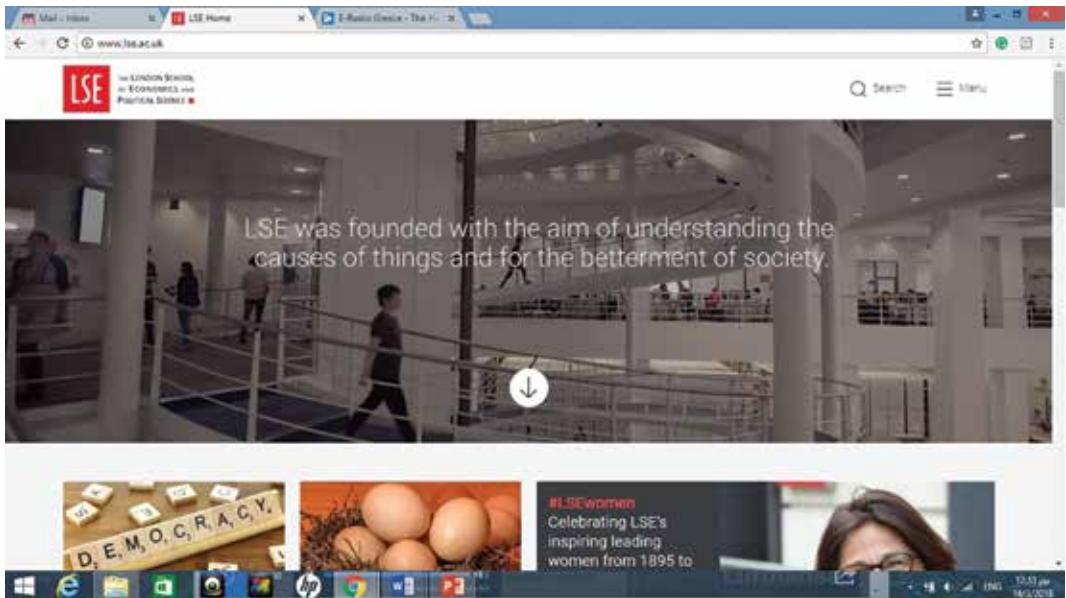


Figure 6. London School of Economics and Political Science website

The visual content is dynamic depicting people walking at the university's corridors. The vibrant atmosphere is supplemented by the textual content which overtly states the university's aim and highlights the isotopies of *scientific benefit* ('of understanding the causes of things') and *societal benefit* ('for the betterment of society'). The synergy of image and text enhances a multiplicity of isotopies to emerge in parallel, interconnecting with the isotopy of *value of giving*, which arises at the lower part of the website (Fig. 7) following the intervention of various isotopies (such as *expertise interchange*, *high quality of teaching and research with an emphasis on future efficiency*, *quality of education*, *progress*, *equal opportunities* etc.) that all lead to a positive image for the institution. Thus, education in Britain is projected as a means to improve society and lead to progress and efficiency. This concept's interconnection with the *value of giving*, which, in this context, is understood as giving to the college for the benefit of the society, justifies both the cost of education as well as the provision of great amounts of money to educational institutions.

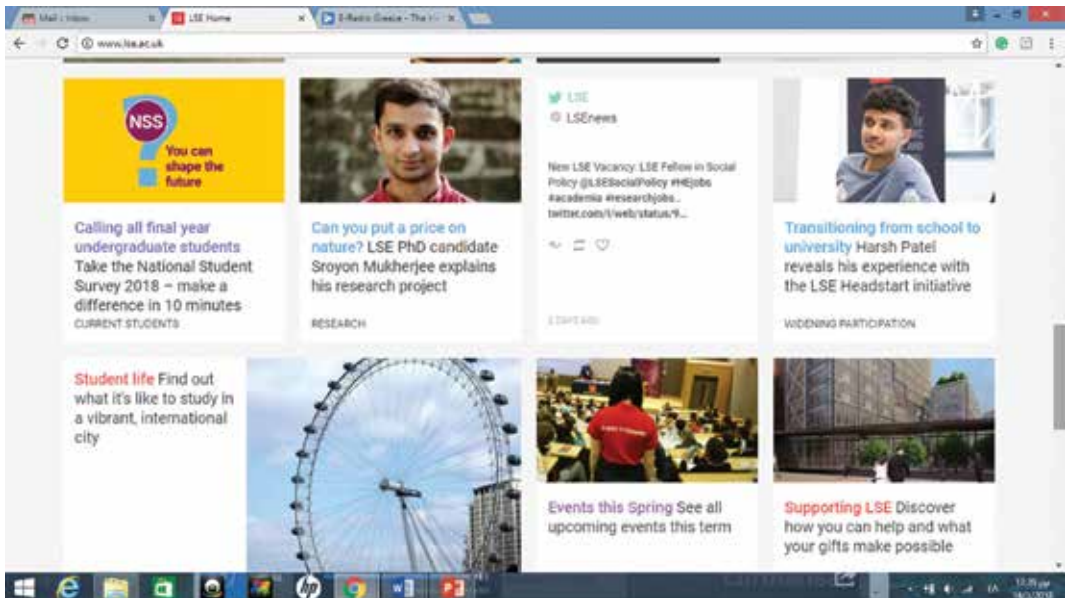


Figure 7. London School of Economics and Political Science website

The isotopy of *respect* is also very often interconnected with that of *innovation in research*. In the example that follows respect for the academic/researcher goes in parallel with the *innovative nature* of her research ('traces evolutionary theory through time') (Fig. 8). The direct link of the researcher's recognized quality to the institution's quality is made through the overt expression that the historian is a member of the Princeton academic staff ('Princeton historian'). This interconnection is also visually realized through the depiction of the historian in front of Princeton classical buildings.

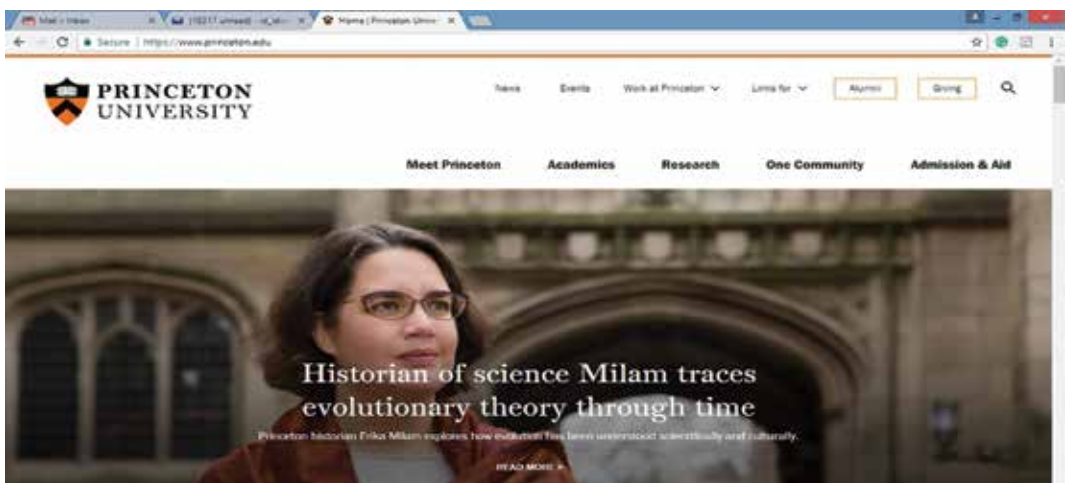


Figure 8. Princeton University website

Also, the fact that the researcher recognized is a woman goes along with the isotopy of *respect towards women's rights*, which has been found in all four English-speaking universities. The interconnection between female figure and innovation in research creates associations with the fact that education played a significant role in women's emancipation and, at the same time, evidences the idea that women are treated equally and given equal opportunities.

One more isotopy that runs across the British and American university websites is that of *equal and massive access to education*, which is interrelated with the isotopic level of *respect* especially for *diversity*. There are various instances in which universities present their programs of study along with an image that depicts students of various nationalities and of both sexes (figure 9) promoting the idea of free movement and of equal opportunities for education to everyone.

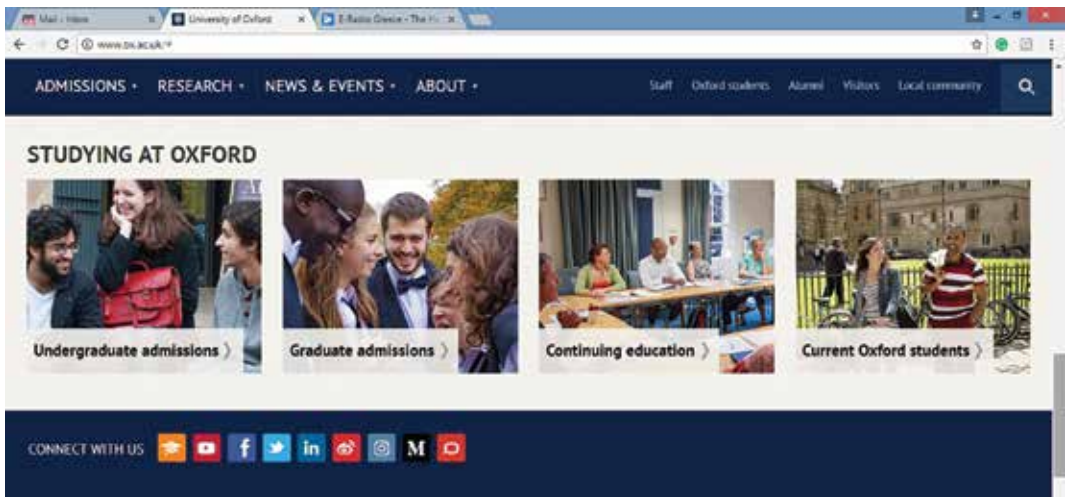


Figure 9. Oxford University website

Moreover, in many cases opportunities for financial aid are given to lower income potential students through links such as *Admissions and Aid* (Princeton University) or news for scholarships (e.g. 'The Swarovski Foundation supports scholarship in Water Science, Policy and Management', Oxford University). In the last case, the isotopy of *equal access to education* is interconnected to the *value of giving* isotopy since the foundation which supports the scholarship is made known to the public through the 'News' section. Contrary to native English university websites, the Greek ones lack completely the *value of giving* isotopy demonstrating a completely different ideological 'horizon' in Greek educational culture. Greek universities are state funded and, thus, finding resources has not been, at least up to now, a top priority. Although resources for Greek universities are very limited and they actually need donations from private resources, this is not projected in any way in the semantic web of undergraduate programme homepages.

The presentation of isotopies and their interconnections can include numerous combi-

nations but what is of interest to our research is whether these isotopies are retained in the English versions of Greek university websites and, if not, what the role of the socio-cultural context is regarding the choice of content.

Prior to presenting the isotopies found in the English versions of Greek university websites (AUTH and UOA) we would like to point out that the homepages are much simpler, especially regarding the website of AUTH, and include less isotopies than the specific genre in native English versions. Before we rush to assume that this is justified by the fact that they do not constitute the original version addressed to a Greek-speaking audience, we would like to specify that, except for the section on 'News', which has been omitted in the English version of the AUTH website, the rest of the content has been retained in both university websites. Although the audience between the original and the translated version is different the content remains identical. It is beyond the scope of this study to analyze comparatively the original and translated versions of Greek university websites but we intend to do so in future research projects.

The first case that we are going to examine is that of the Aristotle University website (Fig. 10). The design of the respective homepage includes a single figure with a plethora of connotations that create isotopies relevant to the *value of knowledge, continuity and longevity of education and knowledge, Hellenicity, antiquity and prestige through the past*. The polysemy of the image which depicts Aristotle holding a papyrus is clarified by the textual content ('Passing the knowledge baton') which leads the user to the selection of semes related to knowledge and education.



Figure 10. English version of the Aristotle University website

In the present example the visual semiotic system prevails over the verbal one, in terms of occupied space, but it is through their synergy that meaning-making is achieved. The isotopies that arise are multisemiotic in nature, since in case one of the two semiotic systems were omitted traits of the meaning would have been lost and the user could have been directed to less relevant interpretations. Although there are links that lead to information on the *university, education, research and life in Auth*, these are not supported by visual content and no emphasis is given on them compared to the native English websites, which included them repetitively in different parts of the layout. The most prevalent isotopies emerge from the website's motto as well as from the image in the background, which together constitute the centre of visual impact and the homepage's main theme. Comparing AUTH's website to the British and American ones it becomes evident that the value of *knowledge* is common but its understanding differs in the three educational cultures. British and American websites refer to *academic excellence, innovation and progress* while in the Greek website emphasis is given on the *past* through the isotopies of *Hellenicity and antiquity*. A vision to revive the past and to reach the level of quality as it was defined in ancient Greece seems to prevail in the AUTH website. The university is self-projected as a space that offers the knowledge of ancient philosophers, that is a wide-ranging knowledge. Thus, the perceptions of what a university is and what it should offer are different in each socio-cultural context as the design of their university websites indicates.

The website homepage of the UOA is very different in terms of format and layout as well as partly different with reference to the isotopies included (Fig. 11).



Figure 11. English version of the University of Athens website

The introductory point of the homepage consists of a multisemiotic unit made of image and text. The isotopies that emerge are those of *value of education, longevity and continuity of education and knowledge, Hellenicity, antiquity, prestige through the historic past and progress*. The image alone, without the contribution of the verbal semiotic system, can lead the user to numerous interpretations. The textual elements right in-between the flag, which is a symbol of Hellenic nationality, and the ancient classical building, highlight connotations related to the impact of Greek education from ancient times up to the present. Even the colouring schemata used in the image reflect the isotopy of *progress and evolution from the past to the present*. The isotopies that arise as the main theme of the homepage are similar to the ones found in the AUTH website.

Moreover, in the UOA website the Greek flag and the ancient building supplementing the text can be related to the isotopy of *nationhood* and to the perception that education serves the nation-state, a notion that is missing from British and American university websites, which mainly focus on their international character. The flag becomes a symbol of the close interconnection and interdependence between education and the state in the Greek sociocultural context contrary to the British and the American model where universities have created very strong bonds with the private sector.

Contrary to AUTH, the UOA website does not focus only on one main theme but relates it to other isotopies such as *modernization, quality of facilities, plethora in knowledge offer* which also bear the seme of the *past* through the black and white colour of the pictures assigned to them as well as the colouring schemata which are repeated in the form of a line and evolve from light brown-grey to light blue.



Figure 12. English version of the University of Athens website

Moreover, the website provides a separate section with the title 'UOA TODAY' where isotopies of *internationality, innovation, research quality, respect and recognition of academics, competitiveness and plethora of knowledge offered* are detected. It is worth noting, however, that the isotopy of *antiquity and past* is repeated among the isotopies that refer to the present, either in pictorial (Fig. 13) or in verbal form ('THE 35th ATHENS MARATHON, THE AUTHENTIC').

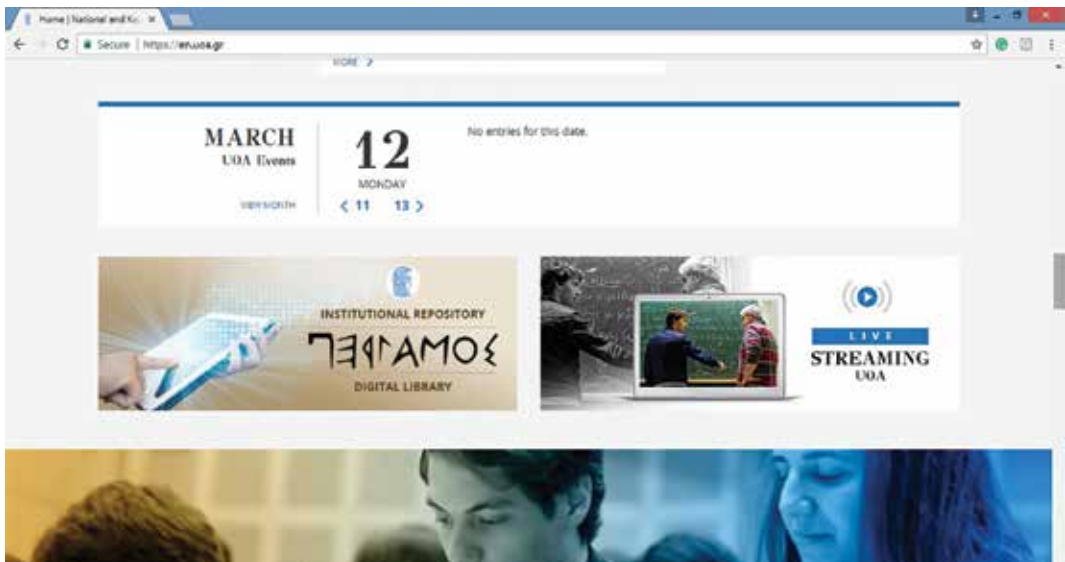


Figure 13. English version of the University of Athens website

The UOA website, contrary to the AUTH website, evidences an oscillation between two different educational cultures. Perhaps this is an indication of a transformation taking place in the Greek sociocultural context regarding the understanding of knowledge and education in general, as well as a movement of the Greek semiosphere towards the British and the American ones.

The interconnections between isotopies can be rambling and very often depend on individual interpretations. The main isotopic levels that are easily identifiable in the websites under study have been presented but we do not claim to have given an exhaustive list since this is beyond the scope of our research. Focus has been placed on isotopies and non-isotopies among different linguistic versions which allow for the interpretation of third order significance in different socio-cultural contexts.

University online identity-making and education ideology

Our analysis on the level of connotations has revealed discrepancies between native English homepages (British and American) and non-native ones (Greek). The divergence on the

isotopic level with reference to online university content depicts the way universities define themselves as well as the way they define their target audience. The isotopies that prevail in British and American websites express the universities' anxiety to project an image in line with the needs of the market. Their emphasis on *quality of research, teaching, facilities and working environment* are indicative of their effort to provide proof of *excellence* which will lead to a high score in external assessments.

In many cases, American universities, in particular, focus on their *participation in competitions, award winning and success*. This derives from the need to highlight their uniqueness and showcase their prominent place among institutions of tertiary education.

It is commonplace in British and American universities to find socially-oriented isotopies next to the isotopies of *quality* and *excellence*. In the four universities that we have studied we found repetitive use of isotopies such as *societal benefit, respect towards renowned scholars* as well as *less-known academics, respect for humans' rights and for diversity*. However, the analysis showed that the *social consideration* isotopy is undermined since, in every case, there is interconnection with the isotopy of *quality* and an emphasis on the objects' direct connection to the university that is being represented.

Moreover, it is characteristic of English-speaking universities that all the isotopies included in their websites are interconnected to the isotopy of *value of giving*. Either in the beginning or at the end of the homepage there is a link through which the user can donate to the university.

The way universities project themselves in their websites is directly related to the socio-cultural context in which they are found and to the external powers that define the way they work. In the US, for example, as well as in the rest of the world, neoliberalism has dominated (Harvey 2005) with resulting cuts to state supported social services and programs, the extension of an economic rationality to cultural, social and political spheres, and the redefinition of the individual from a citizen to an autonomous economic actor (Turner 2008, Baez 2007, Lemke 2001). The privatization and commercialization of previously publicly funded institutions extended to higher education and, as a result, universities became increasingly reliant on private funds (Giroux and Giroux 2004, Slaughter and Rhoades 2004, Hill 2003, Aronowitz 2000). These funding cuts led to ideological shifts in higher education which now defines its priorities on the basis of revenue generation, efficiency and competition (Saunders 2010: 56). Similar transformations have taken place in Britain, where public funding is selective and based upon assessments of performance governed by centralized procedures (Willmott, 2003). According to Brown and Carasso (2013), the public model of higher education in the UK up to the 1980s has been transformed into a system in which market considerations predominate.

The isotopies selected by British and American universities reflect the commodification of higher education and its submission to market rules, similarly to Fairclough's (1993) findings in university brochures. The isotopy of *equal and massive access to education* is usually inter-

twined with fee reductions, given that tuition fees are extremely high due to the dependence of universities on them as a resource of revenue. Instead of free access to education students themselves bear the responsibility of funding their education and are, thus, redefined as customers by the universities.

University online identity-making bears many similarities in Britain and the USA and this seems to be related to similar perceptions of what a university is in these two educational cultures. In Lotman's terms, these two semiospheres seem to come closer to create a unified whole, contrary to the Greek educational culture in which the university is still largely defined through the past. Greek translated university websites into English indicate different ideological conceptions on education related to a separate semiosphere.

In Greek university websites a diverging communication strategy prevails, in line with a different educational tradition. On the isotopic level, the design of the AUTH website reflects a focus on the *value of learning for its own sake*. The design is plain consisting of a single image and the university's motto. The university's *prestige* seems to be self-evident due to associations with the *glory of antiquity* and the emergence of isotopies related to *the value of knowledge, continuity and longevity of education and knowledge* and *Hellenicity*. The university's communication strategy addresses the potential student as a free individual who can choose any field of study rather than as a customer, since there are no tuition fees involved, at least on an undergraduate level, and the university is mainly funded by the government. Thus, the university is self-projected as a place where knowledge and education are generously offered without expecting any rewards.

Greek universities were founded on the basis of the Humboldtian model, which promoted holistic academic education and freedom of research (Tzikas, 2006). Humboldt developed the idea of the research university which is autonomous, unbiased and independent from ideological, economic, political or religious influences, in which the role of the state is to ensure that scholars can pursue knowledge without the intervention of sectoral interests (Neave 2006, Humboldt 1810). The Humboldtian model comes into complete contrast with the neoliberal model, adopted by British and American universities, in which higher education is seen by the state as a key area for policy intervention, promotion of specific social and political objectives and above all stimulation of economic growth in a global world through its connection to the needs of the labour market (Wittrock 2006).

These two contrasting models seem to represent the contemporary understanding of purposes and quality in higher education. It seems that the Humboldtian and the neoliberal models represent the two current conceptions of higher education, the one as a public good with the emphasis on the social aspect, and the other one as a commercial service with the emphasis on the economic aspect.

In the UOA website the university's identity-making reflects similar ideological conceptions to those reflected by the AUTH website, since at the introductory point, the values pro-

moted fit the Humboldtian model. However, scrolling down the website we also find isotopies such as *quality* and *modernization* which are indicative of the university's intention to identify itself with *excellence*. According to Mavrikakis and Piryiotakis (2017) the terminology used for education has changed and terms like *equal opportunities*, *compensatory education* and *social justice* have been replaced by terms like *excellence*, *efficiency* and *competitiveness* which define educational goals in a completely different way. Passias (1995) has stated that, in the context of European policy on education, educational systems have been adapted to fit a convergent and common educational space. This type of educational policy comes in contrast to national autonomy as it promotes a supranational and international educational space.

The Hellenic University Rectors' Synod (1992) stated that Greek universities are characterized, among other things, by academic freedom, administrative autonomy and free transfer of ideas. However, in 1999, Greece as a member of the European Union, signed the Bologna Declaration which can be seen as restructuring higher education along Anglo-American ideas of higher education (Hohendanl 2011).

The example of the UOA website is indicative of transformational tendencies in higher education ideology in Greece. On the one hand, the past is celebrated, while, on the other, an attempt is made to exhibit excellence. Due to the drastic reductions of government funding towards Greek universities their priorities seem to be changing. Indicative of this tendency is the imposition of tuition fees for postgraduate studies. In these cases, the relationships developed between the organization and the potential student are being transformed resembling more those of a provider and a consumer.

Conclusions

The semiotic space of website genres seems to intersect with the semiotic space of society and culture. The isotopic level in each linguistic version cannot be interpreted and understood out of its socio-cultural context. The semiosphere of university web-mediated communication is being transformed through the interaction of its constituting parts which represent the way universities project themselves in various contexts. University online identity-making bears many similarities in Britain and the USA, but ideological conceptions on education in Greece demarcate a separate semiosphere. Recent transformations in the socio-economic situation in Greece and the country's participation in the Bologna Declaration are leading to a scaling down of this difference. The Greek university seems to oscillate between the academic and the business model. The question that arises is whether non-Anglo-American semiospheres, such as the Greek one, will move closer to one another to create a homogenized whole or whether they will resist and keep their borders intact to the extent they have the possibility to.

NOTES

1 The category of multi-source-language monolingual 'comparable' corpus, consists of two sets of texts, one originally written in language A and one of similar texts translated into language A from a variety of different languages (Laviosa 1997, Baker 1995, 1996). Zanettin (1998:1) states that 'Its value is mainly theoretical, what is investigated is the linguistic nature of translated text, independently of the source language'.

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‘Can you read this? Are you hip?’ — Rick Griffin’s experiments on the edges of writing

Robin Fuller

Rick Griffin was a leading figure of the psychedelic design movement in late 1960s San Francisco. This paper argues that although not an overt theorist, in his lettering for posters and comic books, Griffin reveals aspects of the visual semiotics of writing that provide insights for the semiotic study of graphically-embodied language. Griffin was preoccupied with the visual substance of writing. Not only was Griffin a student of myriad styles of letter (including, cholo graffiti, comic book lettering, Jugendstil and Victorian typography), but he was also preoccupied with how writing functions and how letterforms attain meanings. Through an analysis of Griffin’s comic book and poster lettering, this paper will discuss aspects of the visual semiotics of alphabetic writing including: the relationship of embodied tokens to alphabetical symbols, the socio-semiotic function of styles of letter, and lettering as aesthetic signification.

KEYWORDS graphic ideologies; aesthetic signification; the alphabet; lettering; psychedelic design

Introduction

Rick Griffin was an artist, illustrator, graphic designer, and comic book author central to developments in psychedelic poster design and underground comics (or ‘comix’) in late 1960s San Francisco. Of the psychedelic designers, Griffin was not only the most formally innovative, but also the most semiotically experimental. Griffin’s work demonstrates a highly idiosyncratic style of lettering and an experimental approach to conveying meaning through letterforms.

In the introduction to the English translation of Gerard Genette’s *Paratexts*, Richard Macksey (1997: xi–xii) describes novelist Laurence Sterne as the ‘pioneer anatomist of the physical body of the book’; not only a novelist but a ‘theorist in jester’s motley’. Griffin was something similar: through his experimental lettering, exploring the outmost territories of

writing, Griffin was not simply a graphic artist but someone who studied the visual semiotics of written language, not as an overt theorist, but as a *grammatological adventurer*. Not only was Griffin a master of the craft of lettering, but he was also preoccupied how writing functions and how letterforms convey meaning. Yet, as an adventurer rather than a theorist, Griffin was not systematic: therefore, the discussion below will touch on a variety of semiotic issues, including: the semiotic structure of the letter; socio-semiotics of lettering; and aesthetic signification.

Section one provides background on the psychedelic poster scene. Section two models aspects of the semiotic structure of the letter. Having established these contexts, section three discusses the socio-semiotic function of illegibility in psychedelic poster design, and section four analyses Griffin's aesthetic idiolect in detail. Finally, some provisional remarks are included on Griffin's approach to imagery as it relates to his approach to lettering.

1. The psychedelic scene

Rick Griffin, along with Alton Kelley, Stanley Mouse, Victor Moscoso and Wes Wilson, are collectively known as the 'big five' of San Franciscan psychedelic poster design (Criqui 2005: 14). Beginning around 1966, they designed posters for LSD-fueled dance concerts in San Francisco that would have a huge impact on design and visual culture. Their posters were designed primarily for concerts promoted by Bill Graham at The Fillmore and Chet Helms' Family Dog at the Avalon Ballroom.

While each of these designers had their own style, in general psychedelic posters shared the following characteristics: they were dense and highly ornamented, opposing the then dominant international/modernist style; they featured hand-rendered lettering rather than typography (apart from small print at the bottom of the design) and the lettering was frequently difficult to decipher; finally, colors were intense and highly-contrasted, often featuring two vibrant colors from opposite ends of the spectrum, so as to produce an optical illusion of vibration. Such ornamentation, fluid lettering and intense color were facilitated by the use of offset-lithographic printing which allowed for the reproduction of meticulously-rendered drawings in which lettering and pictorial elements were fluidly combined and (although at times labor intensive) gave great freedom in the use and combination of color (Binder 2010). In addition to the above characteristics, the posters often included appropriated and combined art- and design-historical materials as well as historical photography.

The influence of Art Nouveau/Jugendstil/Vienna Secession on San Franciscan psychedelic poster design has at times been overstated.¹ This (mis-)perception is most likely due to the work of one of the big five designers — Wes Wilson — who frequently combined Art Nouveau-like imagery with a style of lettering derived from Secessionist designer, Adolf Roller

(Tomlinson 2005: 123, 132 n. 5). Wilson's formulaic approach to lettering and design was emulated by lesser psychedelic designers (Peterson 2002: 312), including Bonnie McLean and Detroit-based Gary Grimshaw; and later, Wilson-like lettering appeared in commercial design beyond the psychedelic scene (Terry 2017: 43). However, for the other four of the big five, Art Nouveau was but one of many sources.²

Colleen Terry (2017: 38) argues that psychedelic design's adoption of Art Nouveau is best understood as part of a postmodern design strategy in which 'poster artists "sampled" a variety of popular and cultural sources'. Such materials included, food packaging design, comic and cartoon imagery, Victorian typography, and photography recycled from contemporary magazines and turn of the century sources (Peterson 2002).

If one graphic style and theme predominated, at least in the initial phase, it was not Art Nouveau, but the Wild West. The poster which is said to have initiated the psychedelic design movement — referred to as 'The Seed' — was a 1965 poster for The Charlatans designed by band members George Hunter and Michael Ferguson (Terry 2017: 31). The Seed established the theme of a romanticized American West, through its combination of hand-rendered interpretations of late nineteenth-century wood type letters, Victorian ornament and depictions of The Charlatans in turn-of-the-century garb. The San Franciscan designers pursued and developed this theme, appropriating motifs and structures from turn-of-the-century American commercial graphics and using Western imagery — often Native Americans standing as (racially naïve, by today's standards) symbols of opposition to the dominant consumer capitalist society.

By 1968 this theme and style became less central, or was mutated beyond recognition. The lettering styles of both Griffin and Moscoso — the two most original and innovative letterers of the big five — began in interpretations of Victorian typefaces (see Figure 1).³

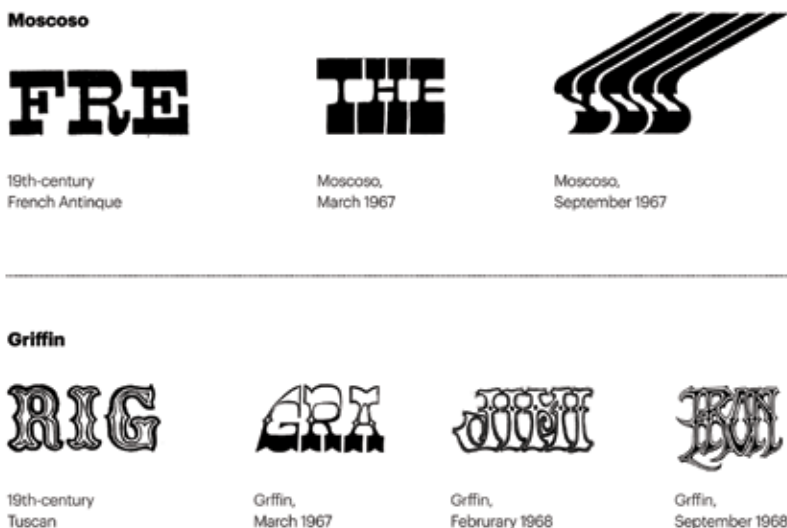


Figure 1. Nineteenth-century typographic sources of Moscoso and Griffin's lettering

Moscoso's signature lettering derived from reverse-stress 'French Antique' typefaces. Moscoso exaggerated the top and bottom emphasis, packed horizontally-compressed letters closely, and warped the letters into undulating patterns. Griffin's lettering style derived from ornate, spiked-stem nineteenth-century typefaces (such as the 'Tuscan' style). He then processed this style through Jugendstil whiplash curves and the angular distortions of cholo graffiti, mutating the alphabet into spider-leg and tendril forms.⁴ To this he added multiple outlines and three-dimensional projection. As we will see below, Griffin developed highly-intricate letters, in which the skeletal bases of letterforms became submerged in style, and at times, completely disappeared. But first: what is a letter?

2. The semiotics of the letter

Although commonplace, letters are nevertheless peculiar in semiotic terms.⁵ When we think about how letters communicate, we most often consider letters in terms of the systems (usually orthographies) in which they are used. But there are many systems that use letters in which they have different functions (orthographies, mathematical and logical notation, license plates, etc.), therefore a letter has a semiotic existence structurally independent of any system in which it is exploited. It is this level that is of concern here.

Most basically put, a letter is a *symbol* in the Peircean sense — recognized and understood through established convention. As a symbol, a letter exists outside of any instance of its embodiment. A particular rendering of a letter is a *replica*, or *token*, of that symbol. It is in the relationship of token to symbol that letters are unusual.

In order to be recognized, a token must adhere to characteristics of what Umberto Eco (1976: 245) calls the *type*: 'a type [is] a set of properties that have been singled out as pertinent, the token is obtained by mapping out the elements of the original set in terms of those of the token set'. Embodied letter tokens stand to their type in what Eco calls 'ratio facilis', meaning that the 'expression-type establishes some features pertinent, and some others as variable and inessential for isolation of the given unit' (184). To approach it from the opposite direction, we can say that the token may include properties that are not proper to the type.

To provide a concrete example: in the case of a typical uppercase <A> we could list the following three properties of the type: from an apex a diagonal slants leftward, another rightward, and a horizontal line joins the diagonals (see Figure 2).

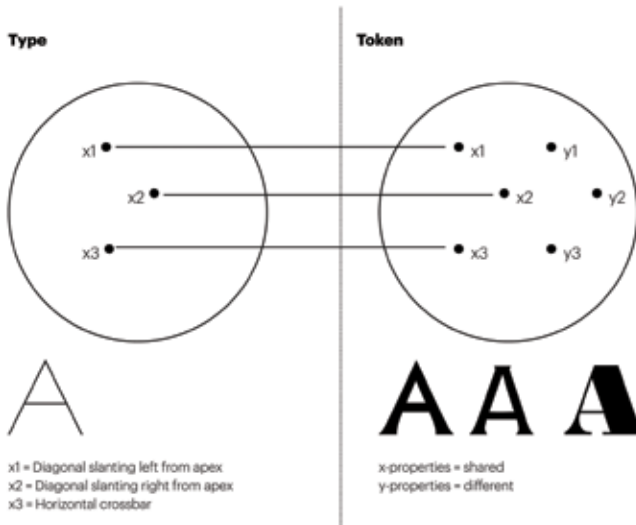


Figure 2. Type/token ratio in letters

While tokens will generally adhere to this, there will be additional characteristics in each actual embodied token that are not essential to the recognition of the type, such as weighted strokes, serifs, and variations in line quality.⁶

It does not take lengthy reflection to realize that this discussion of type/token relationship is an incomplete account of the embodiment of a letter symbol. There are and have been many 'types' of <A>, both diachronically (and many historical versions of <A> would not be recognized today), as well as synchronically — the uppercase <A> and lowercase roman <a> and italic <a> (see Figure 3)

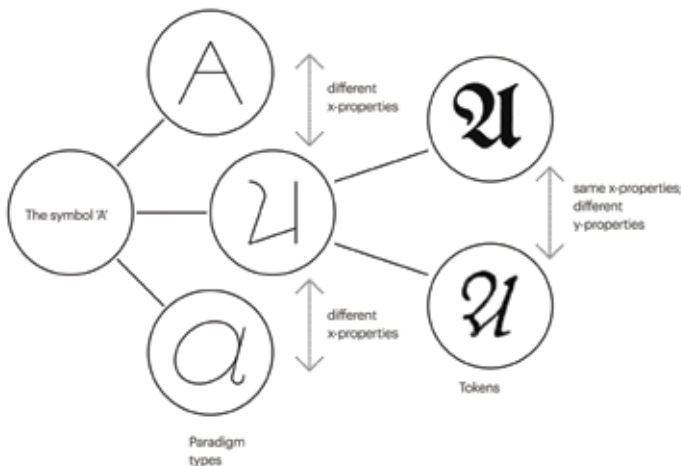


Figure 3. Symbol, type, token

These synchronically co-existing types are not simply 'graphetic' variants (akin to the subtleties of variation across individuals' handwritings), but established paradigms. Admittedly, such paradigms are soft edged — the result of a 'composite photograph' of prior tokens, as Peirce might say. Yet, they are sufficiently synchronically established to provide the model that each new token approximates. Therefore, the letter, as symbol, is a sheer abstraction — its realization as a token is mediated by a paradigm type.

Let us call those properties pertinent to the recognition of the type *x-properties*, and those properties of the token that are not essential to the type, *y-properties*. In so far as letters function in writing systems, they function at the level of *x-properties*: what matters is the recognition of the type, not the specifics of the token's substance. But *y-properties* allow letters, even when used within an orthography, to partake in extra-orthographic semioses. Figure 3 shows three schematic renderings of types of <A>: on the top a roman uppercase, at the bottom an italic, and in the middle a now more or less defunct 'u'-like <A> that once served as the paradigm for German Fraktur and Irish typefaces. Each of these paradigm types of the same letter has different *x-properties*. On the right we see two tokens of the 'u'-like type (German above, Irish below), which generally share the same *x-properties*, but are stylistically different due to differences in *y-properties* (e.g. the German <A> has heavier strokes).

Such *y-properties* are rarely independent to each token — usually a token embodies a type according to a particular stylistic program, such that many *y-properties* of an individual token are shared by a full alphabetical set. Figure 4 shows two Fraktur characters (<A> and <P>) which differ in *x-properties*, but share the following *y-properties* commonly found in Fraktur typefaces: vertical stress, 'broken' curves, and 'schnörkel' flourishes.

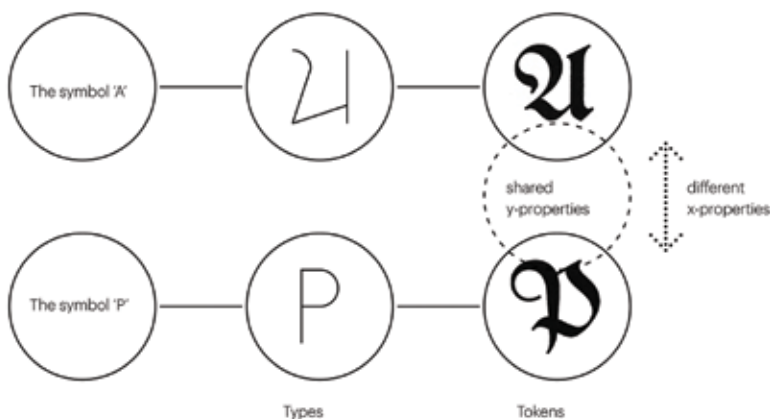


Figure 4. Shared *y-properties*; different *x-properties*

In this way, we can see that *y-properties*, although often more nebulous than *x-properties*, can also be analyzed into sub-units. In section four we will see that Griffin has a tendency to

mask x-properties with a superabundance of y-properties, and that sometimes he even isolates and shows y-properties independent of x-properties.

3. The socio-semiotics of illegibility

One approach often taken in the analysis of the visual semiotics of letterforms is to attribute semantic connotations to stylistic features (y-properties).⁷ Perhaps Griffin's tentacle-like lettering could be said to connote a certain atmosphere or tactile experience, and certainly they convey the visual distortions produced by hallucinogenic drugs. However, as Jurgen Spitzmüller (2012) has argued, we should avoid the temptation to move from such an observation to an attempt to establish general principles about how specific aspects of letterforms convey meaning. The extra-orthographic meanings attributed to graphic aspects of lettering are established in particular social contexts, and therefore

it does not make sense to set up a context-abstract 'grammar' of visual elements or to look for distinctive semantic characteristics of specific graphic features. Due to the dynamic nature of graphic elements, such attempts are bound to fail. (Spitzmüller 2012: 258)

Instead, Spitzmüller proposes that we investigate 'the socio-semiotic values attributed to given graphic elements [and] the actual use of such elements'.

In a short span of time, the style developed by the psychedelic poster designers was co-opted and diluted by mainstream consumer culture and advertising (Heller 2002: 16). Yet, initially the posters were targeted at a very specific community — the youthful counterculture concentrated in the Haight-Ashbury area of San Francisco as well as the students of Berkeley campus (Peterson 2002: 311). As densely-populated and pedestrianized areas, posters and handbills were the appropriate media for communicating with this audience (Terry 2017: 48). As Scott Montgomery (2012: 366) has put it, 'within the matrix of the San Francisco counterculture, there [was] a close relationship between psychedelic style and countercultural self-identification'. Therefore, the interesting question in relation to the lettering used on psychedelic posters is not simply how is it that styles (or aspects) of letters convey meaning, but rather how did the particular lettering strategies used in psychedelic posters communicate with this group? Or, in Spitzmüller's terminology, what were the *graphic means* of the psychedelic countercultural *graphic ideology*?

One of the things most frequently noted by design historians about the lettering of psychedelic posters — particularly, but by no means exclusively, those of Griffin — is that they are difficult to decipher, and 'only legible to the initiated' (Montgomery 2012: 367). For example,

Philip Meggs, in *History of Graphic Design* (2012: 449), notes that 'respectable intelligent businessmen were unable to comprehend the lettering [...] yet they communicated well enough [...] with a younger generation who deciphered, rather than read, the message'.⁸ Moscoso has directly stated that this use of lettering to distinguish audiences was intentional — the posters asked their viewers 'can you read this? are you hip?' (in Rudick 2015).

What is clear then, is that such highly-stylized letters, though difficult to read, are nonetheless serving a communicative function — they not only target a particular audience, but exclude another, and thereby partake in the construction of the counterculture identity as defined in opposition to the 'straight' mainstream culture. To borrow Spitzmüller's words, designers who use this approach in their lettering 'presuppose that the anticipated addressees share their graphic knowledge and that they understand their semiotic hints' (268).

The above explains the function of illegibility in psychedelic posters, and in this regard psychedelic poster design shares characteristics with other subcultures in which the stylization of letterforms is an integral aspect of the visual expression and embodiment of that identity. Such 'alphabetical identities', as they might be called, include the Death Metal music scene (Van der Velden 2007), in which many band logos are heavily ornamented to the point of illegibility, as well as various graffiti subcultures including New York hip hop graffiti, São Paulo's pixação (Chastanet 2007), and Californian-Mexican cholo graffiti (Chastanet 2009).

4. Griffin's aesthetic idiolect

In section one we saw how turn-of-the-century American commercial and vernacular graphic design and Wild West themes were initially central to psychedelic poster design. Griffin's first psychedelic posters were very much in this mode — imagery of gold prospectors and Native Americans populate compositional structures appropriated from turn-of-the-century posters and product labels, in a kaleidoscopic carnivalesque. His lettering in 1966 and early 1967, similarly, involves combinations of multiple nineteenth-century lettering styles interpreted in a fluid and organic manner.

By 1968, these themes receded, as Griffin synthesized these and other influences and developed a unique repertoire of imagery and style of highly-ornamented letters. Unlike Wilson's lettering, Griffin's style was not easily adopted by others (although Kelley and Mouse at times used a simplified version of his style).

As Griffin's letters were idiosyncratic, the labor involved in decoding them cannot simply be explained as involving subcultural graphic shibboleths deployed and read by all members of the community, as could be said of certain graffiti cultures. Griffin — unlike a cholo or pixação tagger — was not partaking in a generally-adopted style, but following his own creative path in lettering. While the illegibility-as-such of his letters established rapport with the intended

audience, decoding Griffin's lettering requires familiarity with this individual artist's *oeuvre*. For this reason, they require assessment in terms of *aesthetic signification*, in the precise sense defined by Eco:

an aesthetic text involves a very peculiar labor, i.e. a particular *manipulation of the expression* [...] this manipulation of the expression releases [...] a *reassessment of the content* [...] producing an idiosyncratic and highly original instance of sign-function. (Eco 1976: 261)

While Eco was primarily discussing literature, we can apply this to other artforms, including *the art of lettering*. To do so, we must first distinguish the *content of writing* from the *content of the art of lettering*.

In so far as tokens operate within a writing system, we generally pass immediately to the linguistic content encoded in letter-tokens. But the art of lettering (as opposed to the everyday use of letters in writing) is one of formal developments in token design, such that the token is the *expression*, yet the *content* is the paradigm type that the token embodies. To quote Eco again,

A violation of norms on both the expression and the content plane obliges one to reconsider their correlation [...] In this way, text becomes self-focusing: it directs the attention of the addressees primarily to *its own shape*. (Eco 1976: 264)

In the art of lettering, 'shape' is very literal. Griffin's mature style of lettering (prevalent from 1968) involves a superabundance of γ -properties irrelevant to (and an obstacle to recognition of) the type (see Figure 5).

The spiked stems and split baselines of Tuscan are extended into meandering tendrils of equal weight and length to the core strokes of the letterforms, which are themselves mutated into angular structures, thereby undermining the distinctive differences of each type. Frequently, a sharply-receding central perspectival projection further undermines each letter's distinctiveness by bonding the entire string of tokens into a solid three-dimensional unit. This excess of γ -properties demands a reader willing to decode the type from the token; and this process brings to the reader's attention the normally unquestioned and invisible process of type recognition. We are dealing with an 'ambiguous and self-focusing text' (Eco 1976: 262).

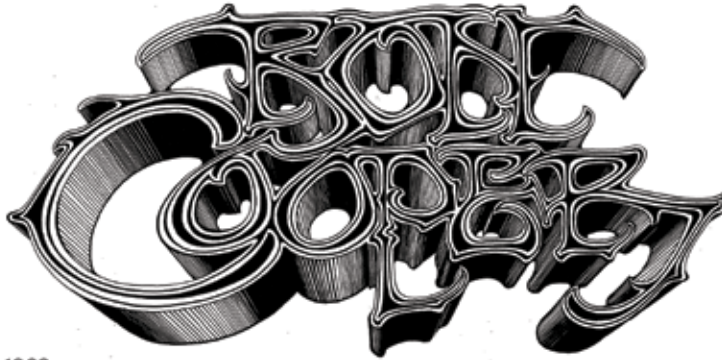
Griffin's lettering, therefore, *anticipates* or *presupposes* an engaged reader familiar with his *aesthetic idiolect* — an addressee who will labor for the *aesthetic enjoyment* found in exploration of the sub-codes at work in the expression. Decoding the lettering — finding the types within the highly-ornamented tokens — is a game established by Griffin that the viewer enters.

Griffin was very conscious of the game-like nature of decoding. In the 1968 masthead to the alternative magazine, *Promethean Enterprises* (Figure 5, bottom), we encounter what at first appears to be lettering in Griffin's mature style, with the usual whiplashing mesh of tenta-

cles and three-dimensional projection. Its position at the top of the magazine cover indicates that it must be a masthead, and so the name of the publication is anticipated. Yet, close scrutiny reveals that the 'lettering' in questions is in fact a gibberish of *pseudo letters* — the game of decoding is only completed upon the reader's realization that there are no types to be revealed beneath the encasement of *y-properties*.⁹



1972



1969



1968

Figure 5. Griffin's aesthetic idiolect.

No embodied token can perfectly reproduce a paradigm and a paradigm alone. Every token is the result of specific events and decisions, and therefore even the most schematic renderings of *x-properties* (such as the skeletal representations of paradigm types shown in

figures two to four) carry their own y-properties. It would also seem natural to assume that y-properties without x-properties should also be impossible — one cannot stylize a letter without a letter being present — but Griffin provides counter evidence.

Griffin's most sustained interrogation of the visual semiotics of writing occurs in his 1972 comic book, *Man from Utopia*. Following several pages of ambiguous imagery — in which spermatozoa and mute speech bubbles swim and swarm in amniotic fluid and vulvic folds — the following occurs: two pages of what appears to be text, presented in two columns subdivided into paragraph-like blocks, with additional seeming title and caption areas. The 'text' in question is in fact a series of up-and-down zigzagging lines. Its spatial arrangement and general pattern allows it to be recognized as writing, however it is writing in a pre-formed *in utero* state — the meaning potential of textual distribution (layout) has been formed, but not yet the graphically- and communicatively-precise elements of the alphabet.

After several more pages the 'story' resumes. This time, however, the 'text' has developed. No longer simple zigzags, the meaningless textual pattern now features (somewhat) more clearly-differentiated shapes, and (*significantly*) has developed the y-properties of Fraktur blackletter — vertical emphasis, forty-five-degree angles, broken curves — and even umlauts, yet still no discernible letters. As we know, Fraktur is associated with German national identity, and therefore can, and has, been associated with Nazism.¹⁰ Griffin exploits this connotation, and 'illustrates' his text with warmongering horses and eyeballs garbed in galea and Stahlhelm, bombarded by cannonballs and spermatozoa careening in chaotic orbit around a central swastika.

Yet, on the next spread the associations are different. The still Fraktur-styled pseudo-text is now complemented on the verso page by a title reading 'Passionetta' rendered in Griffin's signature style, accompanied by an image of a dagger and heart garlanded with roses and wrapped in a ribbon reading 'Madre'. Blackletter is also deeply ingrained in Mexico (Paoli 2007), and in this context can connote gravitas and tradition. These are precisely the connotations the y-properties exploit on this and the recto page, upon which a skeletal Virgin Mary with a labial hood and ovular halo appears.

What is happening? What Griffin has done here is, firstly, to isolate formal qualities of styles of letter, independent of letterforms and, secondly, to show that these formal properties do not inherently carry semantic values. Rather, in his own explorative way, Griffin confirms and enacts the analysis of Spitzmüller (albeit forty years in advance): styles of letter come to mean what that mean through cultural association.

5. Image as (illegible) text

The subject of this article is Griffin's approach to lettering. However, some points can be made in relation to Griffin's use of imagery here, in so far as his pictorial strategies relate to his

strategies in lettering. As a comic-book artist and poster designer, for Griffin text and image are not binarily opposed. This, of course, is not unique to Griffin. As David Scott has shown,

[in posters] when text and image meet on the same sheet of paper [...] they tend, in a process of mutual contamination [...] to borrow from each other elements of structure and articulation. So the text, whose semiotic status is primarily symbolic and arbitrary, begins to change into an icon, that is an image which, benefiting from a certain spatial liberation, tends to reproduce in part the form of its object. On the other hand, the image begins to become fragmented to facilitate a more logical or syntactical disposition of the spatial elements that constitute it. (Scott 2010: 13)

Griffin's earlier posters show a preoccupation with legible images with fixed symbolic meanings, such as heraldry and the motifs of US currency (McClennan 2002: 18). One of the ways in which Griffin blurs the distinction between text and image in his earlier psychedelic posters is through the use of rebus signification, wherein the object depicted does not function as a simple icon, but instead stands for the phonetic value of the name of the object (Harris 1986: 32–34). Griffin's 'Goldrush' poster of 1967 features a central image of a Native American man smoking a joint sitting in a large pot with wings. The rebus/pun is clear: the poster is not about flying receptacles, but rather the 'pot' is to be read for its sound value — 'pot' being American vernacular for cannabis, appropriately winged in order to get 'high' (Medeiros 2001: 75).

Griffin's approach to textual content is unusual in its pursuit of illegibility and its, at times, complete meaninglessness. In his mature style, just as his lettering becomes increasingly ambiguous so too does his imagery. By 1968 he had developed his own symbolic-iconic repertoire — including flying eyeballs, beetles, hearts, skulls, snakes, Hopi masks and reproductive organs (often presented as graphic puns such that skulls become phalluses or the sun becomes an ovum, as in his design for the Grateful Dead album *Aoxomoxoa*). The placement and repetition of these motifs suggests that they should not simply be viewed as icons, but read as legible symbols. However, much like in his pseudo letters, a fixed signified is suspended. In a manner somewhat akin to Belgian surrealist Paul Delvaux — who appropriated the appearance of the symbolism of academic painting, yet evaded final signifieds¹¹ — Griffin apes the look of unambiguous symbolism in pursuit of ambiguity.

Conclusion

Steven Heller (2002: 71) has argued that Griffin was 'among the most innovative — and visionary — of all the underground letterers'. Griffin's visionary innovation resides not simply in the daring originality of his letterforms, but in his experimentation with the communica-

tive potential of the alphabet. Griffin does not simply knowledgeably exploit the connotative potential of styles of letter, but tests and plays with this potential — as his modulation of the connotations of Fraktur (from Nazi and destructive, to Mexican and traditional) across the pages of *Man From Utopia* demonstrates. He does not simply deploy a complex style of letter in order to communicate with a community with a specific graphic ideology and exclude another; but, with great wit, Griffin metalinguistically comments upon this phenomenon by pushing it to the extreme through the use of pseudo letters.

In recent years semioticians and sociolinguists have begun to pay more attention to how language functions in its graphic manifestation. But this is a new approach (or several new approaches), not a new area of study. Palaeographers, printing historians and typography theorists have long studied this subject. And that is not all. This investigation into Griffin's lettering shows that for those of us interested in the semiotics of graphically-embodied language, we should take seriously (as fellow investigators rather than objects of study) those who have investigated this topic for the longest time — that is, practitioners of typography, calligraphy and lettering.

NOTES

1 See Binder (2010: 6), Glaser (2005: 7), Montgomery (2012: 370), and Owen and Dickson (1999: 20–28). It should also be noted that the contemporaneous English psychedelic designers were heavily influenced by Art Nouveau (Miles 2005: 105).

2 Mouse and Kelley at times directly appropriated imagery from Czech Art Nouveau poster designer, Alphonse Mucha (Owen and Dickson 1999: 22).

3 For the history of nineteenth-century display typefaces, see Gray (1938).

4 The influence of cholo lettering on Griffin is overtly graphically evident for those familiar with this style. Griffin's most explicit and direct interpretation of the cholo letter occurs in a later work, a 1980 album cover for the group Rank Strangers, but is also evident throughout his lettering from 1968 onward. For discussion of the influence of cholo on Griffin, see Heller (2009).

5 For a more detailed account of the semiotics of the letter, see Fuller (2014).

6 In fact, as the <A> in the Samsung logo demonstrates owing to its lack of horizontal, not all properties of the type need be present for the token to be recognized, with sufficient contextual information.

7 This is the approach taken by Van Leeuwen (2004, 2005). Van Leeuwen claims to locate 'distinctive features' (analogous to those of phonetics) with 'meaning potential', yet nevertheless attributes semantic values to particular graphic forms.

8 This observation was also made in contemporary sources. For citations of contemporary sources, see Terry (2017).

9 Griffin first used pseudo letters in a 1967 poster co-designed with Moscoso, and again in a 1969 poster advertising a Van Morrison concert at the Avalon Ballroom. Pseudo letters can be found throughout his comic book work, for example in issue three of underground comic *Zap*. Alton Kelley also used an excellent pseudo letter in a 1970 poster for the Fillmore West.

10 Cf. Newton (2003), Spitzmüller (2012), and Willberg (1998).

11 For a detailed study of Delvaux see Scott (1992).

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Some graphical paradoxes in the design of subway maps: The case of the Madrid Metro 2007–2018

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The subject of this article is a set of twenty different metro-maps of the city of Madrid, published between 2007 and 2018. They serve their purpose as navigation aids to public space in such a remarkable diversity of design that one could easily assume that they represent different cities. This phenomenon illustrates what Jacques Bertin calls the 'basic graphic problem', ie. that 'graphics offer an unlimited choice of constructions for any given information' (Bertin 1983: 100). Nevertheless, there are also significant similarities: all these maps show network-like structures with two types of objects: places (knots) and connections (edges). The main priority of all maps is the relation between stations and route sections. Therefore, it is remarkable that the real spatial relations are indicated differently on each map, from more realistic ways to highly abstract ones. In none of the maps can a naturalistic similarity be found. The act of transcribing the object 'city' into the medium 'map' must rather be seen as a new constitution. Every map is made within the scope of the graphic inventory - like arrows, lines, etc. - newly constituted under the premise of the relevant relations. At first glance, it can hardly be decided which map is most suitable for its intended purpose. Do these variations result from a contingency that is necessarily implicated in any act of design? Therefore, is there always a non-operationalizable residue in design that cannot be reduced to the semiotics of maps? The paradoxical relationship of contingency and translation in design can be identified in this material residue. A sign is not necessarily linked to the signified but always has a surplus meaning. On the other hand, what is the irreducible element that must be contained in all maps of the Madrid metro system as their non-contingent core? In light of the premise that there can be no correct or complete transcription of Madrid's metro system, our attention is focused on the relations between the object and its representation. Our hypothesis is that each map generates a different image of the city of Madrid. Every transcription has its pluses and minuses, entails benefits and losses. But the dissimilarity with the object must

not be regarded as a defect. Rather, an epistemic surplus can be seen in every new construction as a way of graphic worldmaking.

KEYWORDS schematic maps, map semiotics, graphic design, cognitive design, abstraction, pragmatic design

Introduction

In his short story 'Del rigor en la ciencia' (engl: *On Rigour in Science*), Jorge Luis Borges quotes an imaginary work of 1658 written by the fictional author Suárez Miranda. He describes a nameless kingdom which was reproduced by a perfectionist cartographer on a scale of 1:1. So accurate was the representation in every single detail that the map corresponded perfectly with the empire. This map also marked the end of the science of cartography in the kingdom, for its over-ambitious, meticulous realism rendered the map itself useless in terms of its use as a means of spatial orientation (Borges 1982: 121). A map with such a high degree of similarity is elusive in terms of the excess of information it contains, makes it impossible to distinguish between the details essential for navigation and other random details which are less relevant for that purpose. Coping with the abundance of material is not accomplished by its repetition. Indeed, the most realistic, most detailed illustration of such an object is not necessarily the one that provides the best orientation. Every map must *simplify* the territory it aims to represent. This is achieved by means of an interpretative proficiency in the decoder manifesting itself in the recognition of relevant aspects. Cartographic design options range from accurate topographical reproductions on a unified scale to highly schematic maps. The latter do not attain their epistemic efficacy by adhering to the standard or by complying with the proportions of the components. On the contrary, their epistemic effect appears to stem from their very (relative) *dissimilarity*.

In order to investigate the phenomenon discussed above, I have chosen as an example different maps of the Madrid metro. Metro maps are schematic plans that depict relations in public transport. They are a special type of map and apparently have very little topographical similarity with their denotation. If one overlays a classic map with a metro map of the same region, one would not be able to come to a perfect fit (see Figure 1). The usefulness of a metro map, specifically, lie in its relative dissimilarity to its object of representation. In terms of its user-friendliness, the schematic map is in no way inferior to the classic city map. In some ways it is even superior, although the latter is much more realistic. The difference is that a metro map primarily depicts the relations between stops and sections of lines. Real spatial proportions are more or less neglected in favor of the relations between the elements.



Figure 1. Overlay of a classic map with metro map of same region

In this article, I examine twenty examples of maps of the Madrid metro system published between May 2007 and April 2018 (see Figures 2-21 at the end of the text). I chose this period because in May 2007, a major expansion program of the Madrid metro was completed. Subsequent to this program, stops were added until 2011. *La Fortuna* station was added to Line 11 in October 2010, and the extension of Line 2 from *La Elipa* to *Las Rosas* was opened in March 2011. The new section of the line includes three stops (*La Almudena*, *Alsacia* and *Avenida de Guadalajara*) and ends at *Las Rosas* station. Since these recently completed sections are only extensions of former lines, they will not affect our investigation.

Some of these maps went into circulation simultaneously. This circumstance becomes relevant insofar as the maps are so strikingly different in their form that one could easily get the impression that they represented different cities while – and this is equally amazing – they all seem equally fit for their purpose: navigation. Neither map is more or less correct than the other with regard to their function – navigation in local public transport. Our aim is to examine this startling variety of representations of the same object – the Madrid Metro network (which did not change significantly in that period of time). Why do the plans, while representing the same object with the same relation of stops and lines, show such a high degree of variation? Where do these representational dissimilarities come from? At first, it seems that the usability would be proportional to their degree of similarity to their object. It is easy to conceive even more designs depicting the Madrid metro that can guide their users to their destinations, as long as the maps are able to show the relations between the elements and reduce the excess of information to what is necessary.

In the first section I explain in general terms what metro maps are. Then I look at the wide range of possible designs. Can the dissimilarity to the depicted object be ascribed to a contingency necessarily inherent in every act of design? (Hoffmann 2008: 18) More than thirty years ago, Jacques Bertin formulated the graphic paradox of the variability of designs that have invariable levels of user-friendliness: ‘graphics offer an unlimited choice of constructions for any given information’ (Bertin 1983: 100).

In the second section I discuss this paradox which he calls ‘the basic graphic problem (Bertin 1983: 100). Each of these versions of the Madrid metro map was constituted within the

framework of design conventions, such as recurring iconic inventories (arrows, lines, and other signs), and on the condition of obtaining the relevant relations. The designers of these plans used various graphic generalization techniques to extract important information and create an overview and clarity.

In the central third section, I ask an epistemologically fundamental question which also emerges concretely in the specific schematics of subway plans. The fundamental question is: are we still looking at representations? Are these maps still representations of already existing objects, or are they rather constructions of those objects? The construction of the metro map must accommodate what is irreducible, which necessarily has to be contained in each of the maps of the Madrid subway, if it is still going to be a metro map of Madrid.

So, does the contingency of the multiple variables associated with the construction have a non-contingent core? That is what we will seek to find out in the fourth section. How do the previously identified correlations between contingency and non-contingency, translation and construction interact in the design of the maps? Why it is necessary to step back from an object in order to better recognize it? Why must a dissimilar representation of the subject metro network be designed in order to unfold a practicability through this very deviation or 'detour', if this practicability refers to the objects denoted by the representation? Why this detour? And does it matter which graphical detour is taken? If dissimilarity in the form of abstraction is the decisive criterion that raises the metro map to the status of an epistemic tool, then how can one explain the circumstance that in theory there is an infinite number of possibilities which represent the subject 'public transport network'? The challenge is to clarify the relationship between contingency and non-contingency in map design according to the key question of the *irreducible*.

1. What are subway maps?

What is it that constitutes schematic maps like metro maps? The graphic task here is mainly to simplify the representation of the area without reducing the number of relations among the relevant components. Simplification means to use the basic principles of map design, such as abstraction, selection, transformation and generalization. To enable the reader to master the source material, graphic processes are used to extract individual data from the abundant material and make it comprehensible for us by means of internal coherence and standardization.

Metro maps function as signs with a network-like structure defined by two types of objects: places (nodes) and relations (edges). They serve the purpose of navigation in a public transport system and usually provide only a rudimentary orientation in the immediate vicinity of the metro station. The user of a metro map has, as a rule, one specific question in mind: 'How do I get from station A to station B?'. The plan shows users which line they need to take to reach B and where they have to change lines if necessary.

According to a functionalist concept of signs, the plans fulfil the function of an extensional reference. Every detail of the plan is figurative in the sense of referring to 'something out there'. The semiotician Bertin defines maps as 'geographically ordered networks' (Bertin 1983: 173). He proceeds to clarify that 'a graphic is a geographic "map" when the elements of a geographic component are arranged on a plane in manner of their observed geographic order on the surface of the earth' (Bertin 1983: 285). According to this definition, are metro maps still maps? In order to apply Bertin's definition to metro maps, one must first identify what can be considered a 'component' in a plan and how many components there are. In the case of metro maps, according to Bertin, the generic term 'component' can be used to subsume, for example 'all metro lines in a city', and their 'element' would accordingly be a single metro line. The length of the component is given by the number of metro lines listed in the plan. If we look at the metro plans, we see that the elements of a geographic component have obviously not been 'arranged on a plane in manner of their observed geographic order on the surface of the earth'. Rather, the components of these plans, and indeed both the geographical background components as well as the components of the transport network, have been abstracted according to different sets of rules. These rules determine angle, line weight, line shape, scale, colors, handling of intersecting lines, intersection of lines and points, handling of parallel lines, degree of distortion of topographical information, and other aspects, such as typography and additional icons. First of all, a metro plan uses both dimensions of the plane, and the more components there are to be displayed, the more complex is their design. The questions and problems faced by the designer are how to schematize the information of the territory. An overview of the designer's range of possibilities is offered by Dirk Burghardt, Cécile Duchene and William Mackaness (2014) in their publication 'Abstracting Geographical Information in a Data Rich World: Methodologies and Applications of map Generalisations'. They quote operations like collapse, smoothing, geometric stylization or caricature.

Let us investigate this regularity by considering the line course and its angles: metro maps usually record line courses as (straight) lines cleared of cartographic microcrenulations. The angles are usually unified. There are plans with 45 and 90 degree angles or with 30, 60 and 90 degree angles. There are also free forms with simplified courses, whose curves have undergone arbitrary simplifications and do not follow a fixed pattern, and plans in which the lines describe circles and arches. Parallel lines are separated for better readability, usually at a 0-distance.

According to Bertin, a metro plan should be seen as a 'cartogram', as a construction that distorts a geographic network so that non-topographic components can also be represented. Topographic accuracy is no longer paramount (Bertin 1983: 285). As with the Mercator or Peters projections, this results in a 'linear problem', i.e. the problem of 'equidistant projection'. According to Bertin, there is no satisfactory solution; trade-offs always have to be made (Bertin 1983: 290).

The scale often varies within a metro map. For practical reasons, in the downtown area, where many routes converge, it is comparatively large. The stops are relatively close together. The large scale is necessary to capture all the stops and display them so that they are legible.

In the periphery of a city, a smaller scale is sufficient to accommodate all relevant information. The construction of a schematic plan of this kind has the purpose of coherence and simplification, for example, by the approximation of angles, and it must be designed in such a way that even components can be detected which are needed for the understanding and not directly relate to the represented territory. Thus, if there is an inconclusive representation, some linguistic explanation providing the missing equivalences must be added. Although they do not relate to the territory directly, the names of the stops and other additional information, such as service points and transfer stations, must be included in the map. Diverse thematic icons must adequately be implemented, e.g. icons for the elements of the component 'different types of vehicles'. Such inserts are placed in the map and thus require their space, but cannot be understood as topographic elements. At these points, multiple components overlap in a map, a problem that has to be solved by design (Bertin 1983: 285).

In schematic maps one usually finds information about the geographic terrain in the background of the network only if it is necessary for the extended orientation in the area of the lines' network. The representations of the genuinely topographic elements of the components 'water bodies' have a visually supportive function for the orientation in the city or the area and are therefore often also shown only in relation to the metro line courses. The area in the map denoting, for example, the river Rio Manzanares, usually corresponds only marginally with the real topographical position of the river. The course of the river has been simplified to a higher or lower degree (see Figure 22). The operations of simplification do not always prevent the identification of the river by means of geographic matching, but the geographical identification has become secondary and any recognisability is less attributable to the specificity of the river. In the case of the river, the possibility of identification results from the written addition, from the river's designation as Rio Manzanares. Figure 22 presents examples of abstractions or free forms of line courses. A graphic designer can choose between the omission of smaller loops and their retention by exaggeration. Both choices are generalizations. The number of possible rules is potentially infinite.

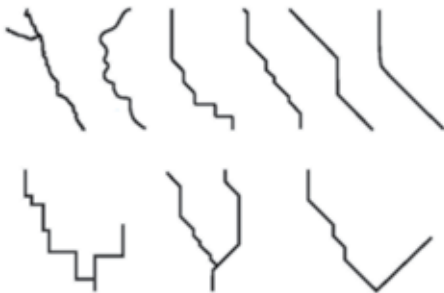


Figure 22. Higher/lower degree simplifications of the river Rio Manzanares

2. The graphic problem

This infinity of possibilities leads to the situation that every designer can come up with their own solution. There are a number of different maps for the use of the Madrid metro. In this great diversity of maps, there is a plurality of projection methods, if the design method, due to its topographical dissimilarity, can be described as a 'projection' at all. This cartographic term, referring to the transposition of geographical conditions by means of geometrically justified mapping rules, is only of limited suitability with regard to metro maps. Metro maps are not based on unified projection methods, such as the Mercator or the Peters projections for topographic maps. The task here is not to map a curved surface plane of the earth by rendering it two-dimensionally. 'Projection' in metro maps means, for example, to geometrically reconstruct the elements of the transport network onto a map and to design a network.

The methods of projection are always artificial, whether they are framed by an existing method or freely constructed, according to an individual set of rules. The graphic paradox which, according to Bertin, represents 'the basic graphic problem', can be recognized not only in the construction of the 'cartogram', but also in any design that can be classified as 'emblematic', certainly in the case of the metro map 'representation'. Bertin describes the freedom one possesses to transcribe any given component by one of the eight visual variables¹ or by a combination of several of these variables (Bertin 1983: 9).

For example, a graphic designer can translate a geographic component using a single dimension of the plane, by which he constructs a diagram, or using the two dimensions of the plane, by which he constructs a map. He can use variations of color or tone. 'In fact, to construct 100 different figures from the same information requires less imagination than patience. However, certain choices become compelling due to their greater "efficiency"' (Bertin 1983: 9). The graphic designer is faced with the question of what type of map to produce. Even if decided to design a 'cartogram', there is an infinite number of visual variants that correlate differently with the components of the information.

You can easily see this if you align the different maps to the same scale and place them on top of each other (Bertin 1983: 100). They are all equally well-suited to help people find their way through the metro network. Although they appear to give conflicting information, they are all equally correct representations. The production of each representation implicates the suppression of another representation, suggesting a play of presence and absence. Thus, each metro map essentially reveals that there are several ways to design a metro map. The mere existence of such a map, because of its presence, and the evidence of the visibility of each possible variant of its design, is the very prerequisite for the semiotic function of its elements. As such, we can see that graphical transcription always means both information loss and information gain. The question is whether any twenty different maps of the same system are epistemically equivalent.

Let us approach this question from a pragmatic perspective: A map serves to make a city accessible. What significance does the variance of possible constructions have for this pragmatic purpose? What does it mean to make a city accessible using signs? If we suppose that the signs in a metro map, no matter how abstract, correspond to things in the world (if the map refers to an existing subway network), the process of this correspondence can be figured approximately like this: If the sign has a real referent (for example, a node in a map for an intersection of lines), what is the relation between all the signs and, thus, between all the represented components in the city? Readable information in the map is constructed from the real relations between the real world referents of its components and elements. The graphical representation transferred the real world referents to the relations between various visual variables that denote the various components and elements. Typical questions a user might ask include, 'Where do I have to get off?', 'Where do I have to change trains?', 'What's there to find in that place?', or 'Is the stop near the river?'. These questions can be answered without a 'metric evaluation of distances' (Bertin 1983: 299). According to Bertin, they only require that it be possible to differentiate, classify or count the elements. 'It only matters that these useful elements be discernible and that the differences, the order, the numbers (within the limits of visually memorisable quantities) constitute a recognizable reference system' (Bertin 1983: 299).

Thus, one can easily locate oneself on a metro map given he can distinguish metro stops on the map from other 'information elements', if one knows which stop is at, or where line A crosses line B, so that one is able to deduce where to change. A metro line cannot be identified in the map by its real topographical location, but by its coding, in the sense of a graphic order and the possibility of differentiation. Equidistant projection and scale are not relevant factors for the correctness of the relation (Bertin 1983: 299). But the topography is not completely banished from the map. Locational relations, such as the configuration of river and metro line, still play a certain role, but their exact topographical location is never the sole purpose; it only figures as a kind of subsidiary information for manageability and orientation. Due to the distortion, the river cannot be displayed on maps according to its exact topographical position, but only in terms of what is located in its environment. By displaying the river or the surrounding vegetation, the user gets a clue that helps them locate their current location or final destination by aligning their position with the river in accordance with the map. The element 'river' serves as a reference. In order for the river, as a basic map element, not to compete visually with the metro line itself or other 'elements of more specific information' (Bertin 1983: 311), simple and clear signs are used which are kept slightly in the background of metro lines. The hierarchical order between river and metro lines is therefore usually represented by different grades of brightness (Bertin 1983: 311).

In terms of purpose and manageability, design decisions are made which are abstractions of the source material. Even with regard to the already mentioned 'set of rules' which can be found in metro maps, the designer still has endless possibilities from which to choose how to

construct the metro lines (including accessories). It is not possible to catalogue these possibilities. We are dealing with a continuum that can range from a minimum of topographical similarity to its maximum. The extent to which the whole spectrum from the minimum to the maximum can still be called 'iconic' – and not just those maps that can be located on the scale well within the range of maximum topographical similarity (and thus are very obviously commonly viewed as 'similar' to what is depicted), will be discussed further on. The 'optional variants' that Bertin addresses do not contradict their purpose of codification. But do the different ways of representation not have any influence on content and function? Breaking down the navigation in local public transport to simple questions (How do I get from A to B?), one can clearly determine whether navigation succeeds or not. Depending on the graphic rendition, it is only possible to decode – in positivist terms – what fits into the grid of the representation. In highly schematized representations, such as metro maps, a unified set of rules helps users to find an answer to the question (How do I get from A to B?) as accurately as possible. The design is sealed, as it were, against interpretation. Due to the simplicity, any arbitrary deviation from the design rules would be read as meaningful and pose an uncertainty factor: What does this or that curve mean, or this or that blot? So the question is whether the different variants, which could also be called formal methods, and to which the coding does not apply have an epistemic effect. The word 'method' implies an intention and thus the differences would be intended. They are shown, for example, (1) in the scale, (2) in the angles, (3) in the line curve, (4) in the line width, (5) in the colors of the lines, (6) in the way parallel lines are dealt with, (7) in the representation of overlaps (8) in the space between parallel lines, (9) in the way nodes are dealt with and (10) in the size and representation of stations, (11) in the degree of distortion/retention of the topography of the lines, (12) in the degree of distortion/retention of all other topographic information (13) in the way geographical reference information is treated, and (14) in the way typography and the additional map icons are used.

Bertin says that in any graphic transcription, the content must necessarily be separated from the form. 'Information is a series of correspondences observed within a finite set of variational concepts of "components". All the correspondences must relate to an invariable common ground, which I will term the "invariant"' (Bertin 1983: 16). This assessment is clearly made in the tradition of the epistemological and linguistic approach of French structuralism. If I agree with Bertin's working hypothesis that the content (i.e. the information regarding all questions of navigation in the Madrid metro network) remains constant, what possibilities are there for the graphical system to impart this content? Which variants stem from the listed 'mapping methods' that could certainly be expanded? And are the maps, according to the premise of the separation of content and form, only different forms and therefore epistemically equivalent? How strongly is our thinking dependent on graphic practice? Where is the threshold above which the representation is too distant (too dissimilar) and below which the representation is too close, too similar?

3. The relationship between transcription and construction in cartograms – a paradox

To transcribe and transform graphically the bulk of information of a metro network into a smaller number of meaningful elements can be regarded as a case where form interferes with content. A distinction between content and form seems doubtful, however, because metro plans are made of graphically produced semiotic constructions. In this respect, I would disagree with Bertin. The design of the metro maps is based on a construction but nevertheless a representational function is obviously present, simply because, by using these maps, one can navigate from A to B. How does one deal with this contradiction? A schema is not an attempt to replicate 'things out there'. Its function is to help people get an idea of the 'things out there'. This must be understood as a graphic-cognitive achievement.

As I have suggested, maps give succinct answers to what Bertin refers to as the 'preferred questions' (Bertin 1983: 154). These questions are 'How do I get from station A to station B?', 'Where do I have to get off?', 'Where do I have to change trains?', 'What's there to find in this place?' or 'Is the station near the river?'. But one could think of many more questions. For example: 'How many miles is it from A to B?', 'Is it a beautiful place?', 'Who lives near the bus stop?', 'Is there a park bench?'. The answers to these other questions remain elusive. Thus, the map design decides which functions of the graphical representation are to be fulfilled (Bertin 1983: 154). Bertin states that 'the method encompasses all the processes which rely uniquely on the correspondences contained in the information being processed' (Bertin 1983: 170). But then what does 'similarity' with the denotata actually mean? It's a common sense notion that a portrait of a person is similar to the person depicted.

Following Eco, we should ask what it means exactly when a portrait has 'the same characteristics' as the person whom it represents (Eco 1972: 200). Eco replies: 'Because it has the same shape of the eyes, the nose, the mouth, the same complexion, the same hair color, the same stature ...', only to immediately bring up some objections: 'But what does that mean, "the same shape of the nose"? The nose is three-dimensional, while the image of the nose is only two-dimensional'. Eco (1972: 201) adduces a number of other reasons why the portrait is not exactly similar to the person depicted. He concludes that, in the final analysis, such verification only leads to the destruction of the concept of the 'iconic sign'. And only the denotatum itself can be an iconic sign of itself (Eco 1972: 201).

Eco (1972: 201) disagrees with solving the dilemma by acknowledging that an iconic sign is similar to what it denotes, by suggesting that this is 'a definition that can satisfy common sense but not semiotics'. Eco replies from a semiotic perspective that iconic signs would reflect '*some of the conditions of the perception of an object*' after '*having been selected on the basis of recognition codes and specified, according to graphic conventions*' [emphasis in the original]. In other words, relevant features of a denotatum must be interpreted and communicated by

graphic signs. Thus Eco (1972: 206) concludes: 'So there is an iconic code that specifies the equivalence between a particular graphic sign and a relevant trait of the recognition code'. According to Eco, graphic characters can transcribe denotata. Therefore, there is 'a relationship of equivalence between the two'.

Hans-Jörg Rheinberger, the science historian, would not agree with this definition. He is situated at the other extreme of the debate spectrum, namely on the constructivist side. In his essay 'Dimensions of Representation in the Practice of Scientific Experimentation' he writes, with regard to the problem of representation in science, that no matter which (conventionalized) form of representation you choose, there is no interpretation or representation of *something* out there. Rheinberger's argument goes against the assumption that there was a 'presence of something which the presentation refers to' (Rheinberger 2000: 236). In the course of these and other constructivist positions of recent decades, the idea has become prevalent that maps are no longer considered representations of something, but rather processes that generate their own representations in the first place (Rheinberger 1997: 9). According to this post-representational view which sees maps as original rather than re-presented constructions, the condition of construction is at the center of the analysis. In *Experimental systems, objects of investigation, and modes of representation* Hans-Jörg Rheinberger examines the relation between representation and intervention (Rheinberger 1997: 9). He argues against a neat epistemological separation between the representation and the represented (which we have come to know from Bertin) and acknowledges representation to be a science-generating force (Rheinberger 1997: 9).

According to this view, maps can be seen as epistemically effective objects and thus understood as both *representation* and *represented* at the same time. From this perspective, one can ask if subway maps have an effect on facts – and, if so, what this effect is. Do maps merely depict their object of representation, the public transport network, or do they construct it? From the latter perspective, there would be as many different 'Madrids' as there are maps. Is it possible to go so far as to acknowledge maps as original constructions, i.e. novel recreations of the topographic source material? Is (a) another Madrid than (b)? (See Figure 23).

In her essay *Karten erzeugen doch Welten, oder? (Maps create worlds, don't they?)*, Sybille Krämer presents another opposite to the constructivist view. She diagnoses a 'discrediting of image and similarity', in the course of which the suitability of maps to depict a territory (or even its iconicity itself), is increasingly being questioned (Krämer 2012a: 153). Krämer argues that the pragmatic purpose of maps to the user (as an aid to navigation), cannot be achieved by refusing to recognize a similarity relation between map and territory. Thus, an imaginary localization of the map user on the map is a precondition for a 'cartographic operation', as Krämer (2012a: 153) puts it, and is inconceivable without the similarity relation between map and territory. Yet one might ask what paradoxical kind of similarity this is if, as already said, the applied nature of the map results from its abstraction. Is it similar to what you see or to what

you know? According to Krämer, the signs on a map are connected to the area by similarity. Let us go back to Eco for this once more. According to Eco (1972: 207), the iconic sign can be similar in three ways: (1) in terms of optics, (2) ontologically (i.e. in relation to an assumed similarity), and (3) as conventionalized similarity.



a)



b)

Figure 23. Examples of two different map designs of the subway network of Madrid

Should we not identify this last, which Eco identifies as the iconic sign, as a social construct? And is the schematized map, in the sense of a conventionalized similarity, recognizable as a product of actors which retroacts as an intermediary back into society? So doesn't the design of the metro map determine the behavior of the user, give her options for action and therefore have a constitutive effect?

If one regards graphic production as a cultural activity, one can actually identify the graphic elements on the maps as elements of a construction that represents the ideas of the city (such as the public transport networks) two-dimensionally as a synopsis of individual signs (Rheinberger 1997: 9). According to Rheinberger (1997: 9), what happens here is a 'production of symbols'. Representation is thus captured as a cultural, and, more precisely, graphic matter. The production process of representation is socially situated, as it is produced by human agency. If we follow Rheinberger's suggestions, we recognize that the inherent laws of graphic signs

and the immanent logic of design are in fact, in a certain way, constitutive of their objects. The symbolic character, with its own logic, seems anything but 'ontologically justified' and yet it is able to cause action (1997: 13–14). Thus, the design designates which designed object will be put to work, and it sets the course for further uses.

In this way, metro maps, which refer to existing cities, are social products. The varying (re)presentations of a subway network set the tone for an action, in this case for successful navigation of a local public transport system. I will give it a try: Each subway map has its own specific cognitive access which gives it a variation in its functional focus. Comparing the two maps 'Plano esquemático de la red' (a) and 'Red de Metro en el municipio de Madrid' (b) (see Figure 24), I can recognize that the readability in terms of 'where does one need to change from one metro line to another' is higher in map (a) than in map (b). Map (a) is more suitable for a particular purpose, the navigation in the metro system. On the other hand, map (b) can be aligned with one's mental image of Madrid in terms of its streets, places and landmarks. It delivers more general information about the territory, with the result that the user can place the metro system in a wider context of the region. Whereas with (a) this alignment is only possible in a very limited way.

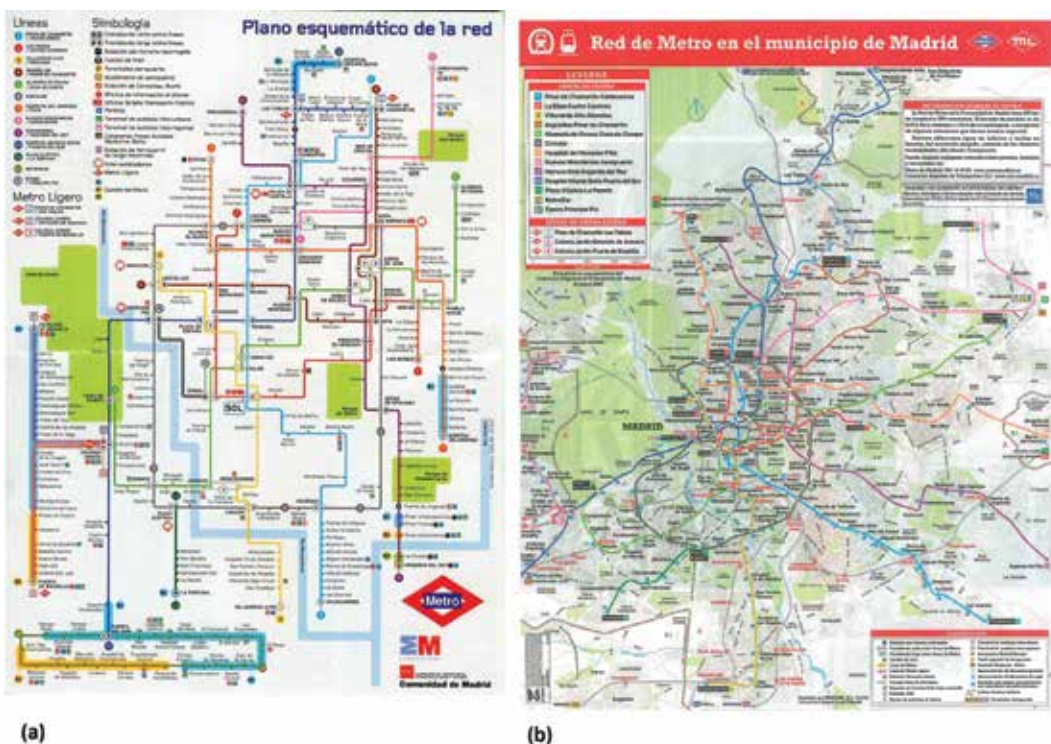


Figure 24. Functional focus variation in two map designs

Do the characters develop their own dynamics, ignoring their intended design and use? The thesis would be that the graphic elements of a map cannot be completely reduced to their meaning and that the semiotically unavailable and meaningless ‘remnants’ are also epistemically effective. Thus, iconic signs are not readable in their entirety, but they possess a ‘visual appearance that is detached from its function of readability’ (Mainberger 2011: 220).

Yet, I cannot detect a creation of something representative through representation, as Rheinberger suggests. At this point, a distinction must be made between the context in which knowledge is generated (the graphic design of a map) and the context of knowledge (the area which the map conveys a knowledge of). Both the map and the subway itself are social phenomena, and the fact that the map instructs action can easily be understood. But what would be the presumed constitutive power of the map with reference to the city? Or vice versa: how does the map refer to the city which is being re-constructed by it, and has this association with its denotatum, if there is any, something to do with similarity?

The problem seems to be solved if one does not understand similarity pictorially. According to Stefan Günzel, one can comprehend the map as a diagram whose similarity to its object is a diagrammatic similarity. Günzel follows Peirce in that he understands the diagram as a special form of the iconic sign. Thus, a diagram is not similar to its denotatum in the same way as a portrait is similar to a person. A diagram is relationally similar to what it represents (Günzel 2013:108). In the case of the metro map, this relational similarity is associated with (pictorial) dissimilarity.

A metro map can also be examined as a diagram. Its topographical dissimilarity, recognizable by its non-compliance with scale, size, and distance, the straightening of routes and the exclusion of details, goes along with a more or less clear display of the relevant relations between the elements. According to Günzel, these representations produce what they show. Again, he resorts to Peirce: Now it becomes clear why the iconic sign is ‘single-digit’, in contrast to the index, which is ‘double-digit’ because it refers to reality, and the symbol, which is ‘three-digit’ because it includes communication and reality. Icons are ‘auto-icons’ because they represent their own reality. Günzel describes cultural science’s understanding of the diagrammatic representation as a ‘show of ideas’ in which it is irrelevant whether the denotata are materially present (Günzel 2013:110).

One could argue (and thereby contradict both Rheinberger and Günzel), that a metro map, understood as a diagram, unfolds its ‘generating power’ in the sense of a representation that itself produces its denotatum (here: the action), and can only ever do so in relation to a preexistent reality. Diagrammatic operations of this kind can think through future processes only by referring to something that already exists. The graphical synopsis of relations in the form of subway lines allows for future actions, precisely because it transforms a complex area (the city and its public transport network) into a sphere of action – the sphere of action of the diagram in the form of a network map, which is what a subway map is. This

makes practicable what is impracticable, and intangible entities can be worked with in concrete terms. According to Sybille Krämer, it can be said that these diagrams open ‘operating rooms’ (Krämer 2005: 23).

In agreement with Sybille Krämer, we can understand this two-dimensional kind of knowledge generation as operative images (Krämer 2012b: 82). As for maps, she speaks of a ‘fundamental reciprocal relationship between generating and mapping’. The central question is how the diagrammatic epistemic process in the handling of metro maps works in detail as a pragmatic function (purposeful locomotion in the territory of the city). How are a city and its public transport network transferred to the similarity of the relation and thus made manageable, via the detour of the dissimilarity of the abstraction? The depiction of the relation and the construction of the design, the meaningful and the meaningless components, interact with each other (Krämer 2012a: 155).

In metro maps, navigation is only possible if there is a relational similarity between map and city, so that users of the map can position themselves in it and think through their routes, and this ‘intended locomotion can be transferred into an intentional movement in the life-world space’ (Krämer 2012a: 157). (A Hamburg subway map would be of little avail to them in London²). According to Krämer (2012a: 157), this self-placement on the metro map creates ‘the link between the symbolic world of the map and the real life world of the map users’. This double navigation (imaginary on the map and real, or physical, in the subway) is possible through a ‘match between territory and map’, made possible by the similarity described above with Günzel as relational and by Krämer as ‘structural similarity’ (Krämer 2012a: 157).

As a tentative summary, it could be argued that this correlation cannot be generated on the premise of a strict distinction between content and form, representation and represented (Bertin 1983), nor on the premise of an identification of content and form, representation and represented (Rheinberger 1997, 2000). On the other hand, it cannot be assumed that, no matter what variation the designer makes from the infinite spectrum of possibilities, the information about the (re)presented area is substantially invariable. This shows that a new theoretical conception of schematic representation is needed. This should not rely on the (de-)constructivist view of Rheinberger nor on the representationalist notion which understands schematic maps solely in their representational function, as transmitters of knowledge about space. In our final section the question posed is: What remains of the territory in the graphic representation?

4. The irreducible

Every subway map has its own set of rules, style and aesthetics, raising inevitably the question which components of the public transport network remain constant in its diverse tran-

scriptions. Subway maps are partly a representation of reality (or, in my words, a transcription of reality) and partly a product of their designers (a construction). With Krämer (2012a: 157), one could argue that ‘representation and production’ are not mutually exclusive, but the one includes the other, although I cannot be sure whether the concept of ‘including’ gets to the heart of the matter.

An initial issue concerns the way reality reveals itself in a subway map. Perhaps we need to revisit the discussion in the second section. There we noticed that the topography is not completely banished from the map. Is that an indication of reality? Real locations still play a certain role as supportive information in terms of manageability and orientation. For example, the element ‘river’ serves as a reference.

Likewise, relations between other elements serve as references. This results in creative necessities which we can characterize as *irreducible*. These irreducible necessities result from topographical conditions and cannot be explained other than by a pre-existent reality, whose relations are reflected in the maps. Occurrences such as overlaps of routes or relative positions to waterways must be correctly represented relationally, according to the topography of the area. Whether what we see in the map is indeed the correct representation of a relation, we only come to confirm when we reach our destination with the help of the map. Let us picture a map in which the *Oporto* interchange station was on the same side of the Rio Manzanares as the *Acacias* interchange station, and that the two stations were to be just one stop apart (see Figure 25). Obviously, the navigation does not work just because there is a map that lists the stops in this way. After a while, I realize that *Acacias* is not on the same side of the river as *Oporto*, even though the map says so. This map would only be correct if it were a fact beyond all conceivable maps – correct and incorrect – that *Oporto* and *Acacias* are on the same side of the Rio Manzanares and only one stop away from each other.³

Some components of the map are fictitious, though, or derived from previous graphical decisions. A curve in the representation of the course of the river, not present in reality, owes its existence to the fact that the course of the metro lines has been given privilege and the course of the river has to fit in. The river as a marginal feature adopts the design rule of the privileged metro lines (only horizontal and vertical lines). As a result, there are several right angles that do not really belong there, but only serve to maintain the correct relation to the metro line. Fictitious design features connect with representational features in the representation, but both can be identified separately. Krämer (2012a: 162), rightly states that ‘only through the invention and creation of artificial, “idealistic” facts such as the meridians or the equator [...] can we represent spatial relationships of the real world on the map in the form of a relational image’.

One could go so far as to say that the creation of invented graphical aids is a proof that the image exists and vice versa. It would not be possible to recognize a construction as such if it did not contain something that was not constructed. Any reference to the constructedness and cultural situatedness of a given representation must acknowledge, even if grudgingly, that

there is something to be represented in the first place. The argument that leads to this insight can be called an ‘argument from facticity’ (Gabriel 2013: 147). It states that even a constructivist position needs to make realistic premises at some point. At some point, according to Markus Gabriel, absolute facts must be introduced. The fact that from looking at the map I can and must – if I want to navigate successfully – draw conclusions about the reality of the metro network, shows the inevitability of the representation of facts.



Figure 25. Imaginary metro map of Madrid where *Oporto* station appears on the same side of the Rio Manzanares as the *Acacias* station and one stop apart instead of two

Conclusion

The Madrid metro network can never be seen in its entirety other than in the synopsis of schematic maps. These are artifacts created for the purpose of navigation. But since there are no clear specifications for their design, there are many different possible representations. Going along with Nöth, I could understand the different formal imaging methods as *styles*. He defines styles as ‘the difference between alternative messages that a code allows for selection’ (Nöth 2000: 398). Different representations of the same object are not necessarily semantically identical. Instead, both likenesses and differences of meaning are to be found. Maps that serve the same purpose are alike in that they have a ‘common semantic core’ that can be identified as the relations between the elements. In addition, however, differences come into play, as shown in the 14 variables listed above.

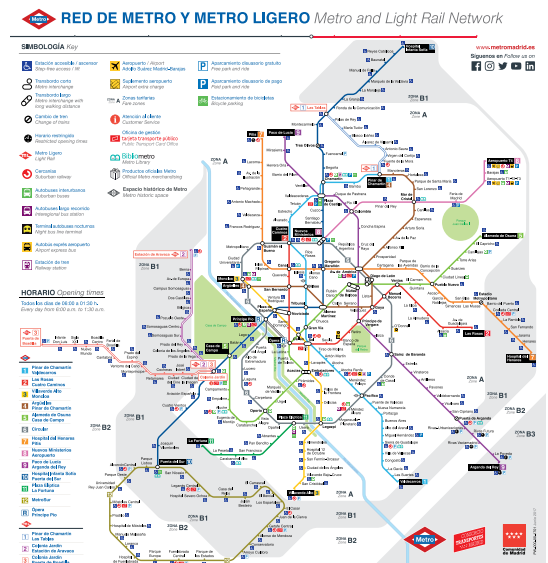
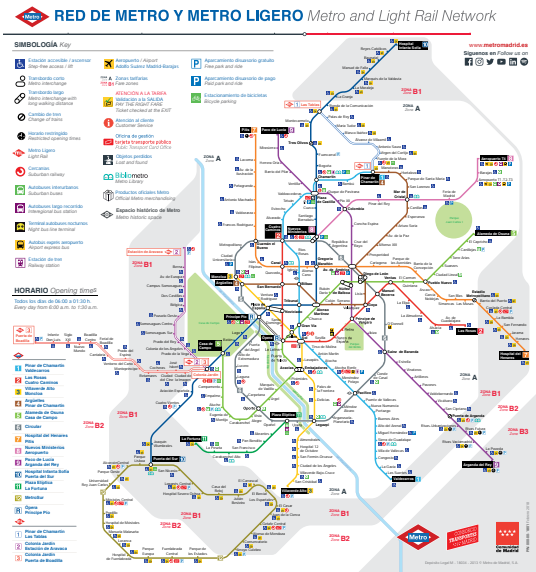
The reader of a subway map is not interested in the design of the map and its methods or

styles, but rather in the depicted reality, which by reading the map provides her with options for action. Although the image seems to be secondary, it is ultimately the instance that makes navigation on the map possible through information – and is thus identifiable as a constitutive condition for *action* in the local public transport network (if not for the local public transport network itself). If navigation succeeds, the map can be described as ‘right’ or ‘correct’, based on a functionalist perspective that does not say anything about the extent to which the variants themselves have different effects on actions. It is obvious that the variants are semantically different, for example, in providing different background information (sometimes the river is marked, sometimes it is not, sometimes the line courses roughly follow topographical conditions, sometimes they strictly go at right angles). Different angles, colors, or line weights may be semiotically underdetermined, but the fact that they do not convey *specific* coded information does not mean that they do *not* convey *any* information.

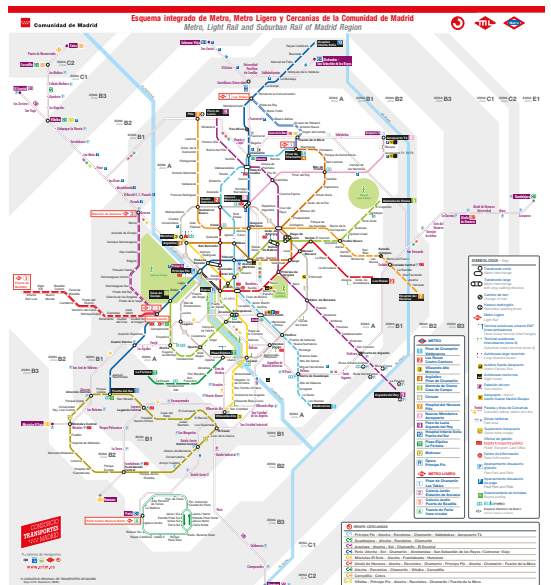
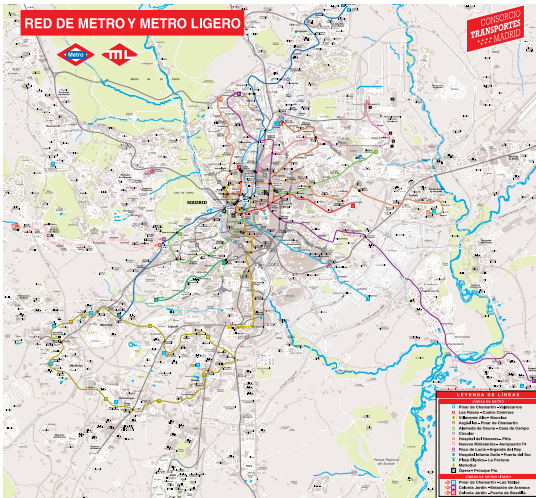
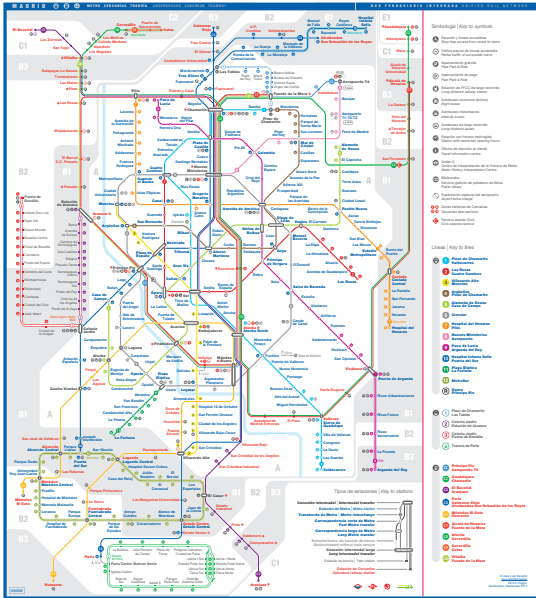
The difference at play here could be conceptualised, according to Schlichtmann (2017: 43), as the dichotomy between immediate and indirect meaning, denotation and connotation. The former is directly linked to perceptible objects, the latter only indirectly, by allusion. The many variants I encounter point to the fact that there can be no unproblematic representation in the sense of an *immediate* representation. The visibility of the map is therefore not a given factor, but is based on an aesthetic-graphic process, which, right from the beginning, is a constitutive part of the production of information. Let us return once more to the paradox of cartographic modeling, first encountered in Eco’s map example. With regards to subway maps, this example suggests that the practicability of a subway map is constituted by its dissimilarity. Indeed, the clarity of particular information is increased if other, more general information is obscured.

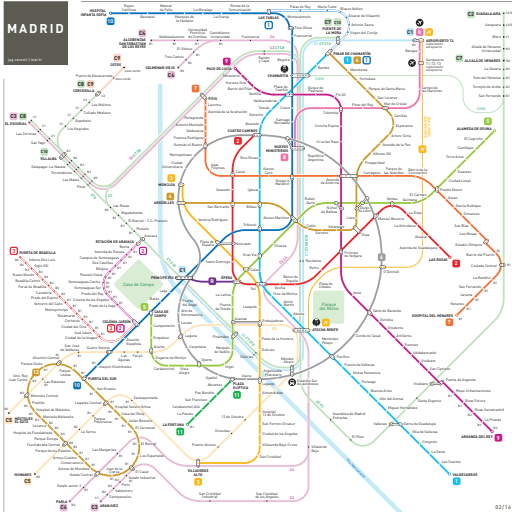
Maps show that in terms of efficiency the schema is superior to the detailed image. The key to this is their symbolic character in the graphic elements of subway maps, there is an epistemic surplus value laid out, compared with what is represented or coded by them. In this sense, a map is to be understood as a cognitive design whose purpose is to make reality accessible, although it uses elements that cannot be derived from real-world references, but that as graphical inventory, graphical aids and conventions are highly contingent. The design of the map and its inner coherence is therefore not solely based on the organization of real-world content, but derives its form primarily from the genuine specifications of the graphic inventory and its design rules.

Figures 2-21. Twenty Madrid metro maps issued between May 2007 and April 2018



98 Some graphical paradoxes in the design of subway maps





100 Some graphical paradoxes in the design of subway maps





NOTES

- 1 Bertin mentions the two dimensions of the plane; the size; value; texture; color; orientation; and shape (1983: 7).
- 2 Unless the user sees him/herself in the tradition of the Situationist International.
- 3 Oporto is situated to the west and Acacias is situated to the east of the river “Rio Manzanares” and they are actually four stations apart from each other.

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Designing Imperfection: The Semiotics of the Pixel

Massimo Leone

'Imperfection' is a key concept in both aesthetics and semiotics; Algirdas J. Greimas devoted a monograph to it (De l'imperfection, 1987), emphasizing the revelatory value of the aesthetic experience as capable to transport the subject from the appearance of imperfection to the perfection of being. Taking this elegant series of five semiotic analyses as a point of departure, the paper will seek to articulate a typology of imperfections in visual communication, arguing that each of them appeals to a different semiotic ideology and elicits, as a consequence, specific pragmatic responses. The article will indicate, in particular, some lines for the possible development of a 'semiotics of the pixel'. It is a highly speculative enquiry, for it must start with a foundational skeptical question: are pixels semiotic objects at all? Do they signify autonomously from the image they give shape to? And if that is not the case, if they appear to be simple and inert constituents of digital configurations, what is their status then? According to Umberto Eco's witty definition, everything that can be used to lie can become an object for semiotic enquiry (1976: 18); but can pixels actually 'lie'? Or are they bound to produce light and color according to a cold mathematical rule, with no possibility for the randomness of intentional communication? (Mitchell 2005: 87-92). In other words: is it possible to design imperfection in digital signification and communication?

KEYWORDS imperfection, pixels, semiotics, aesthetics

'We look upon the geometric point as the ultimate and most singular union of silence and speech'. Wassily Kandinsky, *Punkt und Linie zu Fläche* (1926)¹

¹ Engl. trans. Howard Dearstyne and Hilla Rebay.

Introduction

Semiotics has always inquired about visual signification, that is, about signs that predominantly elicit a reception of meaning by adopting signifiers that mainly work as perceptual stimuli for the sight, or that emulate or evoke such stimulation when they affect other senses or even that inner cognitive faculty of visual imagination that allows individual to conjure up, in their minds, mental constructs that closely resemble those which emerge at the actual empirical sight of images. Different perspectives can be adopted to study visual signification. They can be articulated depending on the specific consequences that such visual signification brings about: images can be studied as cognitive signs that encourage the formation of new ideas in the mind, as emotional signs that urge the transformation of a receiver's mood, or as pragmatic signs that prompt action toward a certain direction and with a certain goal. In exerting these effects, images often rely on the biological schemes of the neurophysiology of perception, which, nevertheless, are molded by sociocultural agencies into evolving patterns of visual culture or, rather, second visual nature.

An image, however, is not only something that has human beings think, feel, or act in a certain way. Images, and especially certain kinds of images, intrinsically and, sometimes, even impetuously trigger a meta-reflection on their very signification and meaning. Why do certain patterns of visual stimuli appear as such in the first instance, why do they stand out in relation to a context and present themselves as image, and why does this image signify, whereas analogous patterns of visual stimulation inconspicuously remain in the dark shadow of insignificance? Reflecting on such questions is not usual for semiotics, which has rather focused on the conditions and effects of signification of actual visual artifacts, but it is imperative for the development of its meta-semiotics, that is, a semiotically inspired philosophical inquiry into the very origins of visual meaning.

For instance, a mole manifests itself as a point or small area of the skin in which pigmentation is conspicuously different, and usually darker, in relation to the surrounding area. A mole can become an object of inquiry for semiotics. Medical semiotics, for example, can treat moles as signifiers signaling the potential presence of skin cancer whenever their visual configuration is altered in a specific way. Dermatologists can learn and master the code allowing them to infer, from the visual inspection of the texture of moles, the likeliness that the patient bearing them might be developing a melanoma. Similarly, a cultural semiotician may study the social schemes through which birthmarks, in a community of viewers, are interpreted as triggers of narrative hermeneutics, as it is traditional in many languages: called "voglie" in Italian and "alwahamat" in Arabic [meaning both "desires"], their color and sometimes also texture would originate from a pregnant mother's unsatisfied desire toward an object featuring the same visual qualities.

The cultural semiotician, however, should work hand in hand with the visual anthropolo-

gist in seeking to determine the broad ethnological scenarios in which moles signify as they do. Called 'moedervlekken' in Dutch, 'modermærke' in Danish, and 'Muttermal' in German, birthmarks refer to a semiotic ideology according to which their epidermal imperfection, but also their potential as identity markers, ultimately derives from the mother, not from the father. In other cultures, such as the Iranian one, the origin of skin imperfection and identity is seen not as linked to a human origin, but as linked to a human agency in relation to a cosmological event: birthmarks, it is believed, would be caused by the fact that the mother has looked at the moon during an eclipse and has touched her belly (that is why birthmarks in Farsi are called 'lunar eclipses'). In other cultural contexts, like the Ethiopian one, a birthmark is seen as deriving from 'a kiss of Saint Mary the Virgin'. Cultural semiotics and cultural anthropology can and must relay these interpretations to more general and encompassing, albeit often invisible and surreptitious, semiotic ideologies of bodily imperfections.

There is, however, also another level of inquiry. Semiotics may not only rely a mole to a visual code or to a visual culture but also to that which could be called a 'visual temperament'. Why are moles significant in the first instance? And why are they visually received not only as visual evidence of a certain health condition (semeiotics) or as hints of a certain cosmo-genealogy (cultural semiotics) but also as triggers of a judgment of beauty, to the point that moles can be faked in order to provoke such judgment and, therefore, ipso facto become items endowed with semiotic relevance? In reflecting within this domain, the natural ally of semiotics is neither semeiotics nor cultural anthropology but aesthetics, considered as the philosophical speculation on the ultimate origins of the nature of feelings and sentiments of sensorial appreciation or depreciation.

Cooperation between semiotics and aesthetics has a long history: on the one hand, semiotics has provided traditional philosophical aesthetics with new frameworks so as to rethink, in the terms of a philosophy of signs, the immemorial problem of the definition of beauty. For instance, Umberto Eco's mentor at the University of Turin, Luigi Pareyson, pioneered a formalist understanding of the ontology of beauty and certainly influenced the later development of his disciple's visual semiotics (2013). On the other hand, scholars in the subfield of the semiotics of the fine arts inevitably interacted with preexistent aesthetic literature, either contrasting its approach polemically, for instance through promoting a anti-romantic understanding of the origin of beauty in the arts, or else drawing from aesthetics, and especially from the new trends of cognitive or empirical aesthetics, philosophical clues, and especially abstract questions, to be taken into account when debating about the signification of 'artistic' signifiers; Omar Calabrese's work in Italy, for instance, typically embodied both trends: a semiotically inspired aesthetics on the one hand, an aesthetically slanted semiotics on the other (2003).

The essay that follows is a contribution to this old and prestigious tradition of study, which has particularly flourished in Italy (Marrone 1990, 1995) and, more generally, in relation to the semiotic attempt at understanding not only the meaning of artworks, but also the meaning

of the artworks' meaning. In the task of developing, by semiotic means, a critical view of the contemporary digital aesthetics, the essay tackles a central question: may digital creation be conducive to a sense of beauty comparable to that which has been cultivated in pre-digital fine arts? More generally, is the visual texture of the digital suitable to trigger aesthetic appreciation? Both these questions fall in the traditional domain of aesthetics but could not be properly dealt with and, possibly, answered, without the contribution of a semiotic philosophy of artistic signification.

The essay will contend, in particular, that the human capacity of receiving a sense of beauty is intimately related to the potentiality of finding configurations of regularity and, therefore, meaning into visual patterns that appear, on the opposite, as swarming products of pure natural chaos. A tentative approach to this hypothesis is looked for in the semiotic and aesthetic comparison between two constitutive elements of the visual imagery: on the one hand, the point in pre-digital visuality and, on the other hand, the pixel as main component of the digital imagery.

Pixel ubiquity

We are surrounded by pixels. And we surround them. As soon as we wake up, we check emails, websites, and social networks on our mobiles; we interact with the LCD displays of appliances in our kitchen, bathroom, car; the screen of our computer 'talks' to us through patterns of pixels; when traveling, giant panels in airports and train stations communicate to us the times of arrivals and departures, pixel by pixel. Pixels are also the main components of digital craft; for instance, in animation movies; or even become the constituents of so-called 'digital art'.

Yet, despite their multifarious 'accomplishments', pixels remain 'hidden' to us, squeezed into the framework of a screen in increasingly high numbers, subserviently absorbed by the configurations of form, color, and brightness in which they inexorably disappear, compressed together by constantly improving technology so that their individual identity literally melts in the beautiful images that they compose.

The present essay is an attempt at indicating some lines for the possible development of a 'semiotics of the pixel'. It is a highly speculative enquiry, for it must start with a foundational skeptical question: are pixels semiotic objects at all? Do they signify autonomously of the image to which they give shape? And if that is not the case - if they appear to be simple and inert constituents of digital configurations - what is their status then? According to Umberto Eco's witty definition, everything that can be used to lie can become an object for semiotic enquiry (1976: 18); but can pixels actually 'lie'? Or are they bound to produce light and color according to a cold mathematical rule, with no possibility for the randomness of intentional communication? (Mitchell 2005: 87-92).

Reflection on the 'semiotics of pixels' here will unfold in between two opposite perspectives, apparently distant and unrelated as regards their historical genesis and theoretical preoccupations. On the one hand, the enquiry will be inspired by one of the most famous classics of modern art theory, Wassily Kandinsky's *Punkt und Linie zu Fläche: Beitrag zur Analyse der malerischen Elemente* (1926). In particular, the present essay will tackle the question whether pixels might be considered as points, and whether pixels in digital art might assume the same aesthetic value as points in Kandinsky's 'metaphysics of graphics'.

On the other hand, the paper will reflect on pixels from the alternative framework provided by so-called 'parametricism': that is, the trend of aesthetic reflection that has developed from the adoption of parameters in digital art, and especially in digital architecture (Poole and Shvartzberg 2015). The two perspectives are, in a sense, diametrically opposite to each other, given that the former advocates a centrifugal aesthetic view on the pixel — turning it into the origin of a possible 'visual expansion' toward a horizon of autonomous signification — whereas the latter tends to turn the pixel into a pure numeric expression, whose semantic potential is completely predetermined by a series of set parameters.

Meditation on points and pixels (or on pixels as possible points of digital visual signification) will be conducted through an unconventional procedure, mainly by reflecting on a series of 'visual provocations' that compare pixels with similar aesthetic elements. At the same time, some grounding questions will constantly accompany the enquiry; in a nutshell, they are the following:

1. What is the difference between a pixel and a point?
2. Are there pixels in nature? And in fine arts?
3. Is digital singularity possible?
4. Is a semiotics of the pixel a viable project?

Money, mirror, temple

A good, provocative point of departure for rethinking contemporary aesthetics of the pixel is *The Million Dollar Homepage*, by Alex Tew (Fig. 1).

The story of this bizarre webpage is known to all digital art aficionados: impoverished British student Alex Tew had the idea to create a 1,000 x 1,000 pixel empty webpage and to sell the pixels on the internet in blocks, within a limited range of time, at the price of \$1 per pixel; pixels could then be used by purchasers as they pleased. The operation was an incredible, viral success: all pixels were sold within a few months, the last block being so coveted that an action on Ebay was organized. Alex Tew suddenly became a wealthy young man, for his funny idea was actually revealing, through provocation, an essential characteristic of the current digitalization of most contemporary visual culture. The rhetorical principles underpinning *The Million Dollar Homepage* can be summarized as follows:

trix 2006). But is that not the same dynamics through which most capitalistic discourse works? The imposition of a meta-frame inducing the idea of a limit of both resources and time ('the special offer') through an appropriate rhetoric fuels competition and stimulates the demand. René Girard's theory of mimetic desire explains well what happens in these cases: the more the pixels are desired, the more they become desirable (1977). There is no particular reason for which those pixels, and not others, should be sold, desired, bought; yet, the successful 'frame of valorization' created by Alex Tew turns the insignificant into significant, the valueless into valuable, the banal into the exceptional.

However, the experiment also reveals the social aesthetics of pixels from another point of view: purchasers pay not only for the possession of a certain quantity of digital figurative space but also for the possibility of using it in order to signify what they please. That is an essential characteristic of pixels, which, to a certain extent, makes them comparable with money: pixels are a protean matter, usable in order to give shape to any configuration of form, light, and color. First of all, buyers can express what they wish. In this regard, *The Million Dollar Homepage* unveils one of the most fundamental allures of the aesthetic economy of pixels: their value characteristically stems from the almost magical ability to grant their possessors the opportunity to 'express themselves', to use a certain amount and configuration of pixels as a matrix for voicing one's insatiable narcissism. From this perspective, pixels in Alex Tew's provocation do not work only like money but also like a mirror in which pixel purchasers indelibly imprint their visual identity.

Second, this manifestation of visual identity is not limited by any contextual constraints: not only may buyers signify what they want, they may do so also without any regard for the context; the purchase of a certain amount of pixels frees buyers to the obligation of 'digital sociality'. As a consequence, the principle of 'the bigger and brighter, the better' affirms itself: the vaster is the part of the page that digital egos occupy, the more they will be seen; competition for visibility, then, creates value and eventually even gives rise, at the end of the experiment, to an auction (the ultimate capitalistic mechanism for linking value and money).

At the same time, the frame invented by Alex Tew prodigiously turns the infinite nature of pixels into a finite one. Purchasers pay an extremely high price for something that a) actually exists in almost infinite quantities, like space or time; and b) actually does not exist apart from the display technology of the purchasers' own screens. On the one hand, *The Million Dollar Homepage* produces value exactly by artificially limiting in spatial and temporal terms the offer of available pixels; on the other hand, the webpage achieves its result by selling the idea that pixels will somehow be forced to signify their purchased content without limit of time and on every screen displaying *The Million Dollar Homepage*. This website therefore shows not only that pixels can be as fluid as money and as enticing as a mirror; it also shows that they can acquire the seductiveness of a temple, which often also selects a random portion of time and space (the perimeter of the *sancta sanctorum*) in order to turn emptiness into the sacred. The first person who drew the perimeter of a temple was a genius; the one who proposed an alter-

native perimeter was a failure, or had to fight very hard to impose the alternative. Similarly, as the history of the Internet proves, Alex Tew's experiment could work only once.

Elements and agency

It is worth recalling, at this point, the etymology of the word 'pixel'. First appearing in a published document in 1965, 'pixel' is a contraction of 'picture element', literally, the element of a picture. A similar concept was expressed in German by the word *Bildpunkt* [literally, 'image point'], which appears in early patents related to the development of television technology, such as Paul Nipkow's 1888 patent. To be precise, though, a picture element and a 'picture point' are not exact equivalents (Paul 2016). Whereas the *Bildpunkt* can remind one of the point, metaphysically dealt with by Kandinsky in his abovementioned treatise, a pixel is, by definition, an element of something else; precisely, it is the element of a picture.

But what is an element in art? Can an artwork be seen as composed by such things as 'elements'? And is the point an element of art? Is the point an element of nature? And what is the difference between points in nature and in the pre-digital culture on the one hand and, on the other hand, pixels in the digital culture?

'Element' is a common word in several meta-languages, although usually associated with some sort of mechanical functioning; 'element' makes one think of the components of a mechanism or of a chemical compound. Metaphorically, its semantics can also be extended to cover the functioning of parts of non-mechanical whole; yet this extension is a priori limited in scope. Rarely will the word 'element', for instance, be used with reference to a limb of the human body, or to the sub-section of a novel, or, indeed, to the forms that compose a figurative artwork. What is the semantic rationale behind this difference? It probably consists in the fact that when something is called 'an element', this denomination implicitly affirms a diminution of its agency; an element of something is not something that expresses an autonomous intentionality and a self-centered agency but something that is subservient to the agency of a greater whole. That is the reason for which conceiving an artwork as composed of 'elements' or, *vice versa*, thinking that points, lines, surfaces, and colors are the 'elements' of an artwork, induces one to think that a static relation holds between the whole of the work of art and the parts that the (analytical) eye somehow discerns in it.

However, this use of the word and its semantic implications, as regards the functioning of an artwork, would be somehow misleading, suggesting, in fact, that such functioning ultimately is non-semiotic. On the contrary, claiming or reclaiming the semiotic functioning of the relation between the parts and the whole of an artwork means underlining that, while points, lines, and surfaces, together with colors and the general topological structure of the image, contribute to the overall aesthetic significance of the whole, they are not entirely subsumed by it and in it. They

can continue to express an autonomous range of signification, which is nothing but the result of their capacity to exert an individual agency toward the eye of the spectator while somehow contributing this same individual agency to the coalescence of agencies that determines the final gestalt of the artwork. That is a first important difference between a point and a pixel; in Kandinsky's meditation on the visual language of western art, the point is never simply an element, but a monad that exerts both an individual visual agency and a collective visual agency, together with the other points, lines, and surfaces that appear in the graphic or pictorial work.

It is undeniable that the point is a component of visual and sometimes also non-visual artworks; yet most of Kandinsky's reflection about it consists precisely in underlining its autonomous and irreducible agency. That also explains the difficulty of defining the range of this agency and, with it, the topology of the point, which can be expressed only in the terms of a tension between the dimension of the point and that of the surface, as Kandinsky correctly suggested. The pixel, by contrast, is never a point but a square, or a rectangle in the case of some LCD curb screens; it differs from the point precisely because of this consubstantial morphology, which entails a whole series of aesthetic consequences. Differences between a point and a pixel are so sharp that they can be arranged in a scheme of structural oppositions. First, whereas in an artwork (even in a pointillist painting) each point is intrinsically different from the others, in a digital picture each pixel must be characterized by exactly the same potential, although this potential is subsequently actualized according to different parameters of color and brightness (Graw & Lajer-Burcharth 2016). Second, whereas the characteristic circularity of the point makes it an essentially centrifugal eidetic component — expanding its visual agency in the surrounding iconic context — the pixel is characterized by a tetragonal structure, whose shape and technological functioning exactly aims at the opposite effect of turning the pixel into a centripetal visual element, unable to expand its visual agency onto adjacent pixels. In a point, color and brightness emerge and seek to irradiate the external visual space; in a pixel, by contrast, color and brightness are trapped within its squared perimeter, in which they must be activated or deactivated in total subservience to the program. A pixel that does not obey the overall program of the picture is not an element anymore but a malfunctioning pixel (Spieler & Scheuermann 2012).

Vibrating patterns, I: gravel

It is instructive, at this point, to ponder similarities and differences between the functioning of the point in art and the functioning of similar morphological elements in nature.

Figure 2 reproduces a photograph of gravel on the path of Villa Casana in Novedrate, a university town in the proximity of Como; it was taken with the digital camera of a mobile phone in early October 2016. A conglomerate of objects that we would normally look at with

indifference, engrossed in our daily routines, acquires a new aesthetic value once it is framed by the 'magical' rectangle of a picture and surrounded by a context that attracts the attention of the viewer toward its details. Gravel, then, ceases to be the inert material that we tread on our way to office and becomes a surface endowed with dignity, a beautiful tapestry composed of little multiform and multicolor stones, all arranged next to each other according to a mysterious and yet perceptible order. So as to complete the marvel of the observer, then, tufts of grass of different kinds — shining with several hues of bright green among the grey, white, and reddish little stones — emerge courageously from the gravel, adding a touch of organic asymmetry to its visual configuration.



Figure 2. Early October 2016. Gravel on the path of Villa Casana, Novedrate, Italy. Digital picture (Iphone 6s) by the author

The aesthetic pleasantness of this visual gestalt, however, does not derive only from the superimposition of a frame; a holistic aesthetic principle seems to be at work herein: the juxtaposition of similar units creates more than their mere sum; a 'pleasant' aesthetic effect emerges from the juxtaposition. At a closer look, indeed, we perceive not only the little pebbles with their distinctive variety but also the whole that emerges from their complex arrangement; the interesting aspect of this aesthetic effect is that the two levels of perception and aesthetic agency interact and blur but, at the particular distance singled out by

the photograph, never merge into each other: the observer can appreciate the individual qualities of the pebbles at the same time as this perception is somehow energized by the swarming gestalt of the gravel.

What is the origin of this aesthetic pleasure? Why should a visual configuration of this kind induce optical and aesthetic delight? Is it entirely subjective, or there is something objective in the pleasant tingling of the multitude? The key to understand the source of this optical pleasure seems to lie in the tension between similarity and difference, universality and particularity. It is also a matter of scale: as distance from the observer increases, heterogeneity yields to homogeneity. Should we look at the same gravel from a distance of one hundred metres, the perceptibility of its internal eidetic and chromatic difference would be dramatically blurred, the swarming effect of its texture dwindling until, in the end, only a greyish uniform surface would be perceived.

Symmetrically, looking closer and closer at the same configuration, smaller and smaller portions of it would be included in the view, until the visual focus would concentrate solely on a single pebble, or on a portion of it, and, therefore, be confined to the uniformity of one colored surface without morphological variations (these would reappear, of course, if an optical instrument enhancing human sight, like a microscope, was adopted). Uniformity, homogeneity, and indistinctiveness are the perceptual result of both a too distant and a too close gaze; in the middle, between these two opposite but actually adjacent polarities, lies the tension between a focus on similarity and a focus on difference, each a harbinger of a peculiar aesthetic pleasure. The 'holistic aesthetic pleasure' disappears when tension between similarity and difference is no longer perceptible. However, when it is, it is conducive to an oscillation between two cognitive as well as emotional conditions.

On the one hand, a close look entails an adaptive pleasure of aesthetic discovery: singularity 'hides' within universality; approaching the swarming gestalt of the gravel allows the observer to 'find out' what its visual components are; the individuality of pebbles is 'discovered' and almost 'rescued' in their multitude. Why should this pleasure be adaptive? It is not difficult to hypothesize that our ancestors might have benefited from an aesthetic condition giving them cognitive pleasure every time that they could 'look closer and better', in order to distinguish the traces of a predator in the sand, for instance, or the eyes of an enemy in a bush. The semiotic energy of the secret operates in this visual dynamics, wherein the particular, the individual, and the singular is as though 'hidden' in the general, in the collective, and in the plural: looking closer allows one to uncover a level of reality that is not immediately manifested.

On the other hand, a distant look loses this sense of individuality and progressively attributes more visual weight to the whole; the vibrating energy that it receives from its parts starts to dwindle and a feeling of compactness emerges; whereas a closer look to multitudes bestows upon the observer the sentiment of an aesthetic discovery, a more distant look en-

tails a pleasure of totality, the bliss of a gaze that, suddenly, seems to encompass more of the reality and understands it better as a consequence. The pleasure of distinctiveness versus the pleasure of indistinctiveness: the two polarities imply diverging cognitive and aesthetic allurements but could not be appreciated as such if not within their mutual tension, that between the uniqueness of the object and its serial multiplicity.

Vibrating patterns, II: sand

In no other object is this tension as spectacularly visible as in sand. Dunes appear as uniform in color and internal morphology from a distance, but the vibration of the multitude of grains that compose them emerges as soon as one approaches one's gaze, a vibration that, then, diffracts into the surprising individuality of the grains of sand themselves as one looks even closer. Figure 3 reproduces photographs of grains of sands from different areas of the world; one of them is actually a specimen of sand from another planet (I will allow the reader the pleasure to find out which one).



Figure 3. Photographs of different kinds of sand

Their chromatic difference is immediately evident. However, at a closer look, their eidetic particularity also becomes manifest. The grains in each picture appear as different from those in the adjacent photographs; moreover, even within each of the photographs, with an even closer look, individuality manifests itself as irreducible difference of shape, color, position and, as a consequence, texture. A closer look redeems the individual dignity of every single grain of sand. Grains do not cease to be part of a larger, vibrant whole, but acquire an almost personal beauty, as if they were each created by a dedicated agency.

A phenomenological look at the gestalt of sand makes one appreciate the emotional effects of closeness and distance: as one's gaze gets closer and closer to sand, for instance, particularity emerges in the form of irreducible singularity: each grain of sand is different; as one's gaze recedes, a different aesthetic pleasure, accompanied by a different emotion, becomes predominant: the world becomes more easily intelligible; the dune becomes predominant in perception.

Vibrating patterns, III: cobblestones and asphalt

The dialectic tension between the singular and the plural as well as the aesthetic pleasure that it brings about manifest themselves not only in the observation of natural holistic configurations but also in that of human-made visual patterns. Figure 4, for instance, reproduces the photograph of a cobblestoned path in the Institute of Philosophy at the University of Leuven, Belgium.



Figure 4. Late September 2016. Cobblestones at the Institute of Philosophy, University of Leuven, Belgium. Digital picture (Iphone 6s) by the author.

The material texture of the pavement is in part justified by functional purposes: for instance, increasing friction and traction in case of rain. This material texture, however, entails some aesthetic effects too: cobblestones are perceived as more ‘pleasant’ than asphalt. On the one hand, such aesthetic connotation is due to historical tradition and social conditions of perception: cobblestones are an architectural element that immediately sends the viewer back toward the past, when asphalt had not been invented yet or was not systematically used. As a consequence, cobblestones are now included in the common architectural alphabet of cities that want to rediscover their past, or rather reinvent it, and offer it to the aesthetic consumption of tourists and students. On the other hand, though, the pleasantness of cobblestones also derives from the intrinsic perceptual tension implied by their gestalt. That is not as extreme as in the case of gravel or sand, but it is all the more pleasurable as a consequence

of that: at a certain distance, cobblestones appear as all very similar and orderly arranged in regular rows; this perception, however, never eliminates the underpinning aesthetic vibration, which is precisely due to small differences among cobblestones and to slight imperfection in their alignment (Uffelen 2009). The tension between the orderliness of the square - the homogeneity of the little forms, and their systematic layout on the one hand and, on the other hand, the persistence of subtle 'deformities', as well as minute varieties in color and topological disposition - turn this cobblestoned pavement into something that, to a certain extent, is alive, meaning that it presents perception with an internal visual tingling that is somehow akin to the movement of organic matter. To the gaze, this cobblestoned road surface swarms as though it was covered with big, square insects.

Other materials do not visually behave in the same way, mainly because of the different texture that characterizes them, a texture which, in turn, is a consequence of the physical structure of the materials. In this case, too, sociocultural connotations handed down through the history of the material interact with its intrinsic perceptual affordance. Were the road in the Institute of Philosophy of Leuven covered with asphalt, for instance, the enchanting melancholy that cobblestones signify and suggest to the observer would be replaced by an *imaginaire* of parked cars and futuristic efficiency.

Each material, though, has its poetry, and conceals in itself the organic aesthetics stemming from the dialectics between uniformity and deformity. It is just a matter of scale, and the right distance. It is sufficient to observe asphalt from closer, and with an affectionate eye, and then this apparently cold material, too, reveals in itself a beautifully disorderly world. Asphalt engineering looks at cracks in asphalt pavements as if they were mere problems due to the wrong fabrication or laying, and yet the typology of asphalt 'problems' reveals, to the eye of the attentive observer, a multitude of beautiful visual patterns, each traversed by a vibrant dialectics between the uniformity of the material and the chaotic tensions that explode through it (Field & Golubitsky 1992). Figure 5 contains images of several types of 'asphalt pavement distress'; this technical term itself is interesting, as though asphalt, too, was able to 'suffer' and be 'in distress' like living beings are; the denomination of some forms of 'asphalt distress', then, like "fatigue 'alligator' cracking", for instance, implicitly hints at the fact that this inert material can, under certain conditions of transformation and at the right distance of observation, take on the gestalt of an organic texture, like animal skin:

Are not all these kinds of cracking 'beautiful'? Do they not look, when the frame of a picture surrounds them, isolates them, and invites the viewer to observe them from the 'right distance', like the visual configurations that contemporary artists so painstakingly seek to produce in their artworks? Could they not be the result of Alberto Burri's imagination? In each of these images, the dialectics between the reassuring uniformity of the material and the insurgence of asphalt grains reemerges, turning the material 'elements' of asphalt into as many sources of individual agencies, or at least into as many sources of agency that coalesce into independent

subgroups. The fascinating aspect of this ‘rebellion of the material’ — as one could call it with an anthropomorphism — is that a micro-order seems to take shape within the disrupting disorder of the cracking. The cracking introduces deformity in uniformity, and yet this deformity too seems to be underpinned by a more complex formula.

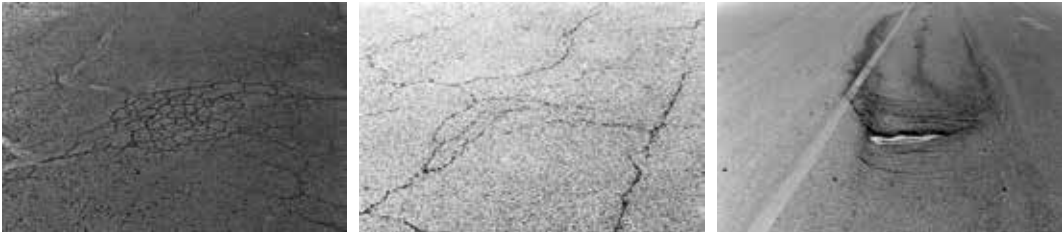


Figure 5. Different types of asphalt ‘cracking’: fatigue ‘alligator’ cracking, block cracking, and slip-page cracking

Vibrating patterns, IV: a flowerbed

But what is the formula behind the holistic aesthetic effect that emerges from a picture like the one reproduced by Figure 6?

The ‘holistic’ aesthetic effect described above can be observed not only in the inorganic, mineral world (be it ‘natural’ or human-made) but also in the organic, vegetable world. Increase in morphological variety changes the characteristics of this effect; accrued presence of life often implies a more internally various gestalt; that entails extreme difficulty of representing the tension between homogeneity and heterogeneity; hundreds of species gather together in a single flowerbed; that reveals the inadequacy of botanical knowledge and representation. Botany can identify the plants and flowers of the flowerbed as tokens of botanical types, as members of a species, but does not take into account the singularity of each flower, of each plant. This flowerbed exerts an almost hypnotic optical power exactly because its overall gestalt emerges from the juxtaposition of a very high number of singularities.

As it was suggested earlier, there is a relation between life and increase in the morphological complexity of a multitude. If life quintessentially coincides with movement, this flowerbed differs from a cobblestoned pavement precisely because its internal visual structure is constantly vibrating under the effect of a myriad of motilities. As a consequence, a Botticelli, or another extremely skillful artist, would be required in order to render the beauty, but also the morphological intricacy, of hundreds of species competing or cooperating for life not only as a species, but also as individual members of that species. The more one moves forward through natural evolution, the more one comes across species endowed with the ability to accomplish elaborate movements with increasingly higher degrees of freedom and complexity. Were a

horse pasturing on this flowerbed, for instance, the very wide range of movements that the animal could easily perform would further complicate the visual intricacy of the scene. A Michelangelo would be needed to render this holistic visual dynamics in a single static pictorial image.



Figure 6. Late September 2016. *Flowerbeds at the Public Library, Leuven, Belgium.*
Digital picture (Iphone 6s) by the author

One might hypothesize that the tension between homogeneity and heterogeneity that, at the right distance, a landscape of dunes or even an asphalted road manifest to the gaze, is in proportional relation with the degree of freedom of movement and, therefore, change, that the elements of these visual gestalts can enjoy. As geology suggests, minerals change through time too, and yet the speed of this change is mostly invisible to human perception (except in spectacular phenomena like earthquakes or volcanic eruptions); the interplay between sand and wind makes the former much more subject to movement and change than a rock or a cobblestoned pavement might be (indeed, cobblestones and other pavement materials have been invented or adopted exactly in order to limit this mutability and its uncontrollable and undesirable effects: it is easier to travel on cobblestones than on sand). The complexity of this interplay of agency results in visual effects at the macro-level of the gestalt of dunes, which do not appear as immobile blocks of sand grains but as movable, almost living, beings. A flowerbed, or, even more, a flowerbed on which horses graze, is a place in which this interaction of agencies, and the aesthetic effect resulting from it, becomes exponentially more complicated.

Our gaze is pleased by a flowerbed because it is intrinsically a spectacle of freedom, in which myriads of competing agencies nevertheless find a way to harmoniously occupy the same time and space (Tao 2008). Incidentally, that explains the difficulty of depicting a battle scene. The great pictorial representations of battlegrounds in art history all look like flowerbeds, for their static character — as well as their intrinsic aesthetic aim — does not allow the painter to sincerely express the chaos of a battle; the depiction of a battle is always somehow harmonious, as though the warring agents would nevertheless agree in assuming their postures, forms, and colors in order to fit within the frame of the painting.

Vibrating patterns, V: textiles

The pleasant aesthetic effect of the interaction between idiosyncratic agencies and their holistic harmony results from hand-made visual configurations too. The cobblestoned pavement was an example of it, although in that case its aesthetic effect was certainly less predominant than its practical purpose. In any case, the aesthetics of a cobblestoned pavement is generally unintentional, or follows the aesthetic inertia of architectural fashion. There are, in contrast, human artifacts that explicitly seek to exploit the dialectics between singularity and universality for aesthetic purposes. Many forms of weaving craft, for instance, consist in the juxtaposition of knots or other weaving units that, although composing a regular pattern and sometimes even a complex figuration (as in tapestry, for instance), maintain, nevertheless, their subtle individuality and, therefore, contribute to the unpredictable vibration of the whole. Take, as an example, the Equatorian alpaca carpet from Otavalo market whose photograph is reproduced in Figure 7:

Taking a closer look, each of the knots that compose this carpet is different from the others. Without this singularity, the texture of the rug, but also its tactile affordance, would be completely different. Within a certain range of observation distance, the carpet looks as it does exactly because it constantly proposes the interaction between two phenomenological levels: on the one hand, the vibration of a multitude of individual knots, each slightly different from the others in terms of color, topological position, as well as internal morphology; on the other hand, the emergence of an harmonious but vibrating gestalt from the juxtaposition of these singularities; the individual agency of the knots is not completely eliminated (the fibers that compose the knots twist and turn, each with a peculiar bend in space and time), and, yet, it is somehow curbed within the overall gestalt of the rug. This subtle dialectics affects not only the visual configuration of the carpet but also its tactile affordance. Stepping barefoot on such carpet feels like it does because the knots in it have an internal structure and, to a certain extent, a freedom of movement that molecules of marble in a marble pavement do not have. The material tactility of a carpet is also an expression of the degree of freedom of its internal morphology.



Figure 7. Equatorian carpet from Otovalo market. Digital picture (Iphone 6s) by the author

Ghiordes (symmetrical) and *senneh* (asymmetrical) knots; *jufti* (over four warp threads) and Tibetan knots: there is not only a large variety of knots (Fig. 8) but also an individuality of them, for they are made by hand; as a result, the aesthetics of hand-made rugs is different from that of machine-made rugs. The variety of the internal morphology of a rug is increased by the possibility to choose among different kinds of types of knots, exactly like the internal visual variety of a flowerbed depends on the possibility of choosing among different species of plants and flowers; however, a hand-made rug somehow imitates a flowerbed also because its internal morphology vibrates as a consequence of the fact that no knot is exactly like the others, in the same way as each rose shows micro-morphological peculiarities while belonging to the same species as all other roses (Bahamón and Pérez 2008). The hand of the rug-maker strives for perfection, and yet its intentionality translates into movements that are never completely standardized. Fatigue, state of mind, conditions of work change throughout the hours, the days, the months, the years, thus introducing slight perturbations in the movement of the hand that knots a rug. The unpredictability of the human hand's agency somehow transfers into that of the knots of a rug, exactly like a mysterious variation is constantly introduced into the morphology of rocks, animals, and human beings. 'Creating' a hand-made rug is different from 'fabricating' one by machine, because the former operation reminds one of the unpredictable creativity of nature, whereas the latter seems awkward in its dealing with the tension between perfect universality and idiosyncratic singularities.

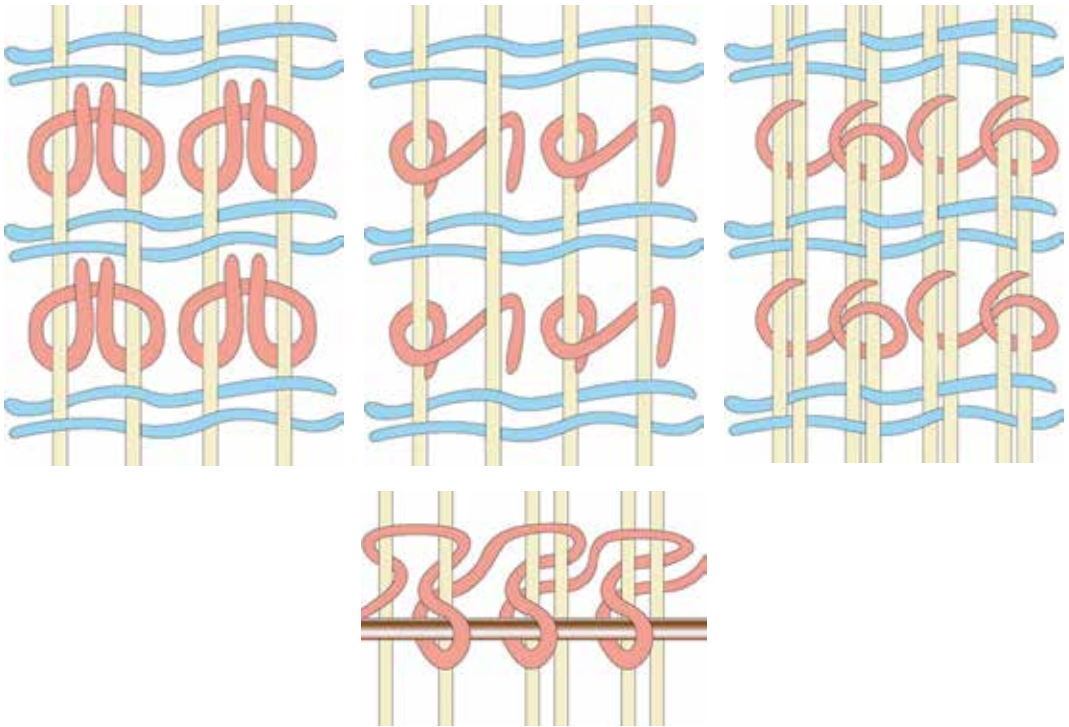


Figure 8. Types of rug knots



Figure 9. Differences between hand- and machine-made rugs

The comparison between the gestalt of a machine-made rug and that of a hand-knotted one reveals the paradoxical dialectics between perfection, imperfection, authenticity, and aesthetic quality: an authentically hand-made rug is knotted so as to minimize imperfections; yet, imperfections persist and constitute the uniqueness of the rug, as well as its value and mark of authenticity; machine-rugs are less expensive because they are too perfect. Fake imperfections intentionally introduced in rugs by human rug-makers tend to be stere-

otypical, but more creative than intentional, machine-produced imperfections. The mastery of rug-making, which is based on the mastery over knots, consists in the ability of arranging the potential motility of warp threads into regular patterns; this reduction of complexity is never exhaustive, and that is exactly what makes the difference with a machine-made rug. In a hand-made rug, the regularity of knots constrains their material singularities; yet these singularities, and the agency they evoke, never cease to vibrate under the surface of the visual pattern, as if they were tiny servants constantly on the verge of bursting into a rebellion. In general, the tension between the struggle to perfectly subdue the idiosyncrasy of matter and the constant possibility of an emergence of imperfection seems to generate an aesthetic pleasure that is akin to that which is enjoyed by the beholder of a dune, of a flowerbed, or of a cobblestoned pavement, but enhances even more the dialectics between individual agencies and overarching gestalt. Fig. 10 reproduces the photograph of a Panama hat recently bought in Ecuador.



Figure 10. Mid-September 2016. Equatorial Panama-style hat, Quito, Ecuador.
Digital picture (Iphone 6s) by the author

At this stage of the article, it is quite easy to observe that, in this hat, too, when it is looked at from an appropriate distance, a dialectics between singularity and universality, heterogeneity and homogeneity takes place. *Mutatis mutandis*, a Panama hat aesthetically works like a rug: in a limited amount of space, determined by the framework of the hat's shape, single compositional units must be juxtaposed and woven together so as to fill and at the same time create the form. In this case too, the manual work of the hatter strives to reduce the idiosyncrasy of the straw fibers, to subdue them into a regular order; yet, each fiber 'behaves' both morphologically and chromatically in a peculiar way, yielding to the general scheme followed and enforced by the hatter, yet constantly threatening to escape it. As a consequence, the threat of small imperfections makes an authentic panama hat vibrate with the dialectics between the plan of human creativity and the resistance of matter. Differently from a Persian

rug, though, this plan does not involve bi-dimensional figuration but three-dimensional shape. Straw fibers must give rise to the shape of the hat.

Hats and screens

So as to gradually return to a 'semiotics of the pixel', it might be interesting to wonder: what is the difference between buying a new digital screen and buying a new Panama hat? First of all, how does one assess the quality of a Panama hat?



Figure 11. Rings inside a Panama hat

On the one hand, the quality of a Panama hat depends on some objective, countable features, such as the number of rings inside the hat or the number of straw fibers per inch. Figure 11 reproduces two photographs of these countable signs of the quality of a Panama hat. They are functional qualities too: a tightly-woven Panama hat will be more resistant, resilient and, in general, capable of maintaining its shape against the hostile agency of external forces (rain, wind, someone sitting on the hat, etc.).

On the other hand, though, the quality of a Panama hat also depends on some inter-subjective, uncountable features: the shape of weaving, for instance; or the color of straw.

Panama hat connoisseurs usually prefer the straw weaving reproduced in the second of the photographs of Figure 12, praising its impeccable regularity (at least at this distance of observation), in contrast with the irregularity of the first specimen. However, this time the criterion at the center of the evaluation is not objective, meaning that there is no quantitative, countable way to determine which straw arrangement is better, which one is worse. Stereotypical aesthetic evaluations in this domain form as a consequence of the very complex and mostly implicit negotiation within a community of interpreters guided by a group of experts.

As a result of these negotiations, Panama hats with regular arrangements of straw fibers become part of the canon and are sold at higher prices, whereas Panama hats with irregular fiber arrangements are less favorably judged and less expensive. A simple question to ask in order to distinguish between countable and uncountable criteria of aesthetic evaluation, between objective and inter-subjective standards is: will it change in time and space? As regards the number of straw fibers woven in a Panama hat, the answer is negative: one day we might value a loosely woven Panama hat more than a tightly woven one, and yet the former will always have more fibers than the latter in the same amount of space; in this domain, its superiority will always be measurable. In the second case, instead, the answer is positive: one day, the community of interpreters that evaluate the quality of Panama hats might change in such a way that hats with irregularly arranged straw fibers might look more 'authentic' than hats with regular fibers (for instance, as a consequence of the massive diffusion of splendidly woven machine-made hats). That is even more evident as regards color: there is no objective reason for which one of the straw fiber colors represented in Figure 13 should be valued more than the others.

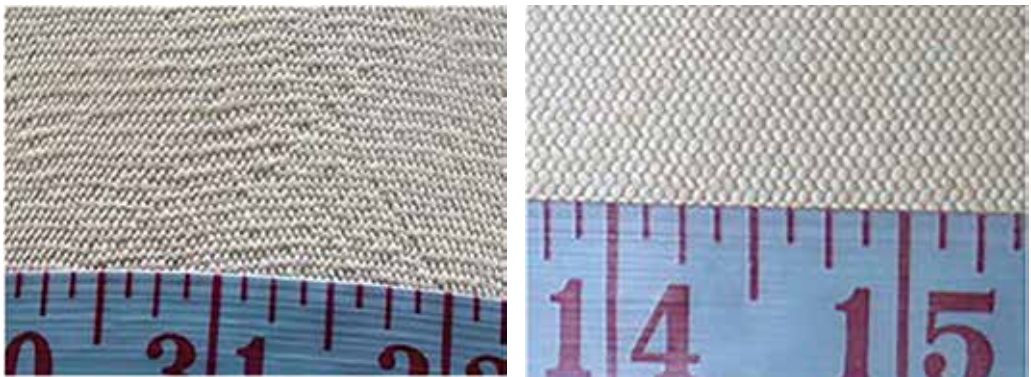


Figure 12. Regular and irregular straw weaving patterns in Panama hats

Whereas the first criterion is a quantitative one, the second is a qualitative one. It does not bear on a perception that can translate the qualities of a phenomenon into quantifiable measures and, ultimately, comparable numbers. It bears on an aesthetic appreciation that, again, is able to receive aesthetic pleasure from the dialectics between uniformity and deformity, between the smooth surface of a Panama hat and the subtle imperfections that make its texture vibrate at both sight and touch. A Panama hat is a result of creation as much as a rug

is. They both 'imitate' the complex way in which natural agencies and, ultimately, life, give rise to a sand dune, or to a flowerbed. They reproduce, in their internal morphology, the struggle between idiosyncratic mutation and collective order that seems to characterize the patterns of evolution (Romero and Machado 2008).



Figure 13. Colors of straw in Panama hats

Deconstructive pleasures

Figure 14 reproduces the photograph of a tapestry currently hanging in a boutique hotel of Quito, Ecuador. From a semiotic point of view, a tapestry is a carpet in which the plastic level is 'forced' to express a figurative level. However, the plastic level of a tapestry never completely disappears but contributes to the aesthetic effect of the figurative level. In a tapestry, a constant plastic vibration underlies images. The quality of this 'vibration', though, changes depending on how the tapestry is woven. The way in which the single knots are knotted, and give rise to the overall figure, influences its perception by the beholder.

The same principle is observable, with different modalities, in everyday decorative arrangements, such as the one of the fruit-salad of Figure 15:

There are no compelling functional reasons by which fruit should be cut and presented in this way (except, perhaps, making it easy to pick them with a fork or spoon). The aesthetic quality of such arrangement derives, again, from the pleasure that human beings feel in deconstructing the figurative level of reality into combinable ingredients, such as the colorful geometric shapes of this fruit-salad. As in a rug, or in a tapestry, or in a Panama hat, the idea that tiny units might coalesce into an overall effect of shape and sometimes even figure is, for

some reason, enthralling. In a fruit salad, human beings play with the dynamics of order and disorder, homogeneity and heterogeneity, deconstruction and reconstruction that underpin the natural world and its perception.



Figure 14. Mid-September 2016. *Equatorian tapestry*, Casa Joaquin Boutique Hotel, Quito, Ecuador. Digital picture (Iphone 6s) by the author.



Figure 15. Fruit salad

The aesthetics of pixels

Is the same dialectics clearly visible in LCD screens too? Is the quality of such objects gauged in the same way as that of Panama hats is, by conflating countable and uncountable criteria of evaluation? Does a digital screen decompose and recompose an image of reality in the same way as a rug or a mosaic do it? And, last but not least, is a screen, too, the visual framework of a creative production of icons, reminiscent of the way in which nature itself manifests its visual morphology in minerals, plants, and animals?



Figure 16. Mid-September. Giant screen at Guayaquil Airport, Guayaquil, Ecuador.
Digital picture (Iphone 6s) by the author.

Figure 16 reproduces the photograph of a giant screen displaying arrival times at the airport of Guayaquil, Ecuador. Similar screens have been installed in almost every airport or train station around the globalized and cosmopolitan world. Is the aesthetic functioning of this LCD screen somehow comparable to that of the natural patterns or the visual artifacts that have been mentioned so far? When comparing several digital LCD screens among them, the only thing that really matters is a countable criterion, that is, the number of pixels that are squeezed within the framework of the display. Indeed, there cannot be an alternative criterion, for pixels actually *are* elements, as the etymology of their name suggests. They completely abdicate any autonomous aesthetic agency in order to become totally subservient to the project of the overall picture. They are not round — a feature that Kandinsky would deem essential in the visual metaphysical force of the point — but square or, at the most, quadrangular, like in the most recent curb LCD screens. Most importantly, they do not express any singularity,

not simply because their shape is always exactly the same, but also because their value of brightness and hue can be determined by a numeric value, with no margin for idiosyncrasy. A pixel that does not abide by the mathematical rules of the figurative project of which it is an element is a malfunctioning pixel.

Pixels, therefore, do not aesthetically function like grains of sand or cobblestones because their individuality is thwarted at the very moment of its fabrication. They also starkly differ from the knots of a rug or the tiles of a mosaic, not only because of their lack of 'deformity' and, therefore, singularity, but also and above all because the enunciation of a pixel must coincide with the disappearing of it. In a carpet, the dexterous hand of the rug-maker has juxtaposed very tiny knots so that they might almost melt into elaborate figurative patterns; yet, the individuality and singularity of knots, as it was underlined earlier, persists, and contributes to the aesthetic effect that this paper has singled out and described both in nature and culture.

In contrast, the possibility of a digital art of the screen is somehow limited by the way in which its constituents, the pixels, are hidden from sight and reduced to total obedience - for such is the quantitative promise of the market to LCD purchasers (Castelli and Berliner Festspiele, Martin-Gropius-Bau 2007). The rhetoric of pixels does not reveal their semiotic nature but their robotic perfection, their cold splendor, Lévinas would have said. Whereas paintings, tapestries, rugs, and even Panama hats retain something of the liveliness of the face, with its dazzling vibration of imperfections, the LCD screen is a façade, a surface that, like a mirror, divests itself of any semiotic functioning in order to yield to the reassuring regularity of a mathematical ratio. An image displayed by an LCD screen appears as perfect to the gaze, even more perfect than its content does in reality to sight; and yet, this content is somehow deprived of life, since it is stripped of that dialectics between the regular and the eccentric that underpins most beholding of a visual multitude in both nature and culture. That does not mean that LCD screens are intrinsically unable to reveal this dialectic. In this regard, a semiotics of flickering is in order. Lagom LCD monitor test pages define this instance of technological idiosyncrasy:

In a pixel on an LCD monitor, the amount of light that is transmitted from the backlight depends on the voltage applied to the pixel. For the amount of light, it doesn't matter whether that voltage is negative or positive. However, applying the same voltage for a long period would damage the pixel. For example, electricity decomposes water into oxygen and hydrogen gas. A comparable similar effect could happen inside the liquid crystals that are in the pixels. In order to prevent damage, LCD displays quickly alternate the voltage between positive and negative for each pixel, which is called 'polarity inversion'. Ideally, the rapid polarity inversion wouldn't be noticeable because every pixel has the same brightness whether a positive or a negative voltage is applied. However, in prac-

tice, there is a small difference, which means that every pixel flickers at about 30 hertz. (Available at <http://www.lagom.nl/lcd-test/inversion.php>)

It is extraordinary how the flickering of light bulbs or, more recently, of LCD screens stereotypically intervenes in the climactic moments of horror movies. Flickering, indeed, signals the arrival of the uncanny, the monstrous, and the horrific through the idiosyncratic malfunctioning of that which, by definition, should be as reliable as a machine. Flickering, therefore, signifies the manifestation of a mysterious, often malign agency in a mechanism that should not have one. All of a sudden, the pixels of an LCD screen cease to be picture elements — subservient to the cold perfection of the image they are supposed to give shape to by renouncing any individuality — and turn into Quixotic mavericks, possessed by a dangerous force.

The flickering of LCD screens (Fig. 17) is the digital equivalent of the malfunctioning of flap displays, less and less in use around the world and almost entirely replaced by digital screens. However, the latter would entail a strong narrative dimension — a sort of suspense — and deploy an aesthetics of imperfection that was heavily dependent on the essentially mechanical nature of the display (Hagener and Hediger 2015) (in Fig. 18, a split flap display in the arrival area of the airport of Belgrade, Serbia, with ‘Dadaist’ malfunctioning).

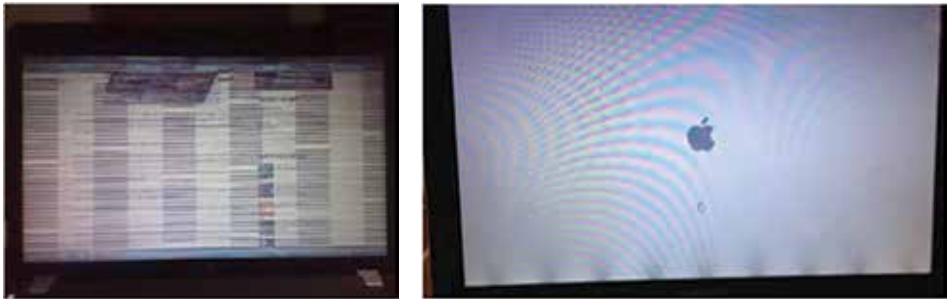


Figure 17. LCD screens flickering



Figure 18. Broken flap display at the airport of Belgrade

The fact that the era of a possible ‘poetics of the mechanical error’ is somehow lost forever is emphasized by vintage, hipster, and nostalgic efforts at recuperation, such as the split flap display reconstituted through Arduino materials and visible in Figure 19. The description of the project is extremely telling of its nostalgic connotations:

With three-letter abbreviations like BRB, LOL, OMG and SMH commonplace in today’s smartphone and online conversations, the Maker decided to bring text and animation back to its mechanical roots with his own split flap display. As you can see in the video below, an arcade button under each frame enables him to cycle through all 26 letters to spell out his thoughts in acronym form, while a fourth frame reveals an animation of the very first cat video (by Eadweard Muybridge). (Available at <https://blog.arduino.cc/2016/07/15/omg-this-diy-split-flap-display-is-awesome/>)



Figure 19. Arduino split flap display

Conclusion: from demosaicing to pixilation

Are there any chances to turn LCD screens and, more generally, visual digital technology into a matrix for aesthetic effects at least reminiscent of those induced by more traditional ‘raster surfaces’, such as rugs or mosaics? Although the pixels of LCD screens can potentially malfunction and misfire, as in flickering, such a possibility is so deeply embedded in sophisticated technology that it can rarely give rise to unpredictable aesthetic effects. A very interesting term in digital screen technology is “demosaicing” (also de-mosaicing, demosaicking or debayering), an operation that, through appropriate algorithms, reconstructs a full color image from the incomplete color sample outputs of an image sensor overlaid with a color filter array (CFA). Demosaicising is the ontological and aesthetic opposite of the mosaic: whereas in a

Byzantine mosaic the tiles contribute to the splendor of the image but, at the same time, do not entirely melt into it — their irreducible singularity farther enhancing the golden vibration of the whole —, in a demosaicised digital image the multitudinous matrix of the screen is concealed behind a numeric, impenetrable smoothness.



Figure 20. Late 17th century azulejos: the adoration of the Eucharist;
Lisbon: National Museum of Azulejos

Figure 20 reproduces the photograph of a splendid *Adoration of the Eucharist* composed of Portuguese *azulejos*; one can admire it at the National Museum of Azulejos in Lisbon. In this and similar images, the tiled fragmentation of the image is not an obstacle to its visual composition, but underlays it without ever completely disappearing, so conferring to it a sort of geometric subtext, a connotation of order and regularity (Marks 2010). The gaze enjoys re-composing the image from the single tiles, and yet the singularity of the tiles does not vanish in this visual exercise of reconstitution of the image, since they continue to geometrically vibrate under the figurative surface of the representation. This effect, which turns the composition of *azulejos* into an effort of creativity non-dissimilar from that which nature deploys in a flowerbed, is completely absent in a correctly functioning LCD screen.

We are more and more surrounded by pixels. Yet, the only possibility for this digital environment to resemble a human fabric of singularities and order, regularities and imperfection, would be through delving into the deep technology of the current displaying matrixes so as to introduce therein a dynamic of pixelation. In filmmaking, pixelation is a technique, dating from the beginnings of cinema, in which live actors are posed frame by frame and photographed to

create stop-motion animation. The word derives from an archaic British word meaning “possession by spirits” (pixies) (then used to describe the animation process since the early 1950s).

Animating a digital image means turning the subservient logics of the pixels into the semiotics of the pixies, that is, elements that cease to be such for, possessed by mysterious forces, they reclaim the freedom of the singular for the collective project of the digital image, placing it in the subservience of its eternal transmission and marketing allure. Pixies, not pixels, are the equivalent of the unpredictable agencies that move creativity in nature, and that the human species has sought for millennia to reproduce in the paradoxical weaving of its visual artifacts. Forgetting about the beauty of a constantly reemerging imperfection leads to a domain of the cold displaying surface, to the imposition of a framework that is destined to remain inexorably empty.

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Study of Visual Semantic Attributes Responsible for Effective Communication in Bollywood Movie Titles

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Bollywood is a Hindi language Movie industry based in Mumbai. In India, movie publicity is a part of diverse visual culture and one of the key factors for movie success. Print media publicity is evident from the beginning, wherein posters played a vital role. Movie posters act as a form of visual language through which the gist of the film can be perceived. To understand the role and communicative power of a poster, one has to understand its individual components as well as their interrelationship in the poster layout. The design elements in a movie poster can be grouped in to two major categories; non-textual and textual. Under textual content, title design is one of the key elements where creativity has been explored at its best. This article looks at the visual attributes associated with the title design and discusses their role in overall meaning creation. A semiotic approach has been used to structure the analysis in two parts: syntactics and semantics. Findings reveal significant visual attributes which have been used to design influential movie titles. The range of visual attributes listed in this article will provide an insight to designers/lettering artists to produce more persuasive typography/lettering.

KEYWORDS Bollywood, expressive lettering, film posters, semantic attributes, title design

Introduction

Bollywood is the Mumbai based cinema industry mainly known for the Hindi language movies. This industry is responsible for producing movies that are enjoyed by audiences in India as well as across the world. Throughout its journey, Bollywood has achieved the status of

one of the most popular movie industries in the world (Ahmed 1992, Matusitz & Payano 2011). Movie publicity is one of the key factors for the success of the movies. Since the beginning, different modes of movie publicity such as movie booklets, lobby cards, show cards, posters, banners, song synopsis booklets and large cut-outs have been used. Print media has been the dominant medium of publicity during the early years of Bollywood, with posters playing a vital role. Over the decades, the movie poster has become a visual artefact in terms of social and historical values. Researchers have perceived the movie poster as a 'cultural icon', a 'semiotic moment' and a 'commodity' (Mazumdar 2003), a 'mass medium' (Haggard 1988), an 'object of art' (Pinto & Sippy 2008) and a 'visual artefact' (Devraj & Bouman 2010). From a syntactic perspective, a movie poster is a composition of static images (graphical/non-textual) and texts (textual), intended to communicate the story of the movie in a single shot (Mazumdar 2003). The graphical content generally includes images of the protagonists, scenes from the movie and illustrations, whereas the textual content mainly includes the film's title, the tagline, the credit block and the protagonists' names. At present, literature has primarily covered the non-textual elements, especially protagonists' image and colour. Studies have acknowledged the importance of textual content, especially title design, without, however, dealing with it in any systematic manner. With the aim to understand the role of lettering/typography in movie posters, this study focuses on the title design.

By contrast to Western practices, concern with typography has not been appreciated in India till recently. This is evident in the majority of movie posters, where the central characters have always been considered as the primary element of the posters (Pinto & Sippy 2008, Devraj & Bouman 2010). The immense popularity of the movie stars, as well as the hierarchical tribute to the director and the producers, explain this bias.

Depending on their characteristics, letters can suggest romance, suspense, drama or other feelings (Dey & Bokil 2015). The whole purpose of 'graphically' treated lettering is to align the latter with the story subject, and, thus, function as an extension of the imagery (Eisner 1985). In this way, lettering design contributes to the creation of mood and bridges the communication gap between letters and the other design elements in a composition. For example, the graphical treatment of the titles *Jaal* (Net, 1967), *Paar* (The Crossing, 1984) and *Iqbal* (2005) support the theme of the respective movies (Figure 1). Lettering also helps to establish a connection of other design elements in the poster layout with the story. For example, most of the suspense thriller movie posters feature graphical elements such as cobweb or spiral lines. In *Jaal* (Net), the title has been treated with a cobweb that helps in creating a direct relationship with the literal meaning of the title and indirectly to the movie's theme. *Paar* (The Crossing) is a social drama movie, whose title has been designed using its mirror reflection. It is been supported by flat 2D illustration of a herd of pigs. In the movie, there is a key scene where the main characters are moving pigs through a river to earn their livelihood. It symbolically relates to the movie's theme which is based on the exploitation of poor people in the rural state of

Bihar. Similarly, in *Iqbal*, a sports drama movie revolving around the game of cricket, the graphically treated title directly conveys the message without any ambiguity. This kind of practice, which creates a direct as well as symbolic connection to the theme of the movies, has been significantly explored in Bollywood movie titles. This paper looks into these aspects in terms of their significance and role in the title design.



Figure 1. Graphically treated titles: *Jaal* (1967), *Iqbal* (2005), source: Pinto & Sippy, 2008 and *Paar* (1984), source: Devraj & Bouman, 2010

Methodology

For our study we collected movie posters from different sources, including books, the National Film Archive of India, an online digital repository (Osianama), poster collectors, and poster shops in Chor Bazar (Mumbai). Further, this paper uses semiotic approach to study the visual attributes associated with movie titles. As movie posters are meant for advertising, where lots of meaning is communicated using many design elements in a single static image, it can be a good framework for the analysis. According to Daniel Chandler, semiotics teaches us that reality is a system of signs (Chandler 2002). Studying semiotics can help us to be more aware of reality as a construction and of the roles played by everyone in constructing it. It is a study of signs and according to Saussure's dyadic model; the sign is the whole that results from the association of signifier and the signified (Figure 2). This relationship is called 'signification', and the value confirmed by a sign depends on its relationship with other signs within the system (ibid.) Semiotics is subdivided into three areas: syntactics, semantics and pragmatics. Syntactics is the study of the relationship among signs in a formal structure. In this article, it has been used to investigate the syntax of the movie titles. Semantics is the study of meaning created by signs in a system, where they interact with others signs. This approach has been uti-

lized to understand the meaning-making nature of visual attributes with respect to the movie genre or story. Pragmatics is a study of the relationship between signs and sign-using agents. Here it is context and use that contributes to the meaning and interpretation of a particular design.

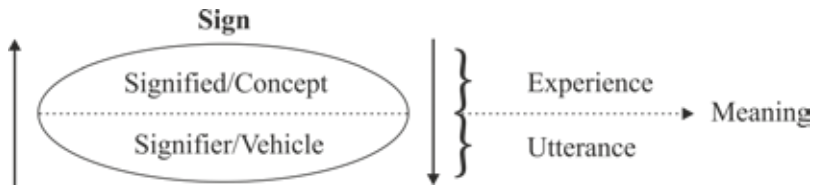


Figure 2. Saussure's dyadic model

The semiotic approach we used for the analysis aided to the understanding of the structural details of a movie title and its meaning-making both on connotative and denotative level. 'Connotation' and 'denotation' are two aspects of a sign which exist together in a sign-making agent. Denotation refers to the direct, literal meaning of a sign, whereas connotation deals with the deeper meaning which is indirect and associated with cultural components such as ideas, values, attitudes or behaviours (Tselentis 2011). Connotation is heavily reliant on previous socio-cultural experiences. For example, the term 'Bollywood' connotes things like glitz, glamorous, musical, melodrama, celebrity, stardom and much more. These associations come through our previous knowledge and experiences with Bollywood films. At the same time, Bollywood denotes the Hindi cinema industry based in Mumbai. The denotation/ connotation pair is found in movie titles as well. For example, in *Sholay* (1975), the shape of the title is narrowed down in the middle and flared out on all four corners, implying the shape of the 70mm widescreen and highlighting the spectacular aspect of the movie. Also, the texture of dry land and colours of flame connotes anger and evokes the *Angry Young Man* persona of the movie's protagonist. At the same time, flame and cracks resonate the literal sense of the word *Sholay* (which means Embers). Finally, the three-dimensional look and the cracks in the letters make them look as if sculpted from stone (Figure 3).



Figure 3. *Sholay* (1975) movie title designed by C. Mohan

Analysis and Observations

A word's meaning is produced at three distinct sites: its sound, its literal meaning and visual appearance (Dey & Bokil 2016). The same holds for movie titles. To explore the visual attributes and their meaning-making nature, our analysis is divided into two parts: the syntactic and the semantic, aimed at investigating the title's literal meaning and the title's visual appearance, respectively. Title sound and its influence on title design have not been covered in this study.

Syntactic approach

The syntactic approach reveals that title design has been explored in various ways which can be grouped into three major categories: 1) *The appearance of the title in the poster layout*, 2) *The features associated with letterform* and 3) *Use of external elements*. Visual attributes falling under these three categories have played significant role in the title design and its expressiveness.

Title appearance

The features commonly associated with title appearance are position, shape, direction and size. All these features have been methodically to produce impact and interest in the title design of Bollywood posters.

Position

Position defines the location of the title in the poster layout. In a visual composition, different spatial positions attract attention in different pattern. M. J. Friedlander suggests that, 'The middle appears as the distinguished position and toward the sides the importance of the locality grows less' (Friedlander 1941). Rudolf Arnheim adopted the same idea and advocated 'The power of centre' (Arnheim 1982). In an experiment conducted by I. C. McManus and Catherine M. Kiston, they have shown that the centre attracts more emphasis compared to other areas in a composition. They have further found that the bottom half of an image attracts more emphasis compared to the upper half (McManus & Kiston 1995). The positioning of the title is highly influenced by visual hierarchy. The study of visual hierarchy is defined as 'the study of the relationships of each part to the other parts and the whole, (Carter et al. 2002). In visual composition, the factors associated with letterform design that influence the

visual hierarchy are: *size, value or strength, colour, position* and *proximity* (Meggs 1992). Artists produce hierarchical arrangements in a composition by manipulating these factors. In a poster design, the title mostly takes a secondary position, since primary emphasis is given to non-textual, visual elements. Therefore, the position of the title is decided in accordance to the priority assigned to different design elements in a poster layout. In most cases, movie stars portraits occupy the major part and especially the central area of the poster layout; the title, on the other hand, appears either at the top or at the bottom. In some cases the placement is in the central area, depending upon the arrangement of visuals and the importance given to the title. Figure 4 illustrates three possible positions occupied by the title in a poster layout.



Figure 4. Three dominant positions of the titles in Bollywood movie posters, Image source: *Laila Majnu* (1976) & *Johnny Gaddaar* (2007) - Pinto & Sippy, 2008; *Shahjehan* (1946) - Osianama

Shape

Image creates more impact than the written matter which is understood by reading rather by looking at its visual form (Meggs 1992). Here, shape refers to the visual form taken by the movie title. It has been designed in different shapes to signify different aspect of the movie and create more emphasis. The significant shapes are rectangular, curve/wavy and cinemascope¹ style. Many other shapes, such as circular, triangular, trapezoid and trapezium, have also been used to design the titles. The rectangular shape is evident throughout the timeline. The use of the curve/wavy shape is more frequent from the 1930s to 1960s, mainly in movies based on romantic themes. When *Sholay* (1975) was released, the monumental title design in CinemaScope style was copied in different movies irrespective of their story, theme and genre. Field experts, such as Ausuja and Atmanand recall (Ausuja 2015, Atmanand 2015) that, at that time, it was a common practice to use a lettering style which was inspired from the popular movie posters. This might be the main reason behind the abundance of common shapes over a specific period of time. In Figure 5 we list a range of common shapes used for designing Bollywood movie titles with an example.



Figure 5. Common shapes used for the title design in Bollywood posters

Direction

This refers to the alignment of the title with respect to the general poster layout. In the case of Bollywood posters, title direction follows four basic ways: horizontal, vertical, diagonal and curvilinear (Figure 6). Horizontal is the most common, whereas vertical, diagonal and curvilinear has been used to create an unusual look that allows for extra emphasis. The appearance of different orientations is random. In most cases, it is decided on the basis of the conventional practice of writing in a horizontal direction. However, in some cases, it is contextual and used to signify movie themes. For example, the diagonal orientation of title in *Baarish* (Rain, 1957) poster, gives a feeling of rain that aligns with the title's meaning. Similarly, the curvilinear title style in *Geet Gaata Chal* (1975) relates to the melodious nature of the movie (Figure 6).



Figure 6. Title's direction in poster layout, image source: Osianama

Size

The size of an element and its relationship to the size of other elements in the design layout are significant emotive and communicative factors (Meggs 1992). It has been utilized effectively to create emphasis in a graphic space (Zelanski & Fisher 1996). Therefore, depending upon the importance given to the title design in the visual hierarchy, it has been mainly explored in three sizes: big, medium and small. Our findings show that in the majority of the posters, the title is given a secondary place in terms of visual hierarchy. However, depending upon the requirements, the title has also been used in bigger size, overshadowing the other elements in the poster layout (Figure 7). Medium size titles are more frequent across the timeline, whereas big size titles were popular during the early period of Bollywood, when the poster display platforms used to be further away from the viewers.

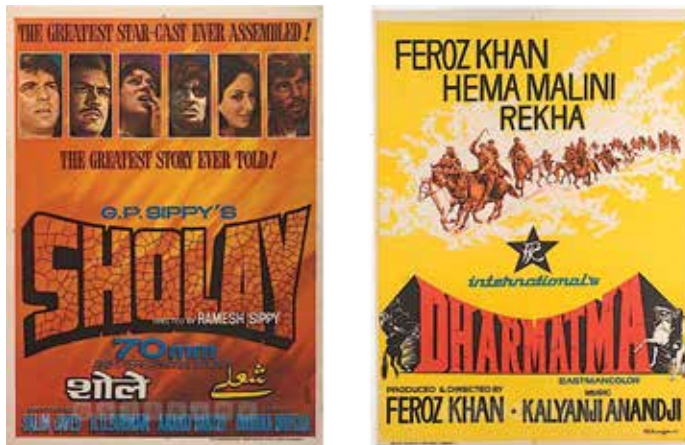


Figure 7. Movie posters with primary focus on the titles, image source: Osianama

Letterform

In title design, individual letters act as a building block where form and style suggests the movie's theme. Letterforms carry both denotative and connotative properties depending upon their visual/verbal syntax. The denotation is quite a straightforward task. Anyone who knows the written language can read and understand the literal meaning of a word. However, constructive meaning can only be generated through the understanding of the meaning hidden in the style and structure of the individual letters/fonts (Leeuwen 2001). Features associated with the letterform are: face, case, weight, stroke, posture, dimension, perspective, texture and colour. These features are explored to support the genre or storyline of the movies along with other motives such as creating impact and making it aesthetically pleasing.

Face

It is an attribute given to a particular letter font. The type classification system broadly categorizes letters/fonts into two groups, serif and sans-serif (Lupton 2010, Tselentis 2011). Serifs are a 'slight projection finishing off a stroke of a letter', whereas sans-serifs are without any such projections. To make it more explicit for the case of movie titles, two more sets have been added to this feature, i.e. script/calligraphic and combination (Figure 8). Combination is basically mixing of serifs and sans-serifs letters.



Figure 8. Letter faces: serif, sans-serif, script and combination

Serifs and sans-serifs are the two basic and most common typefaces evident in title design. Most of the titles are designed in sans-serif letters followed by serifs and occasional use of script and combination style. Sans-serif's characteristic features, such as simplicity, mono line weight, balanced proportions, pleasing form and easily distinguished word pattern, make it more legible and readable (Kibbee 1948). This might be one reason behind the dominance of sans-serif letters. Combining different faces is less popular and occasional. It provokes intense and somewhat funny sensation, and are widely used in the comedy genre. It also helps in creating contrasting flavours and texture in the title design. Figure 9 shows examples of movie titles in each group.



Figure 9. Letter face as a visual attribute

Case

Here the basic distinction in any writing system is that between large uppercase, also known as capitals, and small lowercase letters. In title design, this has been explored in four ways: uppercase, lowercase, title case, and combination (mixing of upper and lowercases). Although lowercase letters are easier to discern and recognize than uppercase (Lonsdale 2014), uppercase letters have been widely used in title design. They take up more space in the layout (ibid.) and make titles big and wider, and thus more easily noticeable. This was especially important before the digital revolution, when the display platforms were the side walls of the streets, rather far from the viewers. The practice of combining upper and lower case letters is also evident, mostly in movie titles related with the comedy genre. Combined lettercase adds casualness as well as appeal to the title design, and this makes them particularly suitable for the comedy genre. The playful combination of upper and lower-case also helps in attracting more attention (Carter 1997). Figure 10 shows examples of titles designed using different lettercase.



Figure 10. Lettercase as a visual attribute

Letter's weight

Weight is defined as the visible impact of type achieved through the contrast of line thickness and boldness (Tannen, 2009). It is measure by the ratio between the relative widths of the strokes of letterform to their height. Bold letters possess a stroke width of approximately 20% of height or more than that whereas medium letter possesses a stroke width of approximately 10% of height. Light letters are having stroke width less than 10% of the letter height. Four types of letter's weight; bold, medium, light and combination of three has been used in the title design of Bollywood movies. Bold letterform is more evident and has added in designing powerful, visible and effective titles. Combination of different weights is rare and used purposefully to emphasize certain part of the title (Figure 11).



Figure 11. Title designs with combination of different letter weight

Stroke

This feature refers to the visual appearance of letter's stroke, i.e. the contour of the letterform. Flat rectangular stroke is a commonly used feature in Bollywood titles. Other stroke features have also been used to accompany different movie themes. For example, grunge style is mainly evident in action movies and thrillers. The rough texture enhances the movie's theme in both connotative and denotative ways. The use of decorative stroke is more apparent in mythological and romantic movies whereas the rounded stroke is a common feature in the titles of comedy movies. Decorative lettering is often use when posters use Hindi titles in prominence. This reflects the influence of the Indian art and craft style, which is deeply rooted in tradition. Figure 12 illustrates commonly used letter strokes in Bollywood movie titles.



Figure 12. Movie titles with different letter strokes

Style

Type style refers to the regular and italics shape of letters/typeface used in writing system. This attribute has been used to design persuasive titles in Bollywood posters. The conventional upright is the most abundant style used in the title design. Researchers have observed that inclined letterform imitates the active posture and can be perceived as energetic and forceful. Letters with more extreme slant appears more kinetic and aggressive (Carter, 1997). This fea-

ture can be used effectively to achieve dynamic effect in the title design. For example, italic shape in *Bheegi Raat* (1965) resonates with the rain mentioned in the title, whereas in *Race* (2008) it visually renders the sense of speed (Figure 13).



Figure 13. Title design using italic/oblique letter style

Quite often a combination of upright and italic/oblique letters is used to evoke the comic and carefree feeling of comedies. Movie titles such as *Munimji* (1955), *Rafoo Chakkar* (1975), *Awara Paagal Deewana* (2002) and *Grand Masti-2* (2013) are few examples that feature combination of upright and oblique letters (Figure 14).



Figure 14. Examples of titles having combination of type styles

Spacing

Spacing is another important variable for exploration in lettering/typography. It refers to the spacing between two letters in a word and it has a significant impact on its legibility (Carter et al. 2002). Designers manipulate the space between letters to create beautiful and harmonious yet readable typographic communication. Depending upon individual interest and design requirement, spacing can vary. It can be categorized into four major groups: normal, tight, overlapping and loose.

Bollywood poster titles mostly appear in tight spacing. One reason behind this choice might be the aesthetics of the title whereby designers have manipulated the space around the letters to create lasting visual impact. When there are many elements around the title, tight

letter spacing helps in better organizing the text, making it more distinguishable from other elements in the layout (Yu 2008). It brings letters together and unites them. Letter spacing is utilised cleverly to create theme-based, catchy titles in movies related with action and comedy. Movies related to the action genre have extensively used tight spacing whereas in comedy movies, they are generally overlapping. Tight and overlapping spacing can produce interesting title shapes. Figure 15 shows examples of title designs with different letter spacing.



Figure 15. Examples of titles with different letter spacing

Dimension

The element of dimension concerns the volume of the letters. A two-dimensional (2D) form, for example, is without volume, whereas a three-dimensional (3D) is with volume. In Bollywood film posters, two-dimensional letters are mainly used for the title designs. The use of three-dimensional letters was more widespread from the 1970s to the 1990s. This was the time when action and violence movies were more popular. In most cases, three-dimensional titling has been used to enhance the overall effect and create a lasting impact on viewers (Atmanand 2015). Figure 16 shows examples of Bollywood titles designed using 3D letters.



Figure 16. Three-dimensional title designs

Perspective

Perspective concerns the creation of the illusion of depth and volume on a flat surface. It has been exploited to create visual interest and provide a monumental appearance. Till the 1940s, most of the titles were flat without any perspective. Movies such as *Arzoo* (1950), *Aan*

(1952), and *Karigar* (1958), produced in the 1950s, witnessed the occasional use of perspective in the titles to create visual interest. With the release of *Mughal-e-Azam* (1960), *Superman* (1960) and *Hercules* (1964), the 1960s witnessed the beginning of a trend for the perspective style. Perspective became a significant aspect of title design in the 1970s mainly associated with the action, adventure, crime and historical film genre. The trend dominated until the mid-1990s. With the success of *Dilwale Dulhania Le Jayenge* in 1995, the late-1990s and early 2000s saw many releases based on the romantic family drama theme. Movies such as *Akele Hum Akele Tum* (1995), *Sajan Chale Sasural* (1996), *Pyaar Kiya To Darna Kya* (1998), *Pyaar To Hona Hi Tha* (1998), *Hum Saath Saath Hain* (1999) and *Dil Chahta Hai* (2001) featured long titles devoid of perspective. In the later period perspective has occasionally been used in a deliberate, retro fashion. Figure 17 illustrates movie titles in perspective.



Figure 17. Titles with perspective

Visual Texture

Texture is used to enhance the meaning of the titles as well as to communicate the movie's theme. It is achieved by manipulating the letterform structure or through colours (Figure 18). Visual texture makes the title more expressive through both connotative and denotative meanings. Till the 1950s, when the poster-making technique involved hand painting, flat colour titles without texture were more common. This technique allowed poster artists to use rich colours (Pinto & Sippy 2008). Therefore, designers may have preferred to use flat colour without any texture in the title design to make it stand out in the rich colour background. The use of texture has expanded significantly in later on. The reason behind this is uncertain. Developments in poster making and printing techniques, as well as demand for more expressive titles may be the main reasons.



Figure 18. Use of texture in the title design

Colour

Colour is an important dimension of title design. Along with its visibility, its symbolic meaning has been utilized extensively in film poster art. Even though Bollywood poster art is, in general, very rich in colour (Pinto & Sippy 2008), the use of colour in title design is quite specific. Solid red, yellow, white and black are the most extensively used colours. If titles feature more than one colour, a combination of these four colours is used in the majority of cases. In a rich colour background, solid bright colours like red and yellow have an ability to stand out strongly. Red and yellow are the colours which are visible from the furthest distance. However, visibility also depends upon the contrast between the colours. In many cases, the subject (title)-background (visuals) difference is created through an outline or shadow in a contrasting colour. According to the colour theory developed by Albert Henry Munsell, in the 1990s, each colour has three attributes: *Hue* (individual colour such as red, green, and yellow), *Value* (the lightness or darkness of a colour) and *Chroma* (the saturation or brilliance of a colour) (Munsell 2017). Poster artists have played with these attributes to create impressive titles, mostly with hand painted techniques. In order to discover the colour pattern in the titles of popular movie posters, 10-15 popular movies from each decade (1940s to present) were selected. The title's body colour as well as the colour used for extra treatment, such as outline and shadow were also included. Figure 19 shows the colours used in the title design of popular movies across the decades.

A title's colour treatment is based on the 'colour context'. Colour context comprises of the surrounding colours and their impact on the colour used for the subject. The yellow, red and white colours look brilliant in dark background. As a result, in most cases, the titles are placed in the darker area of the poster layout. If not, then a separate background has been created or an outline has been used in dark colours.

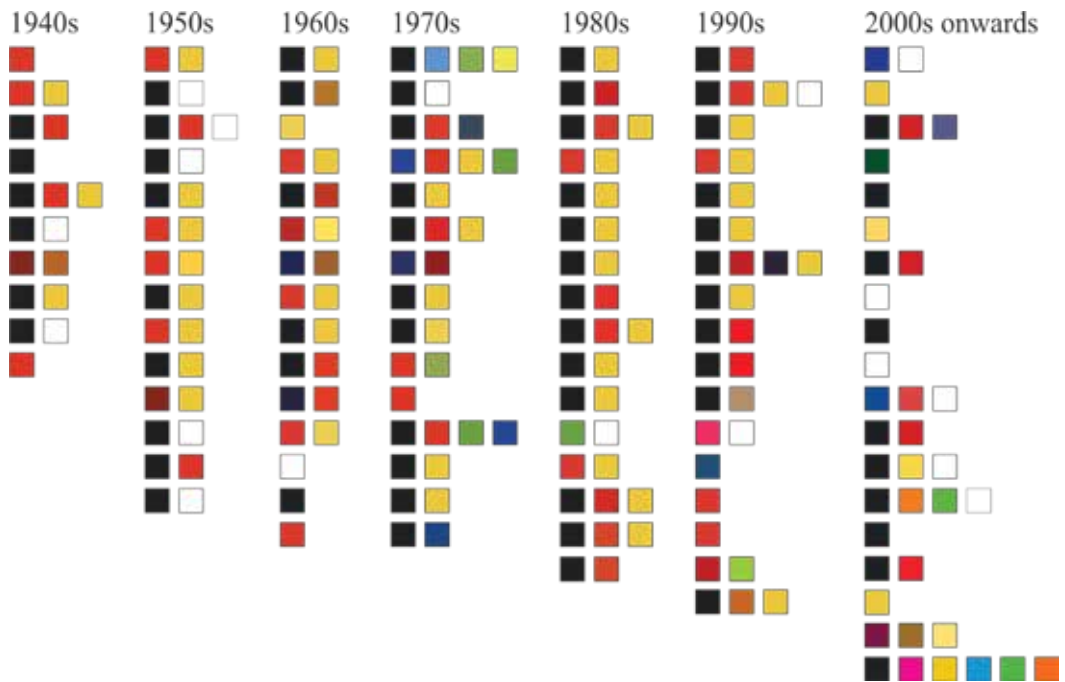


Figure 19. Colours used in significant Bollywood movie titles across decades

The use of colour is deeply symbolic, bearing a close connection the meaning of the title as well as the theme of the movie. For example, the red colour, which symbolically relates to love, has been an obvious choice for the romantic genre. It is also popular in movies based on themes such as crime, thriller, horror and violence. Use of pink is also very common in the romantic genre. Use of the yellow colour is random, whereas multicolourisation is more common in movies related to youth cultures, such as *Bobby* (1973), *Rangeela* (1995), *Dev-D* (2009) and *Queen* (2014) (see Figure 20).



Figure 20. Multicolour composition in Bobby (1973), Rangeela (1995), Dev-D (2009) and Queen (2014)

Use of decoration

Movie posters are made to attract the viewer at first sight (Mazumdar 2003). They compete with many other visual messages across the city wall to draw attention (Pinto & Sippy 2008). This competitive streetscape culture may have led designers to add some ornamentation to letters as well as to the entire title. These decorative elements make the titles more prominent and appealing, enhancing their salience in the poster layout. As shown in Figure 20, decoration or ornamentation is carried out at two levels: individual letterform and the entire title. Experimentation is evident in the decorative terminals, both in Latin as well as in Devanagari letters. Sometimes, the strokes of the letters are decorated using different motifs, such as creepers and stars. Decorative treatment is also evident in the entire title with the aim to establish a thematic connection with the movie, for example, in *Umrao Jaan* (2006), *The Dirty Picture* (2011) and *Bol Bachchan* (2012) (Figure 21).



Decorative treatment at the level of individual letters



Decorative treatment at the level of whole title

Figure 21. Ornamentation used in title design

Letterforms have also been produced through the help of design effects which bring an illusion of dimensionality to flat letters. Usually, these design effects fall under four main groups, i.e. outline, drop shadow, dimensional block shadow and dimensional letterface. All other *type effects* are combinations of these four groups (Cabarga 2004).

1. *Outline*: It helps in unifying groups of letters or words and provides a pleasing and ornamental effect. It is also used to separate letters from the background, improving legibility and contrast.
2. *Drop shadow*: Originally inspired by dimensional sign letters that cast actual shadow against actual background, it helps in improving the contrast between letters and background. Drop shadow creates an illusion of letters lifted off from the flat background.
3. *Dimensional block shadow*: It mimics three-dimensional sign letters mainly popular in shop signs, which are generally cut from wooden blocks or made up with metal sheet. It lends volume and monumental look to the title design.
4. *Dimensional letterface*: This includes effects like embossing, debossing, chisel edge and pillow edge. These types of effects were in use from the early period and are popular even today in digital medium.

Title design using external elements

Until the mid-1990s all the titles were designed manually. Quite often poster designers combined image and text in new and unexpected ways to enhance the visual impact. This was achieved either by juxtaposing or by fusing type and image. Juxtaposition or fusion of type and image helps in intensifying the communicative power of letters as well as of words. When image and word are used together, they create a powerful denotative capacity and communicate meaning without ambiguity (Meggs 1992). This provided a key asset to the artist who had to communicate effectively with both literate and illiterate audiences.

In Bollywood movie titles, external elements has been exploited in two ways: 1) Juxtaposition of type and image, and 2) Fusion of type and image. The latter has been further explored in three ways: 1) letter as an image, 2) image as a letter, and 3) word as an image.

Juxtaposition of type and image

In the case of juxtaposition, titles are directly juxtaposed with an image. In most cases, e.g. in *Ghulami* (1985), *Hatya* (1988) and *Apna Sapna Money Money* (2006), the title's meaning has been taken into consideration while selecting appropriate images (Figure 22). The title design of *Ghulami* juxtaposes a chain with letters carved in stone. This kind of title design aims to di-

rectly communicate the theme of the movie. In this kind of association we have a simple case of proximity² (Meggs 1992) that aims to intensify the meaning and make the title an integral part of the composition. A similar approach is used in other examples (Figure 22). This technique is used all across the timeline, irrespective of the movie's theme.



Figure 22. Juxtaposition of type and image

Fusion of type and image

This is another significant practice in Bollywood title design. Till the 1950s, title design in Bollywood film posters was little based on combining type and image, and in most cases, it was plain. Variations were limited to orientation, colour and letterform structure. From the 1960s onwards, titles became more expressive. By the 1970s, designers and artists started using type and image together to make the title more persuasive. In this way a symbolic language was developed to communicate with literate as well as illiterate people (Pinto & Sippy 2008). Fusion of type and image has been pursued in three ways:

Letter as an image

This technique involves a title design whereby letterforms are altered and manipulated so that they can act as an image and a letter simultaneously. Figure 23 shows different examples of this category of title design. In *April Fool* (1964), the two closely placed letters 'O' have been transformed into two eyes to give a comic feel, whereas in *Bandhan* (Bond 1998), the terminals of the first letter and last letter are transformed into the ends of a tied rope, in order to visualize the title's literal meaning. Similarly, in *Agneepath* (The Path of Fire, 2012), the letter 'T' has been transformed into a dagger, in order to give a feeling of danger associated with the film's crime/thriller genre. This kind of manipulation creates a visual-verbal synergy and makes titles more effective and communicative.



Figure 23. Letter as an image

Image as a letter

This involves a process of substitution, whereby an image plays the role of a letterform. This technique is cleverly utilised in several cases in the title design of Bollywood movies. As shown in Figure 23, letterform can be constructed from images based on the context and requirement. The title design of *Gharaonda* (The Nest, 1977) presents an excellent example: the letter 'O' has been substituted by a bird nest directly associated with the meaning of the title. Based on a family drama theme, the movie is about the lives of a middle class family. Similarly, in *Shahid* (2012), the letter 'A' has been replaced by a barrister's band that relates to the main character of the movie. *Shahid* is a story of the lawyer and human right activist Shahid Azmi, who was assassinated in 2010, in Mumbai. In *Maqbool* (2004), the letter 'q' has been replaced by a dagger, which evokes the committal of crime, whereas in *Metro* (2007), the letter 'O' has been replaced by the metro logo. All these makeovers and substitutions have some kind of a direct connection with the storyline of the movie and, thus, make the meaning of the title clearer, more suggestive and catchy.

Sometimes only part of the letter is replaced by a story-related image. At several instances, the dot on top of letter 'i' or 'j' known as tittle, is replaced by a symbolic image. In the case of romantic movies it is usually a flower, a star or a heart shape. For crime/thriller movies, the images are usually in the form of spirals or splatters of blood. In some cases, a red dot (Bindi), symbolizing a married woman, has been used in family drama movies to connect with the theme. In Figure 24, *Taj Mahal* (1963), *Priyanka* (1997) and *Parineeta* (2005) are a few examples of this category.



Figure 24. Image as a letter

Word as an image

Sometimes the visual form of a word is manipulated and used as an image to expand and extend the meaning out of it (Figure 25). This kind of title design was more evident from the 1970s to the 1990s, and is still popular. For example, in the movie poster for *No Smoking* (2007), the title takes the form of a cigarette. Similarly, in *Jhootha Hi Sahi* (2010), the title design takes the form of an old telephone. Based on a comedy theme, the movie is about a suicidal woman, whose ‘final’ call mistakenly connects her to a man who provides her with a reason to live for.



Figure 25. Whole title as an image

Semantic approach

Semantics is the study of meaning. It deals with the production of meaning from any visual sign. As we pointed out earlier, a movie title is composed of many design elements. These contribute to meaning-making by their individual characteristics along with the combined effect produced by their interrelationships (Dey & Bokil 2015). In the previous section we discussed

the role of each element in the design in Bollywood film titles. In this section, we turn to the understanding of connotative and denotative meaning generated by the titles.

Title design based on the meaning

So far, we have seen how title design gives an identity to the movie and has a vital connection to its plot and storyline. At the beginning of Bollywood, title designs show only minimal variations in the letterforms they use, irrespective of the meaning of the title. This may be due to the then existing limitations in printing and lettering skills. Letters were designed randomly, exhibiting personal artistic styles. Some exceptions, in this early period, were *Najma* (1943), *Mirza Sahiban* (1947), *Shaheed* (1948), *Footpath* (1953), *Toofan Aur Diya* (1956), *Baarish* (1957), *Night Club* (1958), *Kaajal* (1965), *Jewel Thief* (1967), *Raat Aur Din* (1967), *Talash* (1969) and *Aradhana* (1969). In all these examples, the title's visual features are strongly influenced by its literal meaning and show a direct association with it (Figure 26). Sometimes, in addition, it is influenced by the language used and the connection is built through an indirect association with it. For example, the letterform style used for designing the titles of *Najma* (1943) and *Mirza Sahiban* (1947) show the influence of Urdu calligraphy.



Figure 26. Title designs based on literal meaning of the titles-I

The beginning of 1970s witnessed a dramatic increase of expressive lettering in title design. Along with the visuals, additional elements were used in title design to enhance the communicative power of movie posters. Titles such as *Mera Naam Joker* (1970), *Gomati Ke Kinare* (1972), *Gora Aur Kala* (1972), *Sholay* (1975), *Andhi* (1975), *Bajarangbali* (1976), *Shatranj Ke Khiladi* (1977), *Haiwan* (1977), and *Apna Khoon* (1978) have used different visual features to reflect the title's meaning. In *Mera Naam Joker*, the flowy and curved strokes has been used to give a sense of comical and jovial mood (Figure 27). In *Shatranj Ke Khiladi*, each letter has been designed to look like 'Mohra' (64 square pieces in chess), relating directly to the chess game. Similarly, letters designed with the use of blood drops in *Haiwan* reflect the literal meaning of the title (Figure 27).



Figure 27. Title designs based on literal meaning of the titles-II

Title design inspired by the title's literal meaning continues also in Bollywood's later period, with prominent examples *Garam Khoon* (1980), *Disco Dancer* (1982), *Coolie* (1983), *Anmol Sitarey* (1983), *Ghulami* (1985), *Tezaab* (1988), *Agneepath* (1990), *1942 a Love Story* (1994), *Rangeela* (1995), *Satya* (1998) and *Dhool* (2007). Along with the manipulation in letterform structure, the timeline shows an extensive use of image and text combination to depict the intended meanings.

Title design based on movie theme

Literature has shown that most of the Bollywood movies have a multi-genre character and contain different themes, such as action, romance, comedy, family drama etc. This represented a challenge to the movie poster artists, which have to express a range of diverse film dimensions (Pinto & Sippy 2008). It is also evident that each Bollywood period has been dominated by a specific thematic emphasis: mythological in the early years, social drama during the golden period, and action from the 1970s onwards. The title design of all these movies has utilized certain common features, such as bold letters in uppercase, shadow and outline, irrespective of movie themes. However, in many cases, it has used different approaches to reflect specific aspects of the movie theme. This has been achieved by manipulating letterform structure, its spatial organization, image-text relation, colour and texture.

In mythological/religious movies, such as *Sati Savitri* (1927), *Har Har Mahadev* (1950) and *Tilotma* (1964), movie themes are associated with the decorative letterform for both Latin and Devanagari script titles. In many cases, lettering artists have utilized decorative terminals to suit the theme. Sometimes letters have been modified into icons, as in *Bajarang Bali* (1976), *Jai Ganesh* (1977) and *Veer Bheemsen* (1985), to provide a direct connection with the story. Movies based on love/romance themes were always at the centre of Bollywood cinema and are still popular. The title designs of these movies show a significant degree of decoration as well as the use of symbols like hearts and flowers. Red and pink were the most preferred colour shades in the romantic genre. In the case of action and violence movies, popular during the 1970s, designers have used three-dimensional features along with shadow and outline. Yellow and blood red colour, flame and broken texture became a key feature of the title design. Movies such as *Sholay* (1975), *Don* (1978) and *Muquaddar Ka Sikandar* (1978) are prominent

examples in this category. Action movies established the trend of using three-dimensional lettering. This style prevailed throughout the different decades, irrespective of movie themes and remained dominant till the mid-1990s.

Titles of horror and crime movies were made expressive with the use of blood red colour and texture. Their exaggerated look, achieved through colour and texture, immediately reflects their theme. *Garam Khoon* (1980), *Ek Aur Khoon* (1985), *Cheekh* (1985), *Satya* (1998), *Apaharan* (2005) and *Haider* (2014) are typical examples of the title designs for crime movies. *Bees Saal Baad* (1962), *Wo Kaun Thi* (1964), *Darwaza* (1978), *Kabrastan* (1988) and *Raaz* (2002) exhibit the typical visual characteristics of horror movie titles. In the digital period, a unique feature, i.e. the blur effect, is also evident to support the horror theme and create enigma.

In the case of comedy movies titles we often encounter squeezed letterform, in tight or overlapping position, that alludes to their comic theme. Mixed posture, rounded letter's stroke and uneven size have been also utilized to support the comedy theme. Dacoit or Bandit movie is another common genre in Bollywood cinema. Blockbuster *Sholay* and the highly acclaimed *Mother India* have featured bandit characters in their storylines. Almost all the dacoit movies have featured bold three-dimensional title design with few exceptions, such as *Bindia Aur Bندوق* (1972), *Bandit Queen* (1994) and *Pan Singh Tomar* (2012). Figure 28 shows examples of titles based on the popular genres in Bollywood cinema.

Findings and conclusion

The article provides an overview of the development in title design across the timeline of Bollywood cinema. Findings show that designers/poster artists have creatively exploited the visual form of letters and text-image relationship to make titles more attractive and meaningful. Table 1 summarises our major findings from the title design's syntactic and semantic analysis. The analysis reveals that variation in the structural elements of title design has a range of semantic effects. The latter are detectable on two levels: the whole title and individual letterform. At the level of the entire title, these effects regard the reinforcement of the meaning-making and visual look of the titles by variations in terms of positioning, shape, orientation and size. At the level of individual letterform, variations are in terms of typeface, case, weight, stroke, posture, spacing, dimension, texture and colour. Semantic impact can also be noticed in connection to decoration and the use of external elements.

Figure 29 lists all the visual attributes and values associated with each attributes synthesised using syntactic approach.

Mythological	Romantic	Action	Crime
HAR-HAR MAHADEV 1950	JULIE 1975	डोर 1978	CHEEKH 1985
तिलोत्तमा 1954	BOL RADKA BOL 1992	AAKHRE RAASTA 1986	गरम रक्न 1980
Jai GANESH 1977	Aashiqui 1990	MOHRA 1994	Haider 2014
Horror	Musical	Bandit	Comedy
वो कैतशी? 1964	Tarana 1951	JACAT 1987	CHALTI KA NAM GADI 1958
KARASTAN 1988	DISCO DANCER 1982	BATWARA 1989	CHOR MACHAYE SHOR 1974
RAAZ 2002	Sargam 1979	SHOLA Aur BAROOD 2001	All the Best 2009
PHOONK 2 2010			

Figure 28. Title's visual features based on popular movie genres in Bollywood

Framework used for the analysis	Results
Syntactic	Syntactical analysis reveals all the visual attributes associate with Bollywood titles and their role and interrelationship in the poster layout. It shows how these features along with their individual effects; also generate collaborative effects/meanings especially in image-text combination. This section emphasizes the role of image-text combination in terms of creating direct meaning and persuasive titles.
Semantics	Semantic approach reveals that title designs have been done based on the meaning of the title as well as movie theme. Manipulations have been done in letterform structure as well as external elements are used to reflect the different themes. Uses of visual attributes are also specific to movie genres. For example, decorative lettering is more evident in mythological and romantic genre. Action and historical movie titles are Bold and 3D. Texture is common in social drama, crime/thriller and horror movies.

Table 1. Major findings

Title's Visual representation

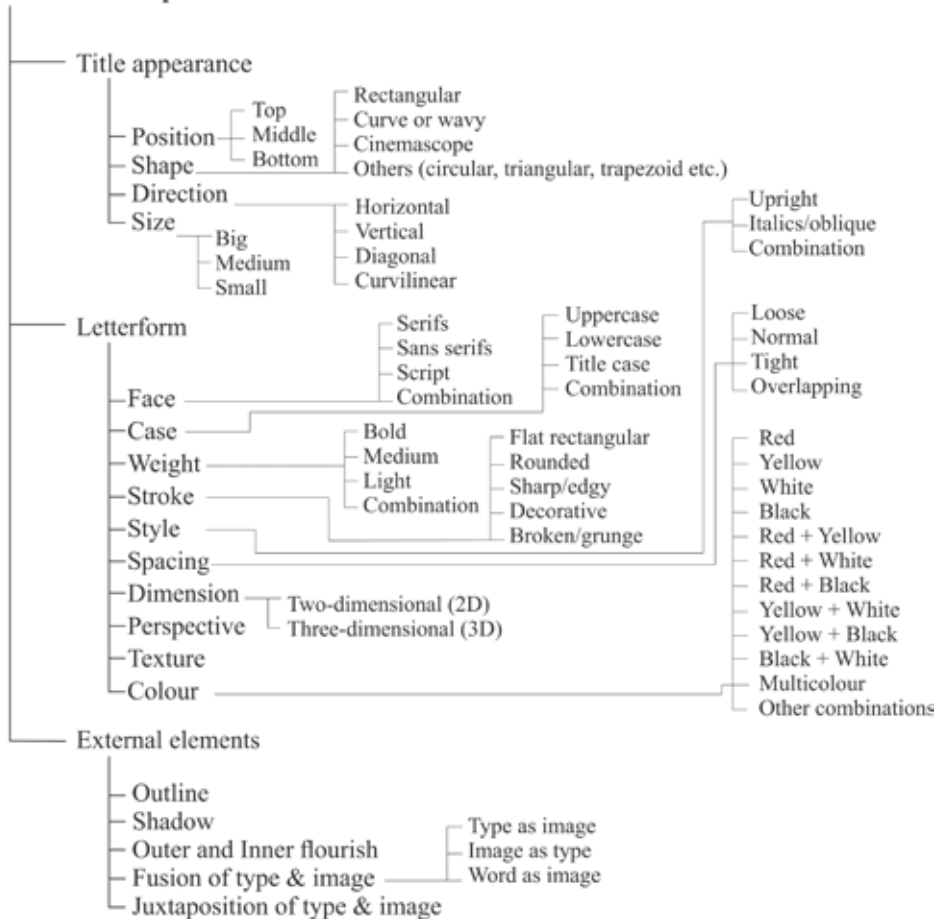


Figure 29. Lists of key characteristic features used in Bollywood titles

Table 2 summarises the significant visual attributes of the title design in Bollywood movie posters and their major contributions.

Features	Major Contribution
Title Shape	Contribute directly to the perception of meaning without any ambiguity.
Size	Creating emphasis and to increase legibility from the far. In most of the cases, larger x-height and condensed letterforms are evident.
Direction	Helps in creating emphasis as well as dynamic effect.
Letter case	Creates emphasis and increases the readability and legibility. Uppercase is evident in most of the titles.
Weight	Creates emphasis and makes the title aloud. Mostly bold titles are evident.
Letter stroke	Helps in depicting connotative meanings. For example rounded forms are associated with comedy whereas sharp and edgy with action and adventure.
Posture	Helps in depicting mood and feelings such as steady, comic, speedy etc.
Spacing	Helps in creating harmony and togetherness between letters. Also utilized to create theme based titles.
Dimension & Perspective	Creates a lasting impact and mood associated with genres like historical, action and adventure.
Visual Texture	Depicts denotative and connotative meanings related to mood and theme of the movie.
Colour	Mostly associated with connotative meanings. Extensive uses of red and yellow colour reflect the concern of colour legibility aspects.
Shadow	To create contrast between rich coloured background and the title. Also used as ornamentation.
Outline	
Letter as an image	To generate direct and symbolic meaning. Acts as an effective tool to communicate the theme of the films to illiterate as well as the literate audience.
Image as a letter	
Word as an image	To create direct meaning associated with the movie.
Juxtaposition of letter & Image	Helps to intensify the communicative power of the title and show a strong denotative property.

Table 2. Significant attributes and their role in Bollywood movie poster

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NOTES

1 **CINEMASCOPE**: Oxford dictionary defines CinemaScope as “a cinematographic process in which special lenses are used to compress a wide image into a standard frame and then expand it during projection. It results in an image that is almost two and a half times as wide as it is high”. This technique has been used for shooting widescreen movies.

2 Oxford dictionary defines term ‘proximity’ as, nearness in space, time, or relationship. Here it is related to the compositional and relational proximity between title and image.

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Design incorporated: IKEA as personal experience

Dimitar Trendafilov

Providing deep and memorable experience to the consumers—in various manners and through all channels possible—is undoubtedly amongst the key factors for success in contemporary markets. Moreover, companies need to consider the trends of gamification, personalization, eco-living as well as the extremely short life-cycle of their products. In this context, design is getting more and more important in branding and consumer’ perceptions about the quality and benefits of the product available. It serves as a tool of communication not only for what the product is, but how it works and how exactly it will become part of the everyday life of the consumers as well. As such, design, in branding perspectives, has an active role and engages consumers in new kind of relationships that go beyond pure aesthetics. This article is an effort for a socio-semiotic analysis of the set of practices that IKEA implements regarding the use of design as a main basis on which it tries to create, deliver and maintain value of its huge global audience. What makes the company unique is its multimodal approach in terms of design-based brand management, point-of-sale design, furniture design, entire home interior solutions, catalogue design, and last but not least, lifestyle design. We can easily point out that it has built its own brand meaning by forming a recognizable and self-centered semiosphere, that highly influences the whole category it operates in, and sets the rules in people’s self-expression, on the one hand, and their attitude towards the notion of ‘home’, on the other—home as constantly moving ‘immobility’ similar to fashion trends and practices. IKEA is a very good example of design semiotics, applied in marketing activities and real life as successfully mixing its own production with customers’ desire for designing their own unique world of objects.

KEYWORDS experience design, fast fashion, interactivity, multimodality

Introduction

The definition of 'brand and branding', according to the American Marketing Association's dictionary (AMA n.d.; emphasis added by the author) states that: 'A brand is a *customer experience* represented by a collection of images and ideas; often, it refers to a symbol such as a name, logo, slogan, and design scheme. Brand recognition and other reactions are created by the *accumulation of experiences* with the specific product or service, both directly relating to its use, and through the influence of advertising, design, and media commentary'. The 'design turn' permeating the conception of brand is undoubtedly crucial and should be underlined, even though 'design' is used twice with different meaning. The above definition offers the cornerstone for our understanding of what contemporary branding is about, since how brand identity elements look like and if the product shape/form is convenient with respect to its usage are not sufficient any more. Design became not only 'communicative' in terms of the higher level of richness of the brand message incorporated in it, but also highly 'interactive', which includes as much participation of the customer as possible by various acts and processes of interaction (Krampen 1989, Crawford-Browne 2016). 'Great design, *European Intellectual Property Organization* claims, focuses on the user, combines aesthetic, economic and practical values and is the way consumers identify innovative brilliance' (EUIPO 2018b), which, once again, highlights design as a product of human creativity, satisfying a wide range of people's needs.

Involving design

The focus of our article is on the combination of product design, value chain design and design of customer experience. The latter forms the leitmotif of the global marketing tendencies that includes manifestations such as creative industries, gamification, retail-tainment, and pro-sumeration (Troye & Supphellen 2012), all of which stress the consumer's active participation in the value chain (Troye & Supphellen 2012, Trendafilov 2016). Pine and Gilmore (1999) had made a significant contribution, in this regard, through their analysis of the industries and the market conditions in the 1990s –before, that is, the 'digital turn' in marketing that took place in the first decade of the 21st century. Their suggestion is that 'the consumer is the (new) product', because s/he is an actor of full value in contemporary economy, in which customer is a 'guest', his/her demand is a 'sensation', the company's offering is 'memorable', and the attributes of the product 'personalized'. They also refer to service design, i.e. the range of services set around the product in a way to add value to customers as much as possible (ibid.: 27 ff.). In this way, design has asquired a richer meaning and its functionality was extended towards organization, in-store environment and consumer relationship management. It has become a

key 'hidden' dimension of brand communication, affecting all senses and appealing to customers' emotions (Sundbo & Hagedorn-Rasmussen 2008, Watkinson 2013).

Julier (2006) argues that it is about time to talk about 'design culture' as a scholarly discipline coming after the 'visual turn' (dealing with images) and the 'material turn' (dealing with the physical dimensions of culture). This has come about due to the increasing role of industrial design, and, according to the author, it represents a continuation of the problematics of cultural studies on the social role of design from the point where methods of visual research have stopped, due to their inherent limitations. The information process in design is no longer uni-directional but a multi-directional circulation system. Julier describes the key change in contemporary cultural relations as follows:

Culture is no longer one of pure representation or narrative, where visual culture conveys messages. Instead, culture formulates, formats, channels, circulates, contains, and retrieves information. Design, therefore, is more than just the creation of visual artifacts to be used or 'read'. It is also about the structuring of systems of encounter within the visual and material world. (Julier 2006: 67)

Norman (2004: 37 ff.) suggests a complex of three levels of design corresponding to different kinds of emotional activation: visceral, behavioral and reflective design. The first refers to the appearance of the product, the second to the pleasure and effectiveness of using it, and the third to the user's self-image, personal satisfaction and memories. 'The visceral and behavioral levels', explains the author, 'are about "now", your feelings and experiences while actually seeing or using the product. But the reflective level extends much longer—through reflection you remember the past and contemplate the future. Reflective design, therefore, is about long-term relations, about the feelings of satisfaction produced by owning, displaying, and using a product' (ibid.: 38).

Kazmierczak (2003) conceives design as being primarily about meaning-making. Distinguishing between intended, constructed and received or re-constructed meaning, she defines design as the activity that directs the process that enables the interconnection and correspondence between the three kinds of meaning. Interpretation as a semiotic process presumes cognitive work. Thus, the most significant shift in design is from a preoccupation with certain uses to focusing on the *perceptions and cognitive interfaces* that enable the re-construction of the intended meanings. Her approach focuses on the perceptual and cultural codes involved in communication, and according to her, it involves 'a paradigm shift from focusing on designing things to focusing on designing thoughts or inferences. Those thoughts are interpretive, and they result in subsequent behavior' (ibid.: 48).

In terms of its *product utility*, design has functional, aesthetic and symbolic levels (Markova 2003: 26). It has a lot of applications in the field of marketing, more than it seems at first glance. Design has an 'advertising' function in the first place (insofar as each product starts its contact with the customer from a store shelf) i.e. to distinguish the product from the compet-

itors in the point-of-sale, to attract attention for more than a few seconds, and to trigger the customer's desire to own the product. Providing 'information' is its second, more utilitarian function: how the attributes of given product should be put to a useful purpose or at least to suggest some, while its 'aesthetic' function refers to the standard of living, the lifestyle and the product's connection with the specific and significant brand design (ibid., Crawford-Browne 2016).

Close to the French structuralists' perspective on the design meta-function Busbea (2009) and Berger (2010: 177) assert that artifacts, things, objects, and, in general, everything we call material culture products, are quite complex and, as such, they reveal how advanced the society is, reflecting, at the same time, the aesthetic sensibilities of the age they were made in, by virtue of passing through the consciousness and intentions of their designers, as well as telling something about the mindset of their consumers. Additionally, each object reflects certain notions of what is considered to be tasteful, attractive, or functional, which means that they can tell a lot about aesthetics in given society and culture (ibid.).

Design is an *art* that is *beneficial*, hence, teleological and socially active, unlike 'classical' or 'high' art, which is self-sufficient and keeps its audience at a distance (Julier 2006). Its development as an art is quite significant in terms of socio-semiotics. From being something only to see and acceptable to few people in the past, it has become *interactive*, *more involving* and *adding value*, than being a purely intellectual feast. It is not accidental that we currently distinguish art from design, even though creativity and aesthetic delight remain their common ground. Taking a closer look at the definition of design, we see that it comprises notions like 'concept', 'purpose' and 'intention' (Oxford Dictionary 2018). In this perspective, design seems useful, but, at the same time, unlike art, somewhat limited and finite in its use, and in its durability, as well.

My home, my stage

Why IKEA? The short answer would be 'because it is globally recognizable retail phenomenon' or 'the most reputable brand in Europe after Lego' (Keller et al. 2012: 801 ff.). A more fully developed answer is that the company is not just a furniture retailer and cult brand, but that it has actually changed the rules of the game in this industry by introducing the 'fast fashion' mechanism into it. Its historical roots are in a long gone, product-centered economic stage, but now the company production fits the market conditions to the highest degree (ibid.: 447). IKEA has extended the impact of the 20th-century Scandinavian Modernism and transformed it into a hugely widespread domestic lifestyle (Fig. 1). Its design approach originates in Swedish culture and Scandinavian identity (McDermott 2007: 205-206) and is manifested in the natural wood the company uses, the high technology production processes, the vivid

and varied colors of the furniture, and the minimalist shapes. The company supports design education in its home country and promotes prominent designers, but it also overtly copies high-profile, successful design work from outside world (ibid.). In accordance with its brand image, its global mission - 'Making everyday life better' (IKEA, 2018) - and design core values, IKEA offers standardized products in all markets it operates in.



Figure 1. Simplicity, variety and personal style in IKEA design (CW, 2010)

IKEA embodies the evolution of the notion of 'convenience', adapted in the context of the sector it has been operating in, and, eventually, leading (INGKA Holding 2017). First, it was convenience of *assembling* yourself your new sofa or wardrobe at home, instead of struggling to move heavy, ready-made furniture. Then it came convenience of *distribution* (by expanding into a long list of markets) of the points-of-sale (Keller et al. 2012: 113). The third wave was in providing convenience of *buying all* what customer needs for his/her home under one roof, where you are free to try, chose and combine; the fourth wave has been a convenience of *changing your domestic environment* according to your taste, mood and fashion trend you follow (Dahlvig et al. 2003, Hambrick et al. 2005). Technologization, dynamics and a concept of home as a place for experimentation is what has been dominating the brand discourse in recent years (Ledin & Machin, 2018). Generally speaking, accessible (convenient) pricing has been the only element of the mix that IKEA always had as a strict policy, but it is in a 'natural' relation to the latter wave described (Hambrick et al. 2005: 58). As Leslie and Reimer (2003: 435) put it, 'there is widespread agreement that IKEA has played a central role in shifting *the temporality and longevity* of furniture across all market segment' (italic's mine – D.T.).



Figure 2. The 'democratic design' pentagon (IKEA, 2018)

The so called 'democratic' design philosophy of IKEA (fig.2) is more exact as it combines three principles (successful business model, natural environment preservation and higher quality of life) in five closely interwoven dimensions: everyone has the right to a better everyday life in accessible price (client/community side), finding better balance between the points that IKEA considers important in what it does (production side), and sustainable design in terms of materials and production processes (environmental side) (INGKA Holding 2017). The IKEA Concept (2018) was born with 'the idea of providing a range of home furnishing products that are affordable to the many, not just the few. It is achieved by combining function, quality, design and value - always with sustainability in mind'. For the purpose of materializing as well as of ritualizing this model, the company organizes 'Democratic design days' where the news, emerging collaborations and products are presented in order to verify the systematic approach that the model puts in motion (Åkesson 2018).

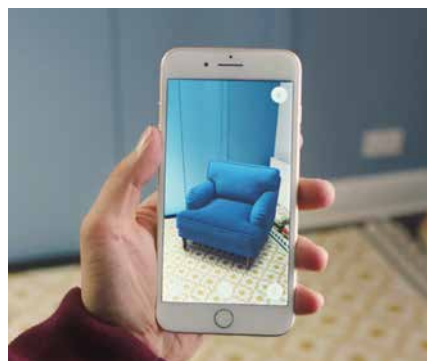


Figure 3. Pre-buying ('Try before you buy') initiative by IKEA including augmented reality app, providing more fun and less frustration in the process of choice and decision-making (image source: IKEA 2018)

IKEA is not only a furniture producer, since it works with subcontractors, neither a pure retailer. It is a *service-delivery agency*, producing a wide range of opportunities for customers to choose, act, change, combine, rearrange, etc. (even in the virtual world, Fig. 3 and 4, Franke et al. 2010). Design has a major role all this and the evidence is, first and foremost, its famous catalogue, which serves a window for what IKEA currently offers (Hambrick et al. 2005). Design is implemented in all products and, last but not least, in the in-store environment, that aims to display every available home concept to the visitors. Another evidence lies in the intellectual property management. Currently, IKEA has 126 registrations and pending requests for design innovations in Europe not only for furniture, but also for cooking appliances, textile products, curtains, carpets, lamps, storage furniture and ventilations (EUIPO 2018a).

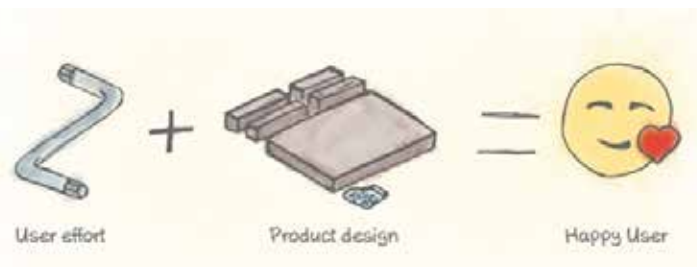


Figure 4. Simple model of IKEA's perceived value chain, driving 'experiential' resonance (Nikolov 2017)

'Sustainability' is amongst the original corporate culture values of IKEA, but nowadays it is a production principle and a 'new' social message in its design policy. For instance, the 'value, no waste' mindset corresponds to the way raw materials, design creation processes and brand image work together for the further development of the company (IKEA 2018). 'But to help our customers create a better life at home, in a world where resources are scarce, we have to up our game': this statement reveals the deep meaning of new edge/stage of value chain. The latter starts with the natural environment as a big home the customers live in and finishes in their own domestic space, design being the appropriate 'language' for its implementation. The closer connection of the company with people (INGKA Holding 2017) is demonstrated in the solar-powered 'Better Shelter' project, that is, a temporary shelter made of recyclable plastic for five people, that can be assembled in just four hours. Several refugee families gave feedback for design improvement during the product's prototype period (Tumbertini 2018).

Design as a holistic approach

From a semiotic perspective, 21st century marketing is more human-based and social-active, after being factory-centered and boardroom-dominated for decades. General audience is allowed to observe, follow, comment and even participate in the various creative and production processes and stages. Thanks to the new interactive media, it has become a key channel for maintaining dialogue with the customers and for offering specialized information (e.g. how [which raw materials and natural sources are used, what processes are involved] the products are built and where they go after consumption in terms of waste and recycling) as a part of value proposition (Kim and Mauborgne 2004). It is precisely, the principle of 'transparency' that has demystified and democratized contemporary marketing, changing in the process the value chain as a whole and broadening the social basis of brand signification (Franke et al. 2010). Margolin and Margolin (2002) claim that, from a marketing perspective, design theory and practice is extremely developed now and exploits the ideas and research results coming from management studies and marketing semiotics. However, this kind of understanding about design is too narrow, not least because it shows only the commercial side of it. Design should be reconsidered or redirected towards specific social needs and services - like meeting the needs of the marginalized populations and bettering their life space, health, education, even crime behavior.

Multimodality is the closest semiotic concept to consumer experience delivery mentioned above (Trendafilov 2016). It deals with the range of 'modes' that a sender, in the communication process, uses to transmit a message: visual, verbal, tactile, aural as well as olfactory. These modes collaborate with each other and jointly complete the intended message (Kress 2010: 30–33). Kress defines multimodality as *socially built semiotic resources for meaning-making* (ibid.: 79). Furthermore, it refers to *the multi-channel performance* happening even during a casual everyday conversation (Kress & Leeuwen 2006: 154 ff.). In branding practice, the widespread term 'integrated marketing communications' (Oswald 2015) has been adopted by managers with the same purpose – avoidance of uni-dimensionality and one-way transmission of the brand message and increased communication efficiency (Schmitt 2009). As Page points it out (2010: 4), multimodality requires the multiple integration of meaning-making resources in all communicative acts and events. Considering IKEA's catalogue, for instance, Ledin and Machin (2017, 2018) made a research on kitchen design, showing how a change in multimodality can transfer kitchen to 'prestige domestic space' (2018: 6), related to the ideology of neoliberalism 'with its need for the self-managing, market-oriented individual consumer-citizen' (2018: 2). They discern four historical periods of kitchen development - everyday 'type' in 1975, ordered in 1985, lifestyle since the late 1990s (e.g. space of interaction and joy), and creative in 2016. The latter, the authors conclude, communicates higher status, presented in hyperreal vision ('symbolic naturalism'). Suddenly, kitchen took over from the living room

and become the most important space at home dedicated to creativity and social interactions (ibid.: 16). They point out also, that they found increased levels of affect in modern kitchen, 'made lively and engaging through uses of graphics, colour and design, etc. This serves to bind us to this functionality' (ibid.: 20).

The actual strength of IKEA is in using visual and tactile modes, but we should not underestimate the verbal channel, because its catalogues and web-site/s are not just selling platforms, but rather powerful storytelling platforms, as we indicated. Particularly design is narrated from a first-person perspective, just described or emotionally decorated. The stories narrated increase the value of the products by presenting the designers working for the company (as real craftsmen), the concepts behind each collection, single item or module, while, at the same time, they set a context that makes each product to seem special, hand-made and, eventually, humanized.

All of the above demonstrate that IKEA has worked methodically to enhance the multimodal function of its designs, which has a direct impact on its production and branding activities, as well as on the image of its management as devoted in bettering the quality of life worldwide. The powerful brands of today are not just excellent in what they produce, nor simply over-communicative in terms of heavy advertising and strong messages. They are rather meaning-makers who attract and retain customers by giving them reasons to buy that go beyond the logic of a bargain or the short-lived pleasure of physical consumption (Keller 1998, Deamer 2005, Batey 2008, Sinek 2009, Holt & Cameron 2010). The brand creates and develops its own cultural system (incl. codes, rituals, rules, community and common sense) that influences, overtly or not, both consumers' mindset and behavior as well as competitors' strategies and behavior; it is a trendsetter instead of a trend-follower; it stays as a reference point in its category and is part of a particular lifestyle followed by the consumers worldwide (Vincent 2002, Trendafilov 2015).

IKEA bases its entire marketing mix on design-based thinking (see Fig. 5). This is what drives its corporate culture, its profits (luxury-like products in low prices) and its narrative (minimalistic, practical design for ordinary people). 'Organic growth' is about IKEA's retailing and supply-chain system in markets where it is possible for them to develop without compromises. Each of the four pillars, corresponding to the classical marketing mix elements, has a lot of channels for manifestation. Therefore, design as a corporate philosophy, a positive and distinctive brand association and a genuine customer experience can be communicated in many ways, even in the prices, the great variety of the assortments or the Swedish cuisine in the restaurants.

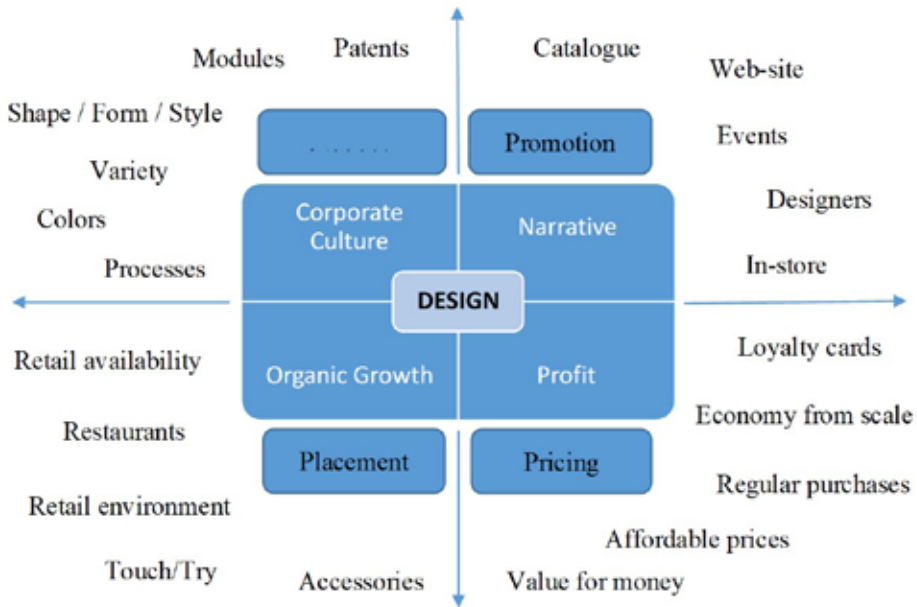


Figure 5. A diagram combining marketing and semiotic aspects of IKEA's design management (author D.T.)

From a semiotic point of view, as a brand with its own distinctive ‘Semiosphere’ (i.e. abstract model of cultural environment where communication could be generated), IKEA has its own, well-defined boundaries and core (where a particular grammar/structure dominates) (Lotman 1992). They comprise a *democratic*, instead of a strictly commercial, design principle that classifies the rivals as ‘authoritarian’ or ‘exclusive’ furniture-makers, i.e. a philosophy of *total design* that *materializes a lifestyle*. Building and developing its own semiosphere speaks a lot for a given brand. First, it indicates its maturity in terms of brand identity and knowledge (Keller et al. 2012), and, second, the semiotic system allows the management to control the dialogue with the customers, to the extent that its structure and recognizable language together ‘load’ people with specific cultural codes (i.e. modernism, simplicity, sustainability, etc.), and, eventually, make them more persuadable by the brand messages. It is a very effective tool for competitive re-positioning, because IKEA communicates to audiences by means of various channels synergetically and in an almost impossible to copy multimodal system of quality perception and experience stimuli, that ensures the customers’ active involvement. ‘Active’ here means a ‘playful’ and ‘cooperative’ way to arrange and rearrange your home as self-expression (Nikolov 2017).

The key of IKEA's success is the translation of sustainability and mass-customization (a kind of non-semiotic texts for the business in the past) into a unique business model via telling its own story as well as introducing a wide variety of design innovations and practical decisions.

The brand reconciles art and functionality, fashion and furniture, and, last but not last, environmental care and shortened lifecycle of domestic products in the contemporary markets.

Conclusion

Design is a form of aesthetization of the objects, used in everyday life, known for centuries. Mass production, however, has made design more practical and more interactive. Its roots in art have been developed to assume certain new functions – utility and brand communication. Moreover, it has become active by involving customers into a multi-sensory and memorable experience. IKEA presents an excellent example of how brands can *be actual experience*. It designs and manages its distinctive experience by means of various channels – shapes and materials, integral home modules, retail points containing various in-store experiences, augmented reality app, and its famous catalogues – but, eventually, it is oriented towards one universally significant platform, *home*, both as the stage of everyday activities and as playground. Using semiotic lenses for scanning what IKEA has been dealing with, marketers can see clearly and assess highly the holistic approach of the company in a socio-semiotic perspective. The company's design-centrism is everywhere and offers tactile and cognitive stimulation that entice customers' emotional response and loyalty. IKEA deliberately combines cleverly organized mass production with aesthetic taste education of the customers, offers home decisions and stimulates creativity, variety and entertainment, as well as sustainable life. Setting and developing its own semiosphere, is a mark for successful brands as cultural leaders and managers of a considerable value chain that consists not only of effective and profitable physical production processes, but also of a human element, both in the context of corporate culture and the consumer's prosumeration role (Dahlvig et al. 2003, Holt & Cameron 2010).

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I Just Cut my Finger in a Ninja Fight: The Semiotics and Hermeneutics of the Band-Aid

Jonathan Ventura and Galit Shvo

In the last decades, semiotic theories have become an important instrument in the designers' toolkit. Influencing theory and practice of an array of design disciplines, ranging from urban design to visual communications and service design, semiotics influenced theory and practice alike. Yet, after realizing the ease with which designers use these theories, as well as some key theoretical concepts ignored by researchers, such as Barthes' 'semioclastics', i.e. the deconstruction of a symbol or a semiotic system, a reframing of design semiotics should be considered. In this article, we wish to present an overall theoretical umbrella of hermeneutic practice, including three layers: classic semiotics, semioclastics and design situation. While the first two present various disadvantages, the third could be an important addition to healthcare design. Taking under consideration that, in general, design deals with questions of usability, we wish to portray the changes in attitude towards the product and its sign, while looking through a 'semioclastics filter'. Furthermore, we would like to broaden the reach and potential of design theory and motivation through a dialogue between semiotic knowledge and hermeneutic interpretation. The shift of attention from the economic or market-oriented approach to a socio-cultural one calls for a different definition of the designer's role as a problem solver. A first step is to view the role of the designer not only as a mediator or a translator of needs and constraints, but as a material and visual interpreter. Focusing on a 'design situation', rather than the designing of a product, leads us to consider various layers of design, one of which is the socio-cultural context and the ability to harness the various design partners in co-interpreting the design situation in a new way and suggest their own interpretation with design tools, methodologies and thinking. Through the design of the band-aid we will show this theoretical and practical shift from semiotics to hermeneutics in the field of healthcare design.

KEYWORDS semiotics, hermeneutics, healthcare design, design situation

It is what it is, right? The Hermeneutic Shift in Design

'Construction is the art of making a meaningful whole out of many parts. [...] Designing is inventing' (Zumthor 1999: 11, 21).

These two quotes of Swiss architect Peter Zumthor (1943-) accentuate the myriad and possibly conflicting layers of design practice. While on one hand, design is a meticulous and linear process, consisting of imbuing coherence to various parts, while basing one's work on a clearly defined system. On the other hand, design is a fluid, unexpected and imaginative act of creation. The common denominator to these two layers is the necessity of designers to interpret and rephrase their ideas using visual and material tools. While the first vista could be associated with semiotic knowledge and the second with acts of rebellion or disruption, design can be described as hermeneutic in essence, i.e., based on acts of interpretation and translation and not only a linear or a simple solution to a clear question.

Following the political, economic and cultural changes of the 1970s, in the 1980s, a group comprised mostly of Italian designers rebelled against their predecessors and heralded a deconstruction of design language through a post-modernist agenda. Naturally, this approach could be seen through the works of architects from the end of the 1960s, such as Robert Venturi (1925-) and Michael Graves (1934-2015). In industrial and graphic design, these designers, among which the most famous are Archizoom and Memphis, infused what was to their eyes a stagnant design language the essence of visual and material slang. As in a spoken language, slang has a chaotic potential, alongside the essence of rejuvenation, enabling an adaptation, evolution or even revolution of the design language. In the case of Memphis, their use of material and visual slang, as we can see in the designs of Michele de Lucchi (1951-) or Ettore Sottsass (1917-2007), using bold colors and textures, 'cheap' materials, as well as rephrasing objects' configuration, all resulted in embarking on a modified language (Fitoussi 1998, Höner 2017).



Figure 1. Carlton, designed by Ettore Sottsass, 1981, wood and plastic laminate

Imbuing luxurious objects with a connotation of cheap fabrication and Vegas-like identity, the Memphis designers rose over an inside joke to an actual reshaping of design language in a resounding act of interpretation (Poynor 2003, Buchanan 1989). However, at least in most of their objects, the extent of reconstruction was limited to the 3D language, since the basic functionality was preserved.

In general, hermeneutics deals with the interpretation of texts and is based on the work of Herder, Schleiermacher, Humboldt, Dilthey and more recently – Hans Georg Gadamer (1900-2002), and Paul Ricoeur (1913-2005). Conversely, a point of change in the view of hermeneutics was established with Heidegger's (2010 [1927]) concept of 'being-there' (*Dasein*). In his view, a way to solve the interpretation paradox, i.e., our inability to find the correct interpretation out of the myriad possibilities, was not to exit the hermeneutic circle, but rather to base our interpretation on basic human understanding. This notion correlates with the difficulties echoing in the semiotic theories of Barthes and Eco. Alternately, in his famous 'hermeneutic circle', Gadamer described the act of interpretation as a continuous dialogue between the writer, the text and the reader (Gadamer 2008, Høiseth & Keitsch 2015).

Gadamer followed Heidegger by claiming that an interpretation is the result of a dialogue between the past and the present, echoing the very essence of design practice. In the context of design, therefore, the act of material and visual translation lies in the designer's ability to re-contextualize a situation and reframe it by applying a new designed object. While the designed object could be described as material text, the 'readers' of this object are myriad and each poses different challenges to the designer's innovative interpretation.

According to Gadamer, then, a text is naturally embedded in presuppositions. A classic example would be designers' tendency to keep older attributes of new objects to allow the users a liminal period of adjustment to new technologies. German designer's Peter Behrens' tea kettles clearly show this attitude. While clearly electrical, his tea kettles' design mimics the classic look of traditional kettles, allowing for a period of adaptation. Ricoeur (1988, 2006) continues this line of thought, claiming that interpretation is possible, since human beings can communicate with each other, yet to achieve understanding we must correlate between theory and practice. This is critical when dealing with design, due to its various dimensions and key players.

Barthes's contribution (1977) in this context would be the difference between what he calls *langue* (the basic, structural system of language) and *parole* (the ways individuals use this system). In a design context, the *langue* of prosthetic limbs would be its function, while its aesthetic, aims and socio-cultural context (*parole*) would be open to interpretation by the designer. Naturally, reinterpretation of the relation between the two would bring to hermeneutic innovation.



Figure 2. Peter Behrens' kettle for AEG, 1913: The base is wide as if it's on a fire and the handle is still above the vessel to be kept away from fire. Electric kettles nowadays take less place on our working surface and protect our hands from steam by placing the handle on the side

The combination of design and hermeneutics could be illustrated through Gadamer's classic concept of the *hermeneutic circle*. In a nutshell, it means the movement back and forth between the whole and its parts (Grondin 2016). The practice of design, accordingly, is the movement from a complete structure or configuration and its various parts. Another angle to this approach, from a linguistic point of view, would describe design as an act of innovative translation to an existing part of a structural language. Another fitting description would be what Dahlstrom (2015) terms 'the hermeneutic quadrangle', describing language as comprised of four elements – the author (or designer), the text (or object, in our case), the meaning (function and use and the way the object makes us feel) and the audience (various end-users). Naturally, as is clear to every semiotician or linguist, meaning is created through a shared interpretation, or a dialogue between the author and the reader. This complexity is especially relevant to the design process, as a mediation between the designer's approach and the needs of the various design partners (Ventura & Shvo 2017).

'Slang' in design - using humor or breaking the structural language of design to forward change – is, in fact, the research field of the discipline. Experimental design is often used to invigorate a stagnant language and suggest a new interpretation to changing situations. These experiments can evolve to a more mature product that changes the way we perceive situations and norms. For example, the Kinesio Tape, based on the technology of micro-movements helping the recovery of strained muscles, gained tremendous popularity after professional tennis players were seen in major tournaments wearing these tapes. The shift of this product from a professional medical aid to a popular lifestyle statement is echoed in the change from a single color (skin or blue) to an almost endless variety (see figs. 3-4).

Going further from semiotics, through interpretation to deep hermeneutics, is not only changing the color scheme from violet, green and blue to orange and red, but rather changes the design situation itself – from professional sports to everyday reality. This method broadens

the language of design and creates change. Indeed, as in the case of eyeglasses, this shift from a medical product to a lifestyle accessory reduced shame or even stigma from these products.



Figure 3. Kerry Walsh Jennings, USA Volleyball Team, wearing a KT tape bolstering a USA logo



Figure 4. An array of KT Tape colors

As we can see in this famous example, hermeneutic ability is important in design theory and practice, however, due to its broad applicability we wish to focus on one small object – the band-aid. Through the various designs of the band-aid we will present three modes of interpretation, starting with the less complex. We will start with classic semiotics, continue to semioclastics or the breaking of a design system and conclude with our contribution – the *design situation*.

Classic Semiotics: On Function, Structure and Language

The study of this ‘spoken’ system of objects - that is, the study of the more or less consistent system of meanings that objects institute - always presupposes a plane distinct from this ‘spoken’ system, a more strictly structured plane, a structural plane

transcending even the functional account of objects. This plane is the technological one. (Baudrillard 1996: 4-5)

The concept of culture I espouse, and whose utility the essays below attempt to demonstrate, is essentially a semiotic one. Believing, with Max Weber, that man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretive one in search of meaning. (Geertz 1973: 5)

In 1921, a cotton buyer working for Johnson & Johnson named Earle Dickson developed a new bandage for his wife Josephine who kept getting cut and burned while cooking. The need for an ergonomic, flexible and useful object led to this simple invention, used to keep wounds clean for the last 100 years. Seeing that the contemporary bandage made of gauze wrapping and adhesive did not stick to the finger for long, Dickson developed an alternative. By using an adhesive strip, adding a cotton rectangle in the middle, and wrapping it all with crinoline, resulted in what we know as the band-aid. Interestingly, this important invention went unnoticed till World War II erupted and heralded modern medicine. As early as 1951, decorated band-aids specifically designed for children were manufactured, bearing popular icons such as Mickey Mouse, Donald Duck and others (Antonelli 2005). The selling of the first band-aids in rolls did not add to their popularity, resulting in the double bind object we all know and use. In 1954, 3M replaced the band-aid's fabric with plastic, resulting in a sturdier and more sterile product.



Figure 5. 1921, J&J band aid rolls



Figure 6. Generic plastic band aid

In his famous book *The Shape of Things* (1999), Vilém Flusser (1920-1991) reflects on the complex visual-material nature of design. In a brilliant etymological rephrasing he shifts this discipline to ‘de-sign’, highlighting the importance of signage structure for the deeper understanding of design. We can call it the classical approach to semiotics in design, since the starting point of the designer’s role was, in general, that of a problem-solver and translator of ideas into shape and material.

Semiotics is used for the better understanding of objects and determining the best configuration for their function. Designers usually ask how semiotics lead to proper use of the product they design. Using a well-defined sign system, the designer leads the end-user to one option of interpretation from a variety of possibilities, or what is known as *anchoring* (Barthes 1977). Especially in medical products, a clear and intuitive design is considered an important value.

To some extent, we can rely on the user’s ability to interpret and decipher cultural knowledge and visual literacy when coming to design a new product. For example, we can all recognize the visual sign of a band-aid and its primary function. Less than a hundred years ago, this fact was not so obvious. We can identify the symbol, along with its signified, its function and we can even assume what is its most popular color. An intelligent use of this system of purveying information gives designers the ability to communicate with users, guiding them to the correct way of using a product.



Figure 7. Street artist DEDE, Band aids across Tel-Aviv:
We can easily read this sign even when its origin has been manipulated



Figure 8. Edda Vardimon Gudnason, Plaster X, brooch, 1994, silver and gold

While designers have been accepting the importance of semiotics to both the theoretical and practical nature of the discipline, it holds many disadvantages, among which its endless layers and culture-oriented interpretation. However, without delving into the well-known attributes of semiotic knowledge, we will use its frame to focus on three distinctive features crucial to the understanding of the theoretical and practical venues of healthcare design. In this field of knowledge, semiotics is manifested in these three fields (usually all 3 combined): *configuration, aesthetics and materials/technologies*.

First, the structure or configuration of the product is crafted for better functionality, ergonomics and operating. Naturally, in healthcare design, as in other venues of product design, configurations are constantly being tested and improved. These actions enrich the variety and create new aesthetics, promoting the evolution of a product. As we can see in the sophisticated configuration depicted in the next illustration, encasing several functionalities in a single configuration:

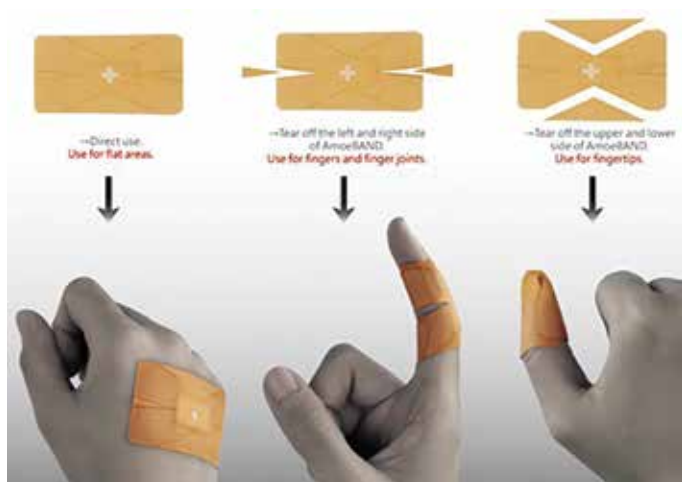


Figure 9. Variety of structures in one product, by AmoeBAND (Designers: TayPek-Khai, Hsu Hao-Ming, Tsai Cheng-Yu, Chen Kuei-Yuan, Chen Yi-Ting, Lai Jen-Hao, Ho Chia-Ying, Chen Ying-shan, Weng Yu-Ching and Chung Kuo-Ting)

Second, the aesthetic values of the product, i.e., in general, the shapes and colors used in a specific design. Naturally, a color-scheme could be functional (i.e., bright running clothes for nighttime)¹ or socially-oriented at a specific identity or other venues of visual communication. For example, the use of color as a functional code (as a function, color changes indicate when it's time to replace the band aid) and as a customization and personalization tool (a set of four different colors to choose from, along the ability to match a social setting with the color of a band aid) like in this AmoeBAND design:



Figure 10. A variety of colours in one product, by AmoeBAND

Third, manufacturing technologies and materials used in a specific design. For example, the innovative materials used by major sports brands, from mesh fabrics and smart textiles to 3D printed parts and IOT that can totally change the product's abilities, like this Corventis bandage.

¹ See, for example, Blaszczyk, 2012.



Figure 11. Smart bandages, including this one from Corventis, can transmit cardiac data in real time from a patient's body to their physician.

Semioclastics Reframed: From Dreyfus to Deconstructivism

Thus, etymologically, design means 'de-sign'. This raises the question: How has the word design come to achieve its present-day significance throughout the world? [...] The word occurs in contexts associated with cunning and deceit. A designer is a cunning plotter laying his traps [...] Another word used in the same context is 'technology'. The Greek *techne* means 'art' and is related to *tekton*, a 'carpenter'. The basic idea here is that wood (*hyle* in Greek) is a shapeless material to which the artist, the technician, gives form, thereby causing the form to appear in the first place. (Flusser 1999: 17-8)

The architect has always dreamed of pure form, of producing objects from which all instability and disorder have been excluded [...] No form is permitted to distort another, all potential conflict is resolved. The forms contribute harmoniously to a unified whole. [...] Any deviation from the structural order, any impurity, is seen as threatening the formal values of harmony, unity and stability, and is therefore insulated from the structure by being treated as mere ornament. (Johnson & Wigley 1988: 10)

The essence of semiotic knowledge lies in the structural system, as the field's founding fathers made clear. However, in a less-known text, Barthes mentioned the ability to disrupt

or even shatter this system, as happened in the famous iconoclasm schism in the Byzantine Empire, naming this process semioclastics. Following Barthes' concept we delved deeper into the possibilities presented by this concept. While the function inherent in the various design practices renders complete semioclastics impossible, open-code design, as well as co-design practices make this concept highly relevant in contemporary design. To a lesser effect, changing or disrupting a layer of the previously mentioned attributes of classic semiotics will result in innovation and creativity, or material and visual slang (Ventura and Shvo 2016).

Following Le Corbusier's (2007 [1923]) consideration of standardized human proportions in his *machine-à-habiter* (or 'living machine'), in the second half of the 20th century, industrial designers echoed the same conclusions. In his seminal book *Designing for People* (1955), American designer Henry Dreyfuss (1904-1972) introduced the influential characteristic figures of Joe and Josephine, epitomizing human ergonomics. Dreyfuss' most innovative approach rephrased the essence of function, shifting the weight of design from manufacture and marketing-oriented aesthetics to identifying the real needs of the end-users, thus, redefining the essence of function in design.

Dreyfuss' book-title echoes a significant shift from designing for the market to designing for people. Furthermore, as we shall see, the transition from semiotics to hermeneutics in healthcare design is also mirrored in the important transition from designing *for* people to designing *with* people. This important shift can be manifested through the potential and ability of the design language - in other words, through semioclastics. Indeed, to understand the potential of semioclastics we wish to turn to a significant evolution in architecture history echoed in the theoretical outline of deconstructivism.

Although its immediate correlation, Johnson accentuates the origin of deconstructivist architecture, not from deconstructive philosophy, but rather as an inherent result of changes within architecture practice. Naturally, in his perplexing and fascinating career, following the quote opening this chapter, Johnson opened a phase of deconstructivist architecture manifesting in a 180-degree change. Following this postmodern agenda, architects such as Philip Johnson (1906-2005), Frank Gehry (1929-), Peter Eisenman (1932-) Daniel Libeskind (1946-) and others, led to rethinking and redefining the very essence of space, exterior and interior, harmony, structure and order (Woods 1999).

According to Johnson's approach, deconstructivist architecture does not strive towards demolition or dissimulation, but rather to offer a different option to tackle harmony, stability and unity. Indeed, this approach is clear in the next definition of a deconstructivist practitioner:

a deconstructivist architect is therefore not one who dismantles buildings, but one who locates the inherent dilemmas within buildings. The deconstructive architect puts the pure forms of the architectural tradition on the couch and identifies the symptoms of a repressed impurity. The impurity is drawn to the surface by a com-

ination of gentle coaxing and violent torture: the form is interrogated. (Johnson & Wigley 1988: 11)

As Johnson and Wigley (*ibid*) correctly elaborate, the deconstructivist movement in architecture was not based on a frivolous en-vogue notion of going against nature or their own discipline, but rather on redefining the relation between shape, structure and function. Like their Russian predecessors, Tatlin and his fellow Russian constructivists, they went on a quest for shapes. The cracks in the movement appeared when postmodern architects, produced a commentary on buildings, rather than actual buildings. Naturally, these different approaches clashed regarding the very definition of function:

The modernists argued that form follows function, and that functionally efficient forms necessarily had a pure geometry. But their streamlined aesthetic disregarded the untidy reality of actual functional requirements. In deconstructivist architecture, however, the disruption of pure form provides a dynamic complexity of local conditions that is more congruent with functional complexity. (Johnson & Wigley 1988: 19)

In this manner, Derrida's deconstruction is understood not as an act of destruction, but rather of destructuring. The essence of 'shaking' the essence of a building or a product leads to the verification of its structure, inherent functions and redundancies. Wigley (1997) continues by suggesting considering three complimenting concepts, interwoven through practice - *translation, architecture and deconstruction* (understood as another form of architectural addition). However, when replacing architecture with design in this equation, we must address the relevance of the other two concepts. Indeed, deconstruction or semioclastics, as well as translation, are used as modes of practical and theoretical hermeneutic possibilities, shifting the essence of design from actions of mediation to those of deeper interpretation. This important shift is viewed through the shift from design as problem-solving to reframing the design situation itself.

Again, one must remember that Derrida's deconstructivism was based on a binary perception of the past. To create a meaningful, critical nuanced, sophisticated understanding of a text (or a material or visual representation) one had to follow a somewhat contradictory path. On the one hand, we should be firmly committed to the legacy of the past, while on the other hand, seek what this legacy omitted or suppressed (Hill 2007).

Additionally, following Derrida's (1978) famous concept of *différance*, the classic semiotic relation between signified and signifier is strenuous at best. Not only will a signifier lead to more signifiers, but this relation is inherently arbitrary. However, the important point in this matter is that while this relation is arbitrary, it is culturally accepted, i.e., it could change according to shifting norms. Therefore, the material or visual manifestation of "disableness" could be

designed in various ways, leading to crucial design issues of visibility vs. invisibility. In other words, the socio-cultural context affecting the interpretation of a designed product sums to an almost endless array of layer upon layer (Derrida 1987).

There is a correlation alongside a deep difference between Derrida's famous theory and its application to architecture or design. Following Derrida's concept of deconstruction, we can view design as such an act, combining between description and transformation, through the essence of material and visual language. This notion of Derrida's concept could be elaborated in the definition suggested by Royle (2000: 11):

deconstruction n. not what you think: the experience of the impossible: what remains to be thought: a logic of destabilization always already on the move in things themselves': what makes every identity at once itself and different from itself: a logic of spectrality: a theoretical and practical parasitism or virology: what is happening today in what is called society, politics, diplomacy, economics, historical reality, and so on: the opening of the future itself.

Moreover, in an interview conducted in 1993, Derrida, who disliked the popularity of his most famous concept, addressed the definition of deconstruction (in Royle 2003: 25-6):

[D]econstruction moves, or makes its gestures, lines and divisions move, not only within the corpus [of a writer] in general, but at times within a single sentence, or a microscopic element of a corpus [...] I cannot treat a corpus, or a book, as a whole, and even the simple statement is subject to fission.

The relation between deconstruction in architecture and semiotics in design is important, since both practitioners focus on their design through a reshaping of a practical system. Another possible relation lies between Barthes' concept and Charles Peirce's (1974) *abductive reasoning*. According to Peirce, contrary to deductive logic, using abduction involves the linear connection between preliminary conception and conclusions. Reasoning and explanation are, in fact, what distinguishes induction or deduction and abduction.

Therefore, the implications to design theory and practice are significant, since following the lines of semiotics towards hermeneutics, the designer can alter (or deconstruct) a word, a sentence or a whole phrase of the design language. In the material and visual world of design, these will be manifested by innovative disruptive shapes, colors, materials or functions. This shift between the structural language and its manifestations echoes Saussure's famous duality of *langue* (in our case, the classic outline of a band-aid) and *parole* (varying colors or configurations within the structural outline of a band-aid).

Interestingly, the reconstruction attempts of the band-aid targeted at children recalls Gombrich's (1985) classic essay on the hobbyhorse. In this essay, British art historian Ernst

Gombrich (1909-2001) differentiates between imitation and representation. A broomstick in a child's imaginative mind represents a horse, thus making a grownup's comment 'it's not real' stupid and irrelevant. The same principle applies when applying a band-aid, since the major purpose of the band-aid is to allow the child to broadcast to the world 'I am a hero, I have sustained a gruesome injury, yet survived to tell the tale'. As a badge of honor, then, the band-aid's design should take these notions into account. The fact that children often use band-aids only for their decorative and playful elements without actually getting cut or scratched is a deconstruction of the situation and the classic 'proper' function of the band aid.

Deconstruction stands between the breaking of visual and material language, but if deconstruction mixes those signs, we point to a trend that involves the re-establishment of new elements of dialogue between the various actors, which are not outside the rules, but beyond the visual and material rules and use interpretation and imagination for doing it. Therefore, while deconstruction deals with structural aspects, semioclastics also addresses issues of ideology, of social dimensions, etc. and not only the potential in breaking structural and aesthetic rules.

So far, disruptive strategies have been outlined vis-à-vis design thinking. As Dorst (2001) mentions, 'design thinking' has influenced the many layers of design since the early 1990s, mainly in the fields of IT, business and marketing. As in design thinking, designers should not look for a problem since perhaps there is none, i.e., we do not know in advance the 'what', the 'how' vis-à-vis the expected value at the end of the design process. In other words, the process of design research, specifically through a semioclastics or 'design situation' lens, could result in an educated action of 'non-design', i.e., working with design partners to consciously maintain their current reality. However, both terms we use are embedded first and foremost in the socio-cultural aspects of design activity. Our addition to the now somewhat crowded field of design methodologies lies in the articulation of the various design partners influencing the design process.

While design thinking is generally interested in market and organizational attributes, and co-design with the individual relations between and inside communities, design situation strives to combine both, adding a deep socio-cultural understanding based on design anthropology. For example, one of the influences of co-design, which is empathic design (Battarbee and Koskinen 2005) is also relevant in design situation and as a natural part of design anthropology. Indeed, the importance of empathic design lies not only on the importance of taking the end-user into consideration, but also their experiences from a broader phenomenological point of view (Koskinen & Battarbee 2003).

Thus, semioclastics are a trigger leading to the potential of hermeneutics, by skipping over the limited approach of classic semiotics. In other words, semioclastics hold the potential of breaking the language and its rules while enabling reconstruction with new personal interpretations (of the designer or the user). The result of this theoretical shift, which we term 'situation design' combines human-centered design and the potential of interpretation.

Design Situation: The Intricate Dialogue of the Various Design Partners

In the haiku, the limitation of language is the object of a concern which is inconceivable to us, for it is not a question of being concise but on the contrary of acting on the very root of meaning [...] the haiku is not a rich thought reduced to a brief form, but a brief event which immediately finds its proper form. (Barthes 1982: 75)

Since Dreyfuss' *Designing for People* (1955), socially-oriented design strategies started focusing on the needs and constraints of the end-user. Human-centered design, inclusive design and more, focused on various attributes of the end-user's world. User experience, for example, includes a range of factors from ergonomics, through stigma to sensorial feedback. Sanders and Clappers (2008: 6) highlights the importance of co-design stemming from co-creation, and define the former as referring 'to the creativity of designers and people not trained in design working together in the design development process'. A step forward would be Batarbee's (2004) insightful assertion viewing co-experience design as a combination of meaning-making and experience design. Indeed, following the influence of human-centered design strategies, the importance of understanding the end-user's experience and translating it into a specific meaning is highly important in contemporary design. However, while there is a participatory element to design situation, other principles, such as a deep understanding of the socio-cultural context and frugal design add to this important strategy. Contrary to the view presented by Sanders and Clappers, we view the designer-researcher not as a facilitator or a translator, but an active social actor focusing on interpretation through visual and material means.

Situated in the same human-centered strategies, *design situation* (Ventura 2018a), focuses on a broader definition of a product's function, hence, reframing the definition of design, and thus – the role of the designer. As the understanding of the design process progressed and developed, the essence of design shifted from solving problems to understanding the complexity involved in the myriad socio-cultural layers of design. A first step was redefining the design process not as looking for problems to solve, but rather as a discursive process of understanding various paradoxes comprising design practice (Dorst 2006). Indeed, this shift is mirrored in the shift from classic semiotics through semioclastics' potential to design hermeneutics. Interestingly, while this practice includes both designing a situation and situating design practice in a defined socio-cultural context.

Instead of following the classic definition suggested by design theoreticians and historians, viewing the designer as a problem-solver (Petroski 2007), we offer to see design practice as an act of re-interpreting or re-framing the *design situation*. The difference between a product and a situation lies in the broader outline of the latter, incorporating the various design partners,

as well as the socio-cultural context. As in other healthcare products, the band-aid broadcasts a set of indications linking between our individual body and the body politic (Scheper-Hughes and Lock 1987). The moment we go out the door with a band-aid, a visual and material dialogue is created between ourselves and our social surroundings, leading to our efforts to either camouflage or accentuate the presence of the band-aid on our body.

Let us consider the evolution of the band-aid's design. From the 1920s to the 1950s, the evolution manifested mainly in the materials used - from gauze to cloth to plastic and back again to more sophisticated fabrics. However, while the various ergonomic and manufacturing hurdles (not to perfection, as we all know, thinking of applying a band-aid on a joint) went through a steady process of improvement, the more interesting change should be addressed through redefining the situation behind the product. We are not interested in this process as a marketing oriented approach (for example children's brands that apply their characters on the surface of band-aids), but rather on reexamining the design situation to better understand and redefine it.



Figure 12. 3M pop colored and shaped band-aids

In Figure 12 we can see that a bright color scheme shifted 3M bandages from a purely medical product into a consumer product, shifting the gaze from its medical function to its aesthetic value. By that, it is suggesting a different approach to the situation behind using these band aids: from a medical situation that asks to be discreet and hidden to an extroverted one, connected to daily life, yet using design to highlight one's presence.

Another humorous example are the band-aids in Figure 13, manifesting a different and more sophisticated approach based on redefining the hermeneutic stance of the situation. Clearly, the designers focused on the mundane question presented to any wearer of a band-aid – 'what happened?'. Offering suggestions ranging from 'shark bite' to 'ninja attack', this product offers the wearer a whimsical approach to a previously defined 'medical' or overtly mundane situation, presented through a 'designerly' lens on the band-aid itself.



Figure 13. What happened? The band-aid answers instead of the wearer

Another, richer and more sophisticated approach can be seen in Figure 14, designed by Help Remedies. This innovative company identified three main issues relating to healthcare design. First, redefining the function of daily healthcare issues is critical in contemporary urban settings. In a daily, mundane situation, when having an allergy or a headache, we don't need a huge pack of pills, but only a small amount. Second, the packaging of daily and mundane healthcare products should correlate with other consumer products we buy, therefore, not heralding the product's medical function. This change is easily viewed through the venue in which we buy these products - i.e., the drugstore or supermarket, rather than a clinic. Third, most importantly is the redefinition of the boundaries of the design situation. For example, a cut should not end solely in the action of cutting off the blood flow, but could also help others. Therefore, the package in this innovative design, includes an envelope in which the user deposits a drop of their blood, from the cut. This is sent to a bone-marrow database, offering the option to save a life.

These examples help in broadening the scope of the designer's potential not only as a mediator or a translator of needs and constraints, but as an interpreter of socio-cultural situations. Our solution, with implications both in the theoretical, as well as the practical spheres, lies in combining two major concepts of *design as interpretation* and *design situation*. The importance of relating and trying to understand at first-hand the different world-views of the design partners stand at the heart of design anthropology. Design could be understood in line

with Clifford Geertz's (1973) call for deciphering cultural rituals as cultural texts. The meaning of design as interpretation is going beyond the use of semiotics, or, indeed aesthetics, to create user-centered material languages, to the realm of hermeneutics. By applying this innovative frame, we define the designer not as a re-definer of products, but rather as a socio-cultural interpreter, with the ability to transform a broader vista of designed solutions. The shift from classic semiotics through semioclastics to design hermeneutics is embodied in the design situation, as we have seen. Indeed, the possibilities of language breakage which is semioclastics enable designers to reconfigure and reframe the design situation. This in turn, creates a deeper impact on our daily routine.



Figure 14. Help remedies: using the situation to enlarge bone-marrow database

Conclusion: Imagination as an Extension of Hermeneutics

A relevant translation would therefore be, quite simply, a 'good' translation, a translation that does what one expects of it, in short, a version that performs its mission, honors its debt and does its job or its duty while inscribing in the receiving language the most relevant equivalent for an original, the language that is the most right, appropriate, pertinent, adequate, opportune, pointed, univocal, idiomatic, and so on. (Derrida 2012: 368)

Following Derrida's quote, we must ponder the question of 'relevant to whom', as well as how should we do it? What is a good translation of a design situation? The essence of the an-

swer lies in the agentic abilities of the designer and the harnessing of ideology in the practice of design. The designer's role in this case, shifts from deciding what is a good translation to negotiating and maintaining a dialogue between the various design partner in each design situation as we have seen earlier. Moreover, designers should keep in mind all the possible signs and meanings and decide which interpretation they want to use to create new meaning to a situation, using design tools and methods. Thus, the transition from semiotics through semioclastics to hermeneutics is not only style-oriented, but most importantly ideology-driven. The transition of the designer's role from a problem-solver to an active interpreter is crucial in contemporary design and especially so when dealing with healthcare design. The shift from creating a (hopefully) better-product to influencing the patient's very definition of their situation is significant.

This transition from semiotics, through semioclastics to hermeneutics could be easily traced regarding the band-aid's design portrayed in this article. Following the early focus on the function of the product, designers quickly turned to semiotics, articulated, for example, in a series for children bolstering Disney figures. The breakage of the semiotic sphere could be seen in the various bold colorways of various brands. However, a hermeneutic or interpretive shift would be to focus on the very design situation of the band-aid instead of its style.

Architectural historian Charles Jencks refers to a postmodern cultural phenomenon he calls *ad hocism*, stemming from *ad hoc*. This approach, following the bricolage tactic of post-modern architecture, is embedded in reconstructing and redefining material and visual languages. Jencks qualifies it as follows:

But a new mode of direct action is emerging, the rebirth of a democratic mode and style, where everyone can create his personal environment out of impersonal subsystems, whether they are new or old, modern or antique. By realizing his immediate needs, by combining ad hoc parts, the individual creates, sustains and transcends himself. Shaping the local environment towards desired ends is a key to mental health; the present environment, blank and unresponsive, is a key to idiocy and brainwashing. (Jencks & Silver 2013 [1972]: 15)

While this approach is highly interesting regarding architectural theory, it had a broader theoretical impact on postmodern culture. The hermeneutic roots of interpretive design sometimes originate from a need to express one's self or preferences, but can also be used as a strategy to redefine the design situation for it to better suit the needs and constraints of all the design partners (and yes, sometimes these needs are self-expression and preferences, but not always). Rather than a sporadic gust of individualistic creativity, interpretive design is sensitively premeditated, based on needs and conception and targeted to be adaptive in an ever-changing reality, which is the very definition of healthcare.

Svenaesus (2013) interprets the clinical experience between patient and physician as a hermeneutic dialogue, based on the perception of healthcare as phenomenological experience. As we have seen throughout this article, the ethos of healthcare design could well be described along these two intersecting lines. Indeed, from Hippocrates onwards, the rendezvous between patient and physician was based upon a dialectic attempt to define illness through either the prism of cosmology, religion or science. According to Svenaesus, the essence of the medical encounter between physician and patient is embedded in a hermeneutic attempt at interpreting a specific medical situation. Indeed, just as the dialectic relation between the medical staff and patients is a result of a process of interpretation, so is the case of healthcare design. Accumulating the various points of interpretation, comprising of the design situation creates a product of visual and material hermeneutic knowledge. However, in contemporary healthcare, various encounters between medical professionals and patients are conducted through the mediation of designed objects. The ability to intelligently decide between classic semiotics, semioclastics or hermeneutics should be based on a deep understanding of each design situation.

To conclude this article, we would like to present an optional approach for integrating hermeneutic knowledge in the design of the band-aid. When redesigning the band-aid, we must consider the various attributes consisting of this design situation. In which ways will the individual and specific world of the user be mirrored in the design of the band-aid. Moreover, how will this design mirror in turn the various aspects of the socio-cultural environment in which she or he lives and works? The aesthetics of the home differ from those of the workplace, for example. Cultural settings and her/his inner self and self-esteem all should further affect the design of the band-aid. Granting the user, the freedom to choose the design of her or his band-aid, should include the choice of hiding or exhibiting the injury, as well as offer ergonomic solutions to various anatomic 'topographies' (just think of trying to apply a band-aid in the area between two fingers). Furthermore, each situation in which we operate throughout the day dictates differing aesthetics - an office meeting, a session at the gym, lunch with friends or a party all dictate different interpretations of the design situation.

Following these considerations, we would suggest a redesign of the band-aid along three possible designs. First, designing the band-aid as a 'procedural toolbox' following the physiologic progression of the healing process, i.e., the band-aid will be designed from organic scales that will start by sheltering and nourishing the wound. As the healing progresses, these scales will naturally detach and disappear, leaving the healing wound open to the exterior air. Second, from a more functional and phenomenological state of mind, comes a possibility to design the band-aid to mirror the user's mood and various daily scenarios. Using the now very popular 3D printers, the user would be able to download and print a specific band-aid according either to their mood or activity (a session at the gym, a board meeting, etc.). Finally, harnessing smart textiles and new technologies, the band-aid could help the user monitor var-

ious physiologic parameters. Ranging from blood-type, through body temperature to blood pressure, will transform the band-aid to an intelligent and vibrant device.

Be the future of the band-aid as it will, the essence of harnessing the designer's ideology and deeper understanding of the design situation will transform the ways we understand and practice semiotics.

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Book Reviews

The Intermedial Turn and the Dynamics of the Semiosphere

Titika Dimitroulia

Nicola Dusi, *Contromisure. Trasposizioni e intermedialità*, Mimesis edizioni, Milano – Udine, 2015, 289 pp, 17€, ISBN-10: 8857528944, ISBN-13: 978-8857528946.

The first term in the title of Nicola Dusi's last work, *Contromisure* (Countermeasures), catches readers' interest, particularly in juxtaposition with the rest of the title, *Trasposizioni e intermedialità* (Transpositions and intermediality): it implies the prevention of conflict or the response to it – and thus, with the connotative meaning of the term, we directly enter Dusi's main field of interest and specialization: semiotics. The rest of the title defines the space in which this conflict takes place: the transposition of a text from a semiotic code and from one medium to another. The title is plainly explained in the theoretical chapter which opens the volume, and in the following chapters which deal with case studies that present those *countermeasures* in concrete examples of intersemiotic and intermedial transpositions, drawing upon both works of the Bourdieusian restricted cycle of literary production and others of the popular culture, ranging from comics and crime fiction to literary adaptations and popular films.

Dusi's volume is or –at least at a first glance– seems to be organized as a circle: it starts and closes with theory and in between are the case studies. When one examines more thoroughly how it is organized though, it turns out to be much more complex, as the theory, which refers to multiple and diverse models, is constantly illustrated by examples, and the case studies incorporate theoretical models presented in an applied form for the first time or delve into previously presented models and principles. This sort of organization is a constant characteristic of Dusi's academic discourse in his articles, books and conferences, yet here it takes different forms and leads the reader to the core of the thematic, figural and figurative organization of the discourse.

The volume continues and expands Dusi's consistent reflection on audiovisual media, digital media and polysemiotic texts in general, with emphasis on their multiple intertextual,

interdiscursive and intermedial transpositions, where texts are defined in the broader sense proposed at the outset by Kristeva, in her work on intertextuality, and used or expanded subsequently by many hermeneutical schools; the landscape as a text in human geography, the space as text in Michel de Certeau, or the spectator as text in Lotman. Organized in nine chapters of different lengths, probably because they are revised versions of texts covering the period 2002-2015, and mainly 2005-2008, and framed by the theoretical reflection of the first and last chapter, the questions and issues which emerge in the transposition of the texts are exposed, moving from one medium to another, like *Il deserto dei Tartari* directed by Zurlini; the transfer to screen of Blake Nelson's *Paranoid Park* by Gus Van Sant; the adaptation of six of the eight stories of Alan Ayckbourn's play *Intimate Exchanges* by Alain Resnais in his film *Smoking/No Smoking* and its dialogue with Borges and Queneau; the derivative texts of Andrew Lloyd Webber's and Tim Rice's rock opera *Jesus Christ Superstar*, and the film *Lola rennt* by Tom Tykwer; the multiple and diverse polysemiotic transpositions of Pinocchio and Don Quixote; and Robin Hood and Sherlock Holmes' permanent and occasional characteristics.

The diversity of the chapters and the complexity of the perspectives used in the analysis make it hard to effectively present them in a review piece. The reader who wants to follow in detail the author's theoretical and investigative endeavour should accompany his reading with some peeks into the films studied, most of which available on YouTube. Take for example, the analysis of the opening and final credits of Robin Hood by Ridley Scott or Sherlock Holmes by Guy Ritchie. They are both discussed in a quite original way, that focuses on the intermedial constitution of the character's identity and the latter's uniqueness in the different media. At the same time, they are treated in an eminently pleasant way, when, for instance, someone watches the digital stylization of Sherlock Holmes, or the fairy narrative of Robin Hood's story in the opening and end credits, presented in painting mode.

The core of Dusi's problematic regards the nature of text transposition from one medium to another. In his elaboration, he refers to diverse theoretical models, beginning with Bolter and Grusin's *remediation*, a process existing long before the appearance of digital media on which they focus. Remediation concerns the re-elaboration, translation and transposition of the rules and conventions of pre-existing media onto the new media. The modes of remediation either pertain to verisimilitude, the 'impression of reality' according to Roland Barthes, which dissimulates the medium (immediacy) and links the representation to its reference; or foreground the presence of the medium (hypermediacy) and the process of mediation at work. On the basis of his sustained work on intersemiotic translation, Dusi approaches remediation at the stylistic, expressive and figurative level, as well as at the level of media materiality, examining the multiple aspects of its orientation and impact, when, for example, an older medium incorporates features of newer ones in a process of 'retrograde remediation', as defined by Bolter and Grusin.

Dusi dissects different definitions and taxonomies of intermediality and links them with the Foucauldian social order of discourse and with cultural practices and attitudes. He focus-

es on the different types of intermediality, ranging from transposition – from a literary work, for example, into film– to mixed codes, as in comics and the opera, or simple reference, as in the cases where cinema uses painting techniques. He stresses the materiality of the medium, which defines the expressive modes and the systemic character of intermediality, versus the individuality of transtextuality.

His most important contribution to the study of intermediality – or ‘intermedial translation’, to use Zecca’s term, which includes all types of intersemiotic translation present in intermediality – is the examination of the figural in intermedial transpositions, and especially in cinema, defined as follows: ‘Speaking about the figural in cinema, and its use as one of intermediality’s keys, means that our analysis represents the constant and coherent tensions which cross the text and the different media, due to a network of dynamic systems of powers, organized in semi-symbolic systems, pathemic (affective-passional) and rhythmic. And thus indicate the implicit elements, sensible, perceptible, tension-related and affective, which work on the spectator’s body in many different ways regarding the narrative and figurative variables and their textual formation’ (2015: 25, our translation).

Dusi consistently stresses the intense dialogism operative between the different media, just as between the texts and the arts, both in the cases he examines in depth and the discussion of the theoretical terms, which attempt to capture what remains and what changes through intermedial transposition. Although his main focus is on cinema, he refers to all the rings of the intermedial chain, including videogames and the web. He clarifies the distinction between intermediality and transmediality, as defined by Lotman, which embraces all the intersemiotic and intermedial types of translation, in order to stress the variable, hybrid, transitory aspect of texts in the dynamic semi-sphere, informed and reformed by those intra- and intersemiotic translations.

Dusi defines intermedial as comprising all the transpositions which re-elaborate previous texts, and crossmedial or transmedial, as comprising all the transpositions which expand them in new variations. The important thing in these translations, as he highlights in his analysis, are the variables and the invariables of the artworks on all levels, as they are informed by the author and the medium itself and influenced by the ‘contexts of the discourse, the modes of production and the experience of the media and the reception practices’ (2015: 262, our translation). Thus, from a sociosemiotic perspective, Dusi continues and corroborates the study of adaptation, transfer and extension of the works in multiple semiotic systems and media, demonstrating the complexity of their interpretation, as well as the importance of the semiotic micro- and macro-analysis of cultural production.

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Bondability in Twitter discourse

Mariza Georgalou

Zappavigna, Michele 2012. *Discourse of Twitter: How we use language to create affiliation on the web*. London: Bloomsbury, 227 pp. ISBN (hardback) 9781441141866, ISBN (paperback) 9781472531544, ISBN (eBook-Watermarked) 9781441138712.

By the time a book or an article on social media is completed, users' practices and even the very same technologies may have changed and the scholarly work will have become outdated (Barton & Lee 2013: 8). This of course does not automatically invalidate research in the field neither should discourage researchers from continuously taking the social media pulse. That Michelle Zappavigna's book was published back in 2012 does not detract at all from its robustness. On the contrary, it has laid solid foundations and should therefore constitute a launch pad for anyone wishing to conduct qualitative as well as quantitative research on microblogging services (i.e. online platforms for posting short messages to the internet) generally and Twitter specifically.

In this seminal work, Zappavigna proposes and puts at the core of her apparatus the concept of *ambient affiliation*, that is, how users, who may not have interacted directly and probably do not know each other and may not interact again, bond together afforded by certain features of electronic text. Drawing on insights provided by functional linguistics, social semiotics and corpus linguistics, and analyzing a cornucopia of examples, Zappavigna succeeds brilliantly in showing that Twitter nurtures a new kind of sociality and belonging. In so doing, she demolishes the dominant argument that social media are exclusively associated with time wasting and the sharing of trivial information.

The book consists of ten chapters. In her introduction in Chapter 1, Zappavigna starts by outlining the salient characteristics and usages of social media placing strong emphasis on the real-time sharing of everyday experiences. She then provides a meticulous overview of previous studies on social media, language and affiliation.

Chapter 2 details the major dataset of the book, HERMES, a corpus containing 100 million words and nearly 7 million tweets. Zappavigna built the corpus herself using Twitter's streaming application programming interface, which allows to collect tweets from the public Twitter

feed. After discussing the challenges she encountered when processing the data, namely, the inclusion or non-inclusion of non-standard orthography, XML and escaped characters, emoticons and hashtags, abridged posts, spam tweets and retweeted tweets, the author presents a useful guide of the exact steps she took to design the corpus. Besides HERMES, her dataset consists of three additional specialized corpora: a hashtag corpus, an internet memes corpus and a corpus of tweets about Barack Obama's win in 2008.

Chapter 3 focuses on the language of microblogging. In the first part of the chapter, Zappavigna is concerned with the phatic, conversational, and heteroglossic dimensions of microblogging. She zooms in on three Twitter-specific affordances and the ways in which they contribute to these dimensions: mentioning (i.e. addressing and referencing other users with @ + their username), retweeting (i.e. republishing another user's tweet within one's own tweet) and hashtagging (i.e. labelling the topic of the tweets with #). The second part of the chapter looks at dominant linguistic patterns in HERMES. After detecting the most frequent words (the addressivity marker @ and the pronouns *I*, *me* and *you*) and the most common 3-word cluster in the corpus ('Thanks for the'), Zappavigna concludes that Twitter's discourse is more focused on interpersonal reciprocity.

Chapter 4 explores the kinds of evaluative language used in Twitter drawing support from Martin and White's (2005) appraisal model developed within Systemic Functional Linguistics (SFL). Through a multitude of examples from the HERMES corpus, Zappavigna delineates the three discourse semantic domains of the model (attitude, engagement and graduation). Based on an analysis of the use of emoticons in microblogging, she evinces that, in addition to narrating their everyday minutiae in their posts, users also show solidarity and enact relationships.

Chapter 5 examines how online communities on Twitter can be construed semiotically by dint of hashtagging. Zappavigna finds that microbloggers use this typographic convention with a view to marking experiential topics, enacting interpersonal relationships, and organizing text. As follows from her analysis, hashtagging can have two functions: ambient affiliation (sharing values and information pertinent to a common interest) and personal reflection (narrativizing self-representation). The thrust of Zappavigna's argument is that the expansion of meaning potential in the usage of hashtags constitutes the beginning of what she terms *searchable talk* (i.e. how we make our discourse findable by others). Through this spectrum, Twitter can be conceptualized as an 'interpersonal search engine' where 'you go when you want to find out what people are saying about a topic right now and in order to involve yourself in communities of shared value that interest you in this given moment' (p. 95).

Chapter 6 considers how memes circulating in Twitter are wittily deployed for social bonding purposes. Zappavigna specifically deals with memes created by phrasal templates, that is, phrases with 'slots' available to be modified (e.g. In Soviet Russia, [object] [verb] [you] – 'In Soviet Russia Twitter follows you', 'In Soviet Russia vodka drinks you'). Via a wealth of examples, she shows that in terms of ambient affiliation memes can be analysed from two perspectives:

frame level (i.e. bonding around the amusement of inserting items to the meme's phrasal template) and slot level (bonding around the values expressed in the meme that has been cloned by adding items into the template slots).

Chapter 7 tackles internet slang. Zappavigna centres upon the lexicon that Twitter users have created by appending the prefix *tw-* (from the word Twitter) to common words, for example *Twittersphere* (the entire Twitter community) and *tweeps* (peeps, i.e. people, of Twitter) as well as upon the slang terms *geek*, *noob* and *pwning* (i.e. defeating an opponent) encountered in the HERMES tweets. Her analysis reveals that Twitter users employ slang in creative, playful and self-parodying ways, fostering in this fashion solidarity with a putative Twitter community.

Chapter 8 sheds light on internet humour taking the term *fail*, an instance of internet slang and a popular internet meme, as a case in point. The humorous status of *fail* derives from a disparity between a trivial situation and its exaggerated negative evaluation. What Zappavigna observes is that *fail* bonds Twitter users in two ways: 1) self-targeted deprecation (e.g. 'So I am just a complete #fail this morning. Turns out my 10 am apt was at 9. O_o ... sooo any Raleigh/Durham peeps wanna get up? Lunch?'), and 2) other-targeted mocking (e.g. 'Just received a very expensive piece of DM with the slogan "Marketing. Well executed." The letter is addressed to someone else #FAIL').

Chapter 9 is dedicated to political discourse online. Zappavigna commences by highlighting the fact that social media offer researchers an unprecedented treasure of language data about public thought. She then examines a corpus of tweets collected in the 24 hours after Barack Obama won the US presidential elections in 2008. The outpouring of emotional and evaluative language detected in these tweets showcases that Twitter sustains the expression of interpersonal meaning. As the author points out, the synergy between corpus linguistics and discourse analysis can enhance our understanding of how the language used in social media goes hand in hand with socio-cultural change. In her concluding remarks in Chapter 10, Zappavigna reiterates the bondability virtue of Twitter discourse.

Discourse of Twitter and Social Media is a very comprehensive and insightful source, essential for advanced students and researchers within the areas of discourse analysis, social semiotics and digital communication. Its major strength lies in that it makes an exceptionally useful contribution to the (re)theorization of social media as important sites for achieving affiliation providing a solid theoretical framework upon which further research can be pursued. To this end, Zappavigna introduces and exemplifies the terms *ambient affiliation* and *searchable talk*. What is more, she reworks in a fresh way Zhao's (2011) concept of *coupling*, namely, the relationship between two semiotic elements, which can be formed between metafunctional variables (e.g. ideational and interpersonal), between different semiotic resources (e.g. words and image) and across strata (e.g. semantics and phonology).

As already mentioned, the discussion in this book relies on Martin and White's (2005) appraisal model. Undoubtedly, this is a quite complicated and elaborate model, especially

to someone without any prior exposure to SFL. Yet, Zappavigna's readable style smoothly initiates the reader into the intricacies of both SFL and the appraisal model supplying helpful tables and figures. Interestingly, the model is explicated through tweets from HERMES.

Of vital importance is the practical advice Zappavigna gives to researchers who wish to conduct quantitative research on social media discourse. Apart from guidelines on how to build and process social media corpora, she suggests the usage of visualization software, such as Twitter StreamGraph (Clark 2009), which will prove particularly useful to linguists concerned with the general patterns of collocational flow over time. For those interested, Zappavigna elaborates further on the aforementioned quantitative approaches in Page et al. (2014).

Zappavigna has been innovative in compiling HERMES. A plausible question that may arise while reading her book is whether HERMES is publicly accessible so that other researchers can use it anew. Although, the answer is not found within the book, Zappavigna informs us in her personal website that:¹

I would love to be able to share my Twitter corpora with you, however Twitter won't let me! See why here [she provides a link to Twitter's terms]. Feel free to complain to Twitter that researchers are getting caught in a net presumably meant for commercial developers!

This is a significant caveat to be taken into consideration by those aspiring to build their own social media corpora.

All in all, Zappavigna has produced a rounded piece of work from all aspects. But she has not settled there. Acknowledging that social media are a 'moving target' for scholars (Hogan & Quan-Haase 2010: 309 as cited in p. 3), she has already delved deeper into searchable talk in her most recent book (Zappavigna 2018). For certain, she will continue her substantial contribution to the field.

NOTES

1 <http://socialmedialinguist.blogspot.com/p/corpora.html> [Accessed September 17, 2018]

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On a Peircean Semiotic Turn of Semiotranslation

João Queiroz and Pedro Atã

Robinson, Douglas 2016. *Semiotranslating Peirce*. Tartu: Tartu University Press, 280 pp., € 28.00, (Soft Cover, ISBN 978-9949-77-247-6).

The influence exerted by Peirce's semeiotic on Translation Studies 'has been close to nil'. Nothing has yet happened that looks like a 'semiotic turn in translation studies'. This is surprising. Peirce's pragmatic model of meaning as the 'action of signs' (*semiosis*) has had a deep impact on philosophy, psychology, theoretical biology, linguistics, and cognitive sciences, besides all branches of semiotics. Why is such an influence not observed in a field of studies so strongly impregnated by semiotic notions, like translation studies? How could such an influence be exerted? Douglas Robinson's book is about these questions. His book is not a review or analysis of the reasons why a 'semiotic turn in translation studies' has never happened. In fact, it is mainly about Dinda Górlée's works. Górlée has forged the most systematic inter-theoretical relationship between Peirce's semeiotic and Translation Studies. Her papers and books tentatively build an initial step of a Peircean transformation in Translation Studies' research agenda. In our opinion, if this project has not succeeded yet, Robinson's book will not accomplish it either. Why? Because it does not explore the implications resulting from a rigorous mapping between fundamental premises, problems, methods and models delineating the research domains. Even so, Douglas Robinson's book is an important and necessary work to understand the difficulties involved in this project. His main ideas regarding the possibility of an inter-theoretical relationship are found in chapters 1 and 4 (other chapters are presented as case studies and empirical descriptions.) In these chapters, we find (non-systematically) many of Peirce's ideas on semiosis, phenomenological categories, abductive inference, etc. It is a good supposition that the exploration of these ideas should produce a remarkable set of unprecedented consequences (otherwise it is a useless academic cost).

Here we would like to show or begin to show how some Peircean ideas can work as 'cognitive-pumps' in this inter-theoretical mapping. It is not a trivial task to select what really matters. We will inevitably be opportunistic in doing so.

(1) *Translation (or Semiotranslation) is semiosis*: This is not to say that a translation is done with signs. Translation *is* semiosis. (Note that the fundamental explanatory building-block is not the sign, but *semiosis*, the action of sign.) The concept of translation is necessarily tied to the notion of semiosis: it is grounded on the notion of semiosis, and it stresses a level of description in which the processes are treated as semiotic processes. The question ‘what is translation?’ is thus related to the question ‘what is semiosis?’. What are the implications of this assertion? In our opinion, the book does not explore all the consequences of this relation (translation = semiosis). Peirce’s processual philosophy conceives of semiosis as an emergent pattern of organization of habits. This process is materially embodied and situated, cumulative and self-organized, and pre-eminently communicational. Semiosis evolves, and exhibits a rich variety of morphological patterns.

(2) *Semiosis is a triadic relation*: Any description of semiosis should necessarily treat it as a relation constituted by three irreducibly connected terms - sign, object, interpretant (S-O-I, in short), which are its minimal constitutive elements (EP 2:171). S in S-O-I is the entity, structure or process being employed by a cognitive system to *stand for* something else. O in S-O-I is something else that the sign *stands for*. This object should be understood not as a substance, property or thing in itself, but as another sign or a semiotic process. I in S-O-I is an effect produced in a (‘distributed’) cognitive system by the use of S as regulated by O. It is relevant that semiosis is characterized as triadically irreducible. In an irreducible triad, what brings together all the terms of the relational complex cannot be any sum of dyadic correlations between the terms. By applying Peirce’s model of semiosis, the phenomenon of translation is observed as essentially triadic, interpreter and context-dependent. Any relation between a sign and its object depends on an interpretant. A consequence of this qualification is that whenever we are describing a meaning relation we have to make a reference to who is this relation meaningful for. (The pronoun ‘who’, here, does not refer necessarily to psychological agents, but to any kind of cognitive, interpretative, system.) Another consequence of the formal definition of semiosis as a triadic relation is that sign, object and interpretant are viewed as functional roles (see Savan 1987-88: 43). These roles can be taken by virtually any entity or process, provided that the interpretant is an effect produced in a cognitive system. Furthermore, the same entity or process can take different roles in different meaning relations. For example, an interpretant in a given S-O-I relation can immediately take the role of a sign in another S-O-I relation. Semiotic relations are not isolated, but connected in temporally and spatially distributed chains and webs.

If translation is semiosis, the above description also corresponds to a minimal formal description of what a translation is. In a translation, the semiotic relation S-O-I describes how a translation source is translated into a different semiotic system, resulting in a translation target. As I have explored in other articles, there are at least two possible ways of mapping a translation source and a translation target to the S-O-I triad (Queiroz and Atã, in press; Queiroz &

Aguiar 2015): either the source is the sign (S) and the target is the interpretant (I) (model 1, see figure 2), or the source is the object (O) and the target is the sign (S) (model 2, see figure 3):

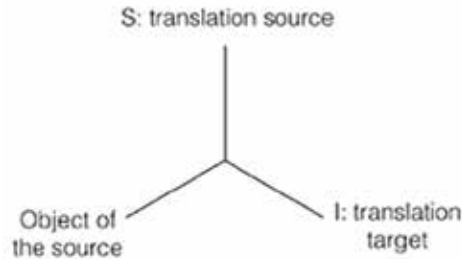


Figure 1. Model 1 of translation. In this case the translation source is a sign, which mediates an object so as to determine the translation target as an effect. Note that this model graphically represents the object of the source, but not the effect of the target on its interpreters. Model 1 describes how, through a translation source, a certain pattern of constraints acts on a cognitive system so as to produce a translation target. The translation target is determined by the object of the source through the mediation of the translation source (I is determined by O through S).

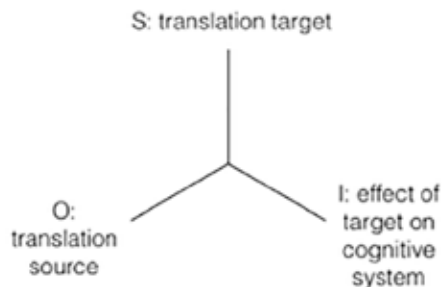


Figure 2. Model 2 of translation. In this case the sign is the translation target, which mediates a translation source (viewed not necessarily as a 'substance', but as another semiotic process), so as to determine an effect on an cognitive system. Note that this model shows directly the translation source, but does not show directly the object of the source. This model represents graphically the effect of the target on a cognitive system as determined by the translation source through mediation of the translation target.

What are the implications of modelling a translation through model 1 or model 2? The two models are not two different types of translation, but show different aspects of a same phenomenon. Model 1 places the translation source in the functional role of the sign, and includes the object of the translation source in the model. It shows how the object of the translation source is co-dependent on the translation target: different intersemiotic translations of the same source will stress, unveil and/or construe different semiotic objects. Also, model 1 places the target semiotic system in the functional role of a cognitive system. Model 2 places the translation target in the functional role of sign, and includes the interpretants of the target in the model. The object of the triad is the translation source. In this model we have the notion that a translation target stands for a translation source. This S-O connection, is, of

course, dependent on interpretative effects being produced in a cognitive system. An obvious example of a cognitive system is an audience. Thus, model 2 captures the notion that a work is perceived by an audience as a translation of another work. However, the interpreter cognitive system doesn't have to be an audience.

(3) *Semiosis is a telic process*: Semiosis is, according to several authors, the most general description of the internal structure of final causality. As efficient causation is a dyadic relation between two events, final causation is an irreducible triadic relation that connects, by the mediation of a general possibility, two facts. (Notice that a final state is not conceived in this case as a static final point, but as a general possibility.) Efficient causation is exemplified by blind compulsive relation between two events (Secondness). As an important component of Peirce's evolutionary thought, final causation evolves ('developmental teleology', cf. EP 1: 313).

(4) *Peirce is a process philosopher*: Peirce's theory of signs is processualist. Processualism refers to the application of a philosophy of processes, as opposed to a philosophy of substances. Processes are coordinated occurrences of changes in reality (Rescher 1996). A process ontology stresses emergent properties and change as more fundamental than stability. The contrasting notion is that of substance ontology. Substance ontology stresses properties as intrinsically possessed by substances, and stresses stability as more fundamental than change (Bickhard 2011, Seibt 2012). In Peircean semiotics, one central concept that captures this processualist concern is the notion of habit (Atã and Queiroz 2016). A habit is a 'pattern of constraints', a 'conditional proposition' stating that certain things would happen under specific circumstances (EP 2.388), a 'rule of action' (CP 5.397, CP 2.643), a disposition to act in certain ways under certain circumstances, especially when the carrier of the habit is stimulated, animated, or guided by certain motives (CP 5.480), or, simply, a 'permanence of some relation' (CP 1.415). In Peircean philosophy, acquisition of stable regularities is described as a process of 'taking habits', which is probabilistic and cumulative. This view of change and stability, through accumulation of self-generated probabilistic regularities, is at the core of the process of semiosis, since 'what a thing means is simply what habits it involves' (CP 5.400). This corresponds to a process-ontological basis for semiosis.

(5) *Semiosis is an emergent self-organizing process*: Peirce's processual philosophy conceives of semiosis as an emergent pattern of organization of habits. For Rosenthal (1994: 27), meanings should be understood as relational structures that emerge from patterns of behavior. The term 'emergence' is frequently employed in an intuitive and ordinary way, referring to the idea of a 'creation of new properties'. In a technical sense, 'emergent' properties can be understood as a class of higher-level properties related in a certain way to the microstructure of a system. In other papers, we have claimed (Loula et al. 2010) that semiosis can be described as an emergent self-organizing process in a complex system of sign users interacting locally and mutually affecting each other. A communication event irreducibly involves an utterer, a sign and an interpreter, in which an utterer transmits a form (*habit*), through the sign, to an interpreter.

In a communication process, '[i]t is convenient to speak as if the sign originated with an utterer and determined its interpretant in the mind of an interpreter' (MS 318: 11).

(6) *'Out of our heads' - semiosis is materially embodied and situated: Meaning (semiosis) is not in the sign, in some semiotic-head (intracranial or neuronally-based system of symbols), in the referent of the sign, or in the medium by which the sign is transmitted to its potential receiver and interpreter. Semiosis conceived in terms of communication process leads us to another important implication, specially when associated to Peirce's semiotic model of mind, that frontally collides with orthodox cognitive science (both classical and connectionist) and Computational Theory of Mind. According to Peirce, cognitive processes fundamentally depend on semiotic processes, in a sense that diverges radically from internalism. For Peirce, thinking involves the process of sign action. Against any form of internalism, Peirce can be considered a precursor of the extended mind and distributed cognition thesis (Clark 1997). But, differently from the anti-cartesianism defended by some embodied-embedded cognitive science, which is predominantly anti-representationalist, as recently explored in a Merleau-Pontyan (Dreyfus 2002), Heideggerian (Wheeler 2005), or Gibsonian (Chemero 2007) manner, for Peirce, mind is semiosis in a dialogical - hence communicational - materially embodied form, and cognition is the development of available semiotic material artifacts in which it is embodied as a power to produce interpretants. It takes the form of the development of cognitive or semiotic artifacts, such as writing tools, instruments of observation, notational systems, languages, and so forth, as stressed by Skagestad (2004) and Ransdell (2003) with respect to the concept of intelligence augmentation.*

In contrast to a strong internalist trend in the Philosophy of Translation, *translation* (via Peirce) is a process centered on the design and exploration of external cognitive tools and artifacts (materials, procedures, protocols, rules, mind structures, cultural and physical tools, etc). What does that mean? In terms of explanatory modeling, cognitive process of translation is usually associated with mental abilities. The main research problems are framed in an internalist framework, according to which cognition is described as the processing of internal representations, and, accordingly, the notion of 'sign' in translation is understood as similar to cognitivist representation. A Peircean narrative suggests something different - translation is described as a non-psychological process, materially and socially distributed in space-time, and strongly based on the design and use of external cognitive artifacts. This situated view of cognition doesn't see the individual agent (translator) as the center of creative processes, but as a participant in the wider cognitive systems, dependent on cognitive cultural ecologies.

(7) *Semiosis includes not only merely concepts (thought-signs) but also events and qualities: It is well known that sign-mediated processes show a notable variety. There are three fundamental kinds of signs underlying meaning processes – icons, indexes, and symbols. But the morphological space of semiotic processes includes proto-symbols and many variations of indexical and iconic processes. (And there is no way to describe these processes with some*

degree of accuracy by examining only the sign-object relationship.) In an attempt to advance his project of classifying semiosis, Peirce proposed several typologies, with different degrees of refinement. Few semioticians have approached his extended typologies of signs (10 and 66 classes of signs), developed from 1903, which still seem obscure, structurally intricate and hard to apply to empirical phenomena. To make things worse, it remains the tendency to think that the extended typologies are extravagant and unproductive conceptual tools. Indeed, Peircean mature typologies provide a detailed description of several interrelated aspects involved in semiosis, including the intrinsic nature of signs and the effect on the semiotic agents (Queiroz 2012). According to Peirce's ten classes, a sign is grounded in some property, event, or regular pattern, by virtue of which it stands for some quality, occurrence, or law to a third element, an interpretation of possibility, physical connection or rule-based tendency (W 1:332-333).

(8) *Abduction is the core of translation*: Peircean semiotics are based on certain premises that give a broad scope to the concept of inference. Under this broad application, logical inferential activity is taken to be more ubiquitous than otherwise. It includes any kind of reasoning, and is also extended to certain perceptual processes ('perceptual judgments') (CP 5.180-194). Such ubiquity of inferential processes in cognition is largely due to the notion of abductive inference (Paavola 2011, 2014). Abduction is an ampliative inference that moves from facts to explanatory hypotheses to these facts. It is the kind of inference which is related to creativity, 'the only kind of argument which starts a new idea' (CP 2.96). It appears as an 'act of insight' that 'comes to us like a flash' (CP 5.181). It is the inference through which new knowledge can be obtained: 'Abduction consists in studying the facts and devising a theory to explain them' (CP 2.96), 'all that makes knowledge applicable comes to us via abduction' (MS 692). Under a Peircean framework, the kind of reasoning involved in translation must be mainly abductive: a translation is hypothetical, creative (ampliative), and probabilistic.

Quasi-concluding: Anderson's book question becomes: How to tentatively build a theoretical frame to the phenomenon of translation mainly inspired by (and based on) Peirce's Pragmatism and Semeiotic? Anderson's book integrates a list of important projects designed to reshape the range of problems that structures the theoretical research agenda in Translation Studies. (Surprisingly, this list is too small, and is starred by a single author, who is Dinda Gorlee.) Of course, much still needs to be done. But where should we start? In our opinion, it is still necessary to explore, in a more systematic way, (i) the main premises of Peirce's process philosophy, especially in its mature phase (post-1903); (ii) the effects that arise directly from the introduction of new premises into problems considered fundamental (e.g., analogy source-target); (iii) comparison between 'new and old' agendas - it is not only about the implications, in terms of reformulating the main problems, but a comparison between the agendas in terms of explanatory power, parsimony, internal consistency and robustness, etc. A good example of the need for clarifying theoretical premises and their impacts is the insistence on the idea that translation is an *iconic* process. What does such an affirmation mean when we consider Peirce's

post-1903 thought? What does *iconicity* entail in light of the subdivisions of the icon (image, diagram, metaphor), and recent theoretical developments about diagrammatic reasoning in Cognitive Semiotics?

In concert with the ideas introduced here, *translation* (or *semiotranslation*) is a triadic, context-sensitive (historically and physically situated), interpretant-dependent (dialogic), materially extended (embodied) abductive process. This view emphasizes self-organizing process and emergence. Translation is not 'representational' (à la internalist paradigm), but a distributed (non-agent centered) 'semiotic' process. It includes a remarkable variety of semiotic forms and structures - not merely concepts (legisigns), but also events (sinsigns) and qualities (qualisigns). Robinson's book has the main merit of drawing the attention of philosophers and theorists of translation to the possible effects of Peircean ideas. But it is not clear yet *how* the panorama that arises from these ideas may provide a different view of the examined phenomenon, and a new agenda of empirically treatable problems.

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