

**Semiotic analysis of visual languages  
developed by edesign communities**

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## **Introduction**

The web is a permanent fixture in many of our lives, and its ubiquity is a major reason why the visual is becoming the medium of choice for communication. As such, visual literacy is key to the reading and understanding of images within our culture and society. What is visual literacy? It is a level of awareness, of knowing that the meaning of an image is linked implicitly with social context (Hodge & Kress 1988). Images carry semiotic codes very different from text in their ability to capture and encode societal norms, expectations and relationships. Kress and Van Leeuwen's social semiotics theory is the latest in theoretical approaches applied to the analysis of visual communication. Through the extensive use of visual examples via art, print media and children's drawings, Kress and Van Leeuwen strongly reinforce the notion that images carry social constructs with structural, political and cultural implications.

I would like to take social semiotics theory a step further and apply it to the analysis of edesign (online design) communities, an area that remains unexplored and reaches beyond the usability and navigation issues so often associated with analysis of web sites. These online communities are significant in that they communicate by means of a hereto undefined visual language. Through the application of social semiotics theory, my goal is to define and compare, for those outside the community of web developers, these invisible languages which are direct by-products of the sub-cultures from which they originate.

First a theoretical background for social semiotics will be introduced, including its origins and an explanation as to why it is the most appropriate semiotics theory to apply in studying the visual language of edesign communities.

Then edesign communities will be identified as categorized by Curt Cloninger in *Fresh styles for web designers – Eye candy from the underground*, along with visual signs and symbols representative of each edesign community. Two examples of each design style will be analyzed, compared and contrasted according to a number of criteria including:

- Structure
- Interactive meaning
- Composition

Finally, I will conclude with a discussion about the implications of visual literacy, and the overall significance of social semiotic analysis as it applies to new mediums such as the web.

### **Theoretical background**

The term semiotics refers to the study and meaning of signs and was named by Ferdinand Saussure (considered to be the father of Linguistics) (Saussure 1969, trans.Baskin). Since Saussure's first application of semiotics theory, many schools of thought have appeared touting their own version of semiotics based on their structuralist, positivist or formalist roots (Saint-Martin 1990). Although there are many schools of thought, only three apply semiotics to non-linguistic fields such as visual communication. These schools include the Prague school, the Paris school and the social semiotics school as defined by Gunther Kress and Theo Van Leeuwen (1996; Merquior 1986).

The Prague school was formed by a group of semioticians and linguists in Czechoslovakia in 1926 (Dolezel 1997). Their functional view of semiotics emphasized the importance of social structures upon human communications. Semiotics was not, as

Saussure believed, purely autonomous in form; rather it was closely linked to culture. This school encouraged interdisciplinary studies as a means for understanding signs and symbols.

The Paris school was formed by Algirdas Greimas, who propounded a structuralist approach to semiotics. While similar to Saussure in defining semiotic systems as autonomous, the Paris school expanded its initial structured analysis of text into the social sciences. In *Semiotics of the Natural World*, Greimas characterizes semiotics as “not concerned with sign processes in nature, but with nature seen from the perspective of culture” (Noeth 2001).

The social semiotics school was formed based on the work of M.A.K. Halliday who developed models of language and applied these to text and context analysis (Halliday & Hasan 1985). Kress and Van Leeuwen take social semiotics a step further and apply this theory to the analysis of visual communication where modes of communication are, “...shaped by the intrinsic characteristics and potential of the medium and by the requirements, histories and values of societies and their cultures (ibid.: 34). Kress & Van Leeuwen’s contribution to the field of semiotics lies in their recognition of visual language as an underrated form of communication, which up to now has been subordinate to verbal language. They suggest that as technology facilitates the sharing of visual information, a ways and means of understanding visual communication is more important than ever.

Why is semiotics useful in analyzing visual communication, considering its linguistic roots? Visual sign systems operate in much the same way as language sign systems (Koch 1989). According to Kress & Van Leeuwen, “Three parts of traditional

linguistics (semantics, syntactics and pragmatics) have their visual equivalency in content, composition and medium” (ibid.: 30). While traditional theorists such as Barthes argue that images are not capable of carrying meaning apart from text, the conceptual image structures cited by Kress and Van Leeuwen suggest the opposite that “visual means of communication are rational expressions of cultural meanings” (ibid.: 75).

Indeed the potential meaning of images has multiplied in the 21<sup>st</sup> century and images are no longer limited to replicating the objects they represent (ibid.: 23). Images are becoming more complex signifiers of meaning, buried in the social, cultural and psychological influences that shape visual representation (Sonesson 1989).

### **Methods**

My goal is to determine if websites of the same style classification (as defined in Cloninger’s book, *Fresh styles for web designers – Eye candy from the underground*) use the same visual language semiotically, compared to those web sites with different style classifications.

The six websites to be analyzed include:

1. [Future farmers](#) – Specialists in creative investigation and development of new work between interdisciplinary artists
2. [Atlas magazine](#) – Online web design magazine
3. [Fontgraphic.com](#) – Japanese font and web design company
4. [Atelier Nord](#) – Independent foundation workshop whose focus is new media art, research, education and development within the realm of new media
5. [Bauhaus archive museum of design](#) – Bauhaus museum of design website
6. [Vitra design museum](#) – Berlin museum website

Each of the above six websites have been classified by Cloninger according to the following style specifications:

**Hello kitty 1950's style:**

- bubble characters and pastel colors
- retro futuristic fonts
- contemporary kitsch & vintage art

**Mondrian poster style:**

- use of bold blocks of color to delineate sections
- embraces minimalist aesthetic but fills it with color
- modern, functional design

**Grid based icon style:**

- respect for Bauhaus design
- uses maps, charts, and graphs, focusing on aesthetic usability
- grid based layouts, balancing composition and functional objects

The visual semiotic analysis of each website will be based on the following four charts created by Kress & Van Leeuwen in *The grammar of visual design*:

- Representational structures chart
- Analytic image structures chart
- Interactive meanings in images chart
- Meaning of composition chart

Just as language expresses differences through word classes and semantic structures, visual communication expresses differences through the application of compositional structures and the use of color (Lemke 1998). These charts can be read as maps, where

the process of selecting structures of visual communication is discernable. Each of the charts above includes terminology that might be unfamiliar to this audience, and hence a list of definitions is provided as a quick reference in Table 1.

Representation chart definitions	Analytical structures chart definitions	Interactive meaning chart definitions	Meaning of composition chart definitions
<p><b>Narrative</b> – vectorial patterns where participants are connected by a vector and they are represented as doing something to or for each other. Narrative patterns represent either unfolding actions and events, processes of change or transitory spatial arrangements</p> <p><b>Conceptual</b> – represent participants in terms of their class, structure or meaning</p> <p><b>Classificatory</b> – relate participants to each other in terms of a ‘kind of’ relation, a taxonomy; subordinate and superordinate roles are assigned to participants</p> <p><b>Analytical</b> – relate participants in terms of a part-whole structure</p> <p><b>Symbolical</b> – about what a participant means or is</p> <p><b>Attributive</b> – objects with one or more of the following: they are made salient in the representation, they are pointed out by means of gesture, look out of place, or are conventionally associated with symbolic values</p> <p><b>Suggestive</b> – detail is deemphasized and atmosphere or mood is at play</p>	<p><b>Unstructured analytical process</b> – an unordered set of participants is interpreted as the set of parts of a whole which itself is not represented</p> <p><b>Covert taxonomy</b> – a set of participants is distributed symmetrically across the picture space, at equal distance from each other, equal in size, and orientated towards the vertical and horizontal axes in the same way</p> <p><b>Temporal analytical process</b> – a set of participants (‘Possessive Attributes’) is ordered linearly on a (horizontal or vertical) time line and interpreted as the set of successive stages of a temporally unfolding process</p> <p><b>Exhaustive analytical process</b> – a participant (‘Carrier’) is depicted as made up of a number of parts (‘Possessive Attributes’) and the structure is interpreted as showing all the parts from which the whole is made up.</p> <p><b>Dimensional topographical accuracy</b> – the Carrier and the Possessive Attributes of an analytical process are drawn to scale</p> <p><b>Quantitatively topographical accuracy</b> – the size of the Possessive Attributes in an analytical process accurately represents the number or some other quantitative attribute of the Possessive Attributes</p> <p><b>Topological accuracy</b> – the Carrier and the Possessive Attributes of an analytical process are not drawn to scale, but the way they are interconnected is drawn accurately</p> <p><b>Abstraction</b> – the participants in an analytical process may be concrete</p>	<p><b>Demand</b> – gaze at the viewer</p> <p><b>Offer</b> – absence of gaze at the viewer</p> <p><b>Intimate / personal</b> – close shot</p> <p><b>Social</b> – medium shot</p> <p><b>Impersonal</b> – long shot</p> <p><b>Involvement</b> – frontal angle</p> <p><b>Detachment</b> – oblique angle</p> <p><b>Viewer power</b> – high angle</p> <p><b>Equality</b> – eye level angle</p> <p><b>Represented participant power</b> – low angle</p> <p><b>Objectivity</b> – tend to be scientific and technical visuals (i.e. diagrams, maps, charts)</p>	<p><b>Centered</b> – an element is placed in the center of the composition</p> <p><b>Polarized</b> – there is no element in the center of the composition</p> <p><b>Triptych</b> – the non-central elements in a centered composition are placed either on the right / left or above / below the Center</p> <p><b>Circular</b> – the non-central elements in a centered composition are placed both above and below and the sides of the Center</p> <p><b>Margin</b> – the non-central elements in a centered composition are identical or near-identical, creating symmetry in the composition</p> <p><b>Given</b> – the left element in a polarized composition or the left polarized element in a centered composition; This element is not identical or near-identical to the corresponding right element</p> <p><b>New</b> – the right element in a polarized composition or the right polarized element in a centered composition; This element is not identical or near-identical to the corresponding left element</p> <p><b>Salience</b> – the degree to which an element draws attention to itself, due to its size, its place in the foreground or its overlapping of other elements, its color, its tonal values, its sharpness or definition</p> <p><b>Disconnection</b> – the degree to which an element is visually separated from other elements through framelines, pictorial framing devices, empty space between elements, discontinuities of color and shape</p> <p><b>Connection</b> – the degree to which an element is visually joined to another element, through the absence of framing devices, through vectors and through continuities or similarities of color, visual shape, etc.</p>

Table 1

## Results

The following are analysis results of six websites, each of which have been identified by Cloninger as fitting a specific design style. Analysis results are based on Kress and Van Leeuwen's charts of representational structure, analytic image structure, interactive meaning, and meaning of composition.

	Cloninger style classifications	Representational structure	Analytical structure	Interactive meaning	Meaning of composition
Site 1	1950's hello kitty	conceptual	unstructured	demand, personal	minimum salience
Site 2	1950's hello kitty	conceptual	Unstructured	offer, social	minimum salience and maximum framing
Site 3	Grid-based icon	conceptual	analytical with topological spatial structure	offer, impersonal	minimum salience and maximum framing
Site 4	Grid-based icon	conceptual	analytical with topological spatial structure	offer, impersonal	minimum salience and maximum framing
Site 5	Mondrian poster	conceptual	analytical with abstraction	offer, impersonal	maximum salience and maximum disconnection in framing
Site 6	Mondrian poster	conceptual	analytical with abstraction	offer, impersonal	maximum salience and maximum disconnection in framing

**Table 2**

## Discussion

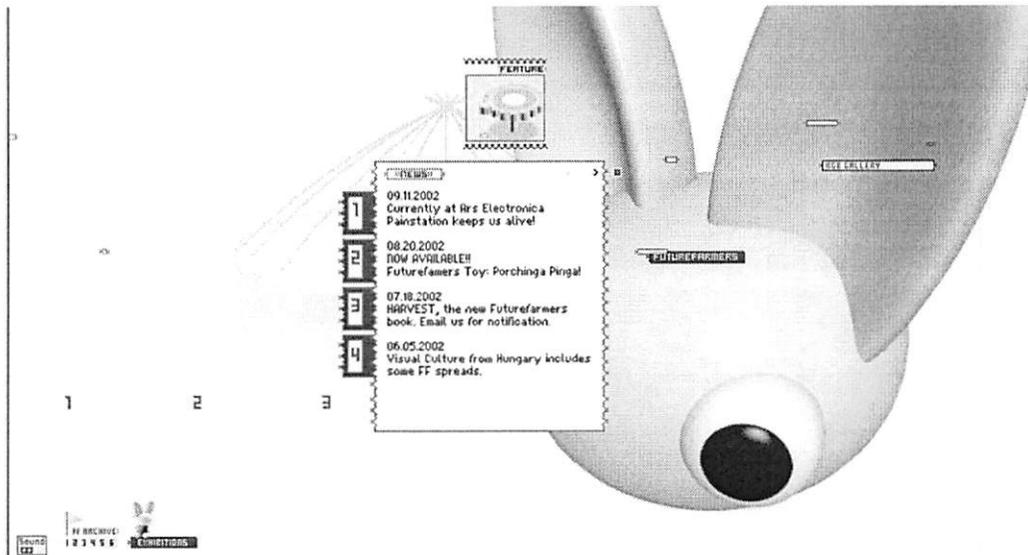
Curt Cloninger intuitively identifies 10 web design styles in his book *Fresh Styles for Web Designers*. These styles are considered the latest, greatest products from various underground edesign communities. Each style has defining characteristics in terms of color, shapes and imagery used to communicate an ethos to viewers.

Do the edesign communities Cloninger identifies semiotically share visual languages? One way to answer this question is to apply social semiotics theory to analyze the visual elements in Cloninger's cited web sites.

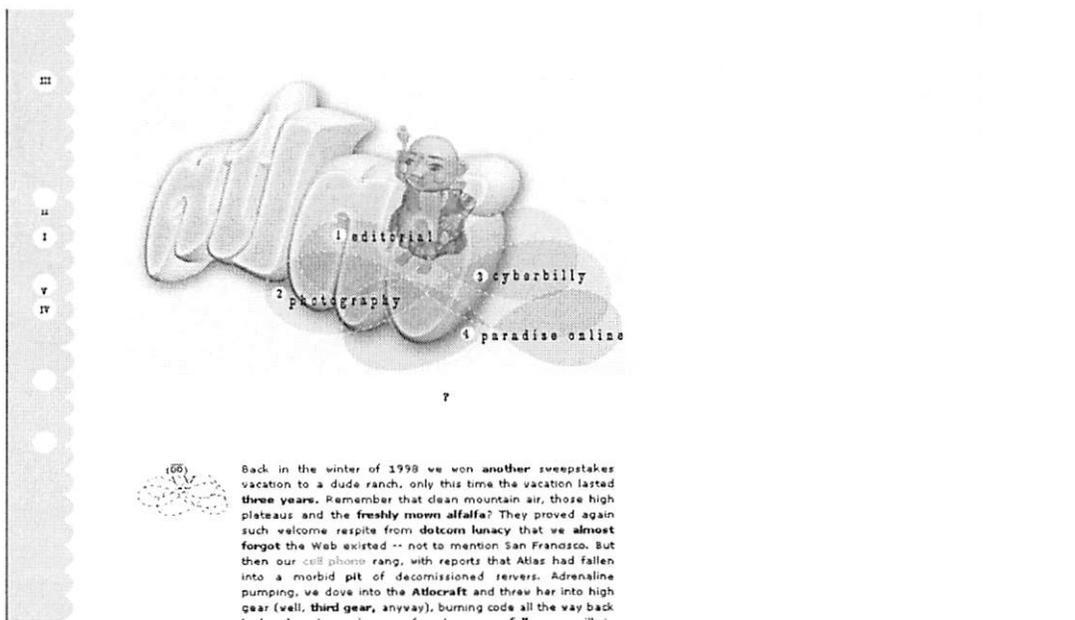
I first selected three design styles and then identified two websites for each style. The results of the analysis suggest there are semiotic similarities specific to each style group, and semiotic differences between different style groups. The results also suggest all the style groups semiotically have one thing in common, which is in their choosing to present images conceptually (images are represented according to class, structure or meaning) rather than narratively (images demonstrating unfolding actions or events).

The first design style analyzed is 1950's hello kitty. A semiotic analysis of two of these 'hello kitty' sites reflects similarities in the composition, meaning and representations of each site. Sites 1 and 2 are Conceptual in structural representation because they do not present unfolding actions or events. These sites are Symbolic and Suggestive because they introduce an 'atmosphere' of fun via cartoon images, enhanced by an overall unstructured front page. Site 2 presents a variety of parts with the layering of a Buddha figure, figure eight sections and a three dimensional title, but a whole in itself is not represented or suggested.

## Site 1 - futurefarmers.com screen shot<sup>1</sup>



## Site 2 – atlasmagazine.com screen shot<sup>2</sup>



Both sites use interactive imagery and movement to capture the viewer's attention, with random floating objects crossing the page vertically and horizontally. Each site uses a structured image presentation by placing given images (information already familiar to viewers) in the left margins of the site, while the new information is

<sup>1</sup> see Appendix 1 for visual charts

<sup>2</sup> see Appendix 2 for visual charts

presented in the right side margins. For instance, archived versions of each site are accessible through links found in the left side margins.

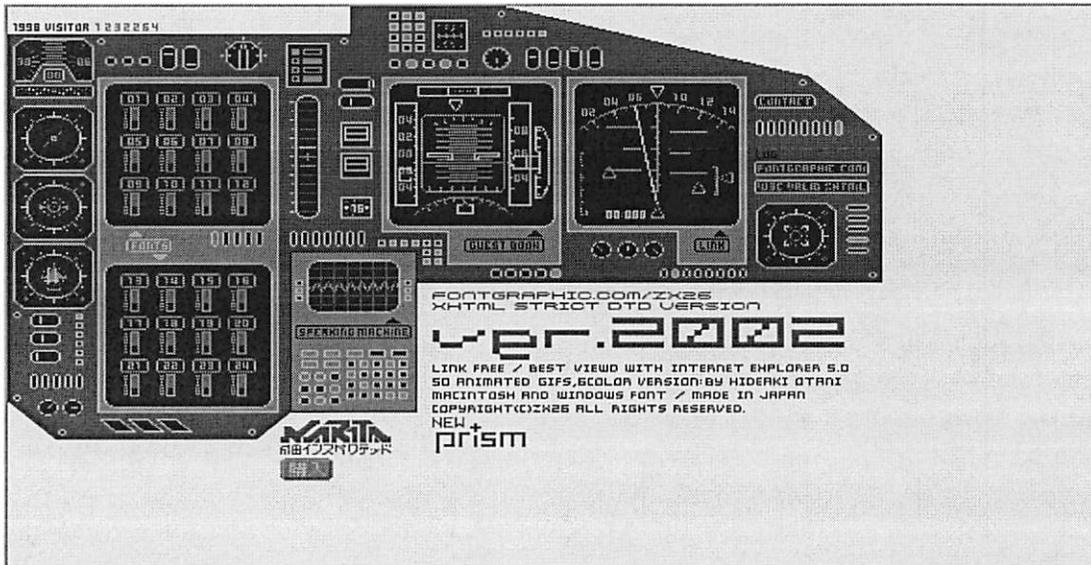
Saliency levels of both sites are minimized which means that colors are used in such a way as to neither distract from nor overtly demand the viewer's attention. Connection levels are maximized, meaning visual images are linked in both Site 1 and Site 2 without the presence of framing devices.

Differences between the hello kitty sites are minor. Site 1 shows the eye of a bunny rabbit, gazing directly at the viewer. Site 2's Buddha figure is less obtrusive, gazing off into the distance, offering information rather than demanding the viewer engage in some sort of interaction with the figure. In all, these analysis results suggest the semiotic elements of sites 1 and 2 have more things in common with each other rather than major differences that separate their visual styles. These commonalities confirm in a sense that Cloninger has correctly identified two online design communities that not only communicate in the style of 1950's hello kitty, but also semiotically share similar visual languages.

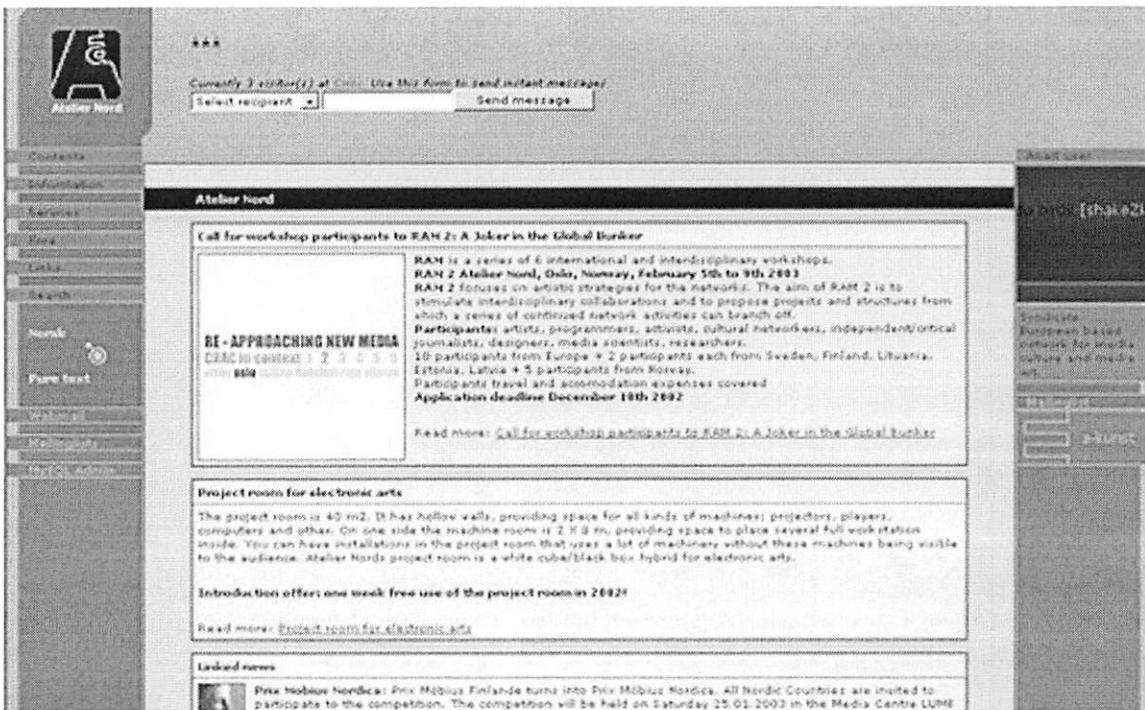
The second design style analyzed is grid-based icon style. A semiotic analysis of two of these 'grid-based icon' sites reflect some similarities & differences in the composition, meaning and representations of each site. Site 3 uses interactive imagery and movement to capture the viewer's attention, while Site 4 opts for a much milder, static viewing experience. Site 3's representational structure is conceptual with analytical elements. This means that the various control panels on the page share class distinctions – they operate as controls, instruments, or items that require interaction with a user. The

control panels qualify as analytical elements because they represent parts of a whole (they comprise a mock pilot cockpit).

### Site 3- fontgraphic.com screen shot<sup>3</sup>



### Site 4 – Atelier Nord screen shot<sup>4</sup>



<sup>3</sup> see Appendix 3 for visual charts

<sup>4</sup> see Appendix 4 for visual charts

Site 4's representational structure is also conceptual, but unlike Site 3, Site 4 emphasizes a combination of accuracy and abstraction. Abstract elements introduced include symbols found in the right and middle margins of the page. Geometrical symbolism can be cited in the diagonal direction of one icon, while another icon is horizontally emphasized and a third icon is vertically directed. This haphazard arrangement suggests viewers are encouraged to scan the page in no particular order, while Site 3's interactive control panels demand the viewer's forward attention immediately.

Site 3's control panel images are placed directly in front of the viewer, suggesting the emphasis is on action, rather than knowledge orientation. Site 4 aims at knowledge orientation using a common given-new arrangement. Images that are a given (information already familiar to viewers) appear in the left margins of the site, while the new information is presented in the middle and right side margins.

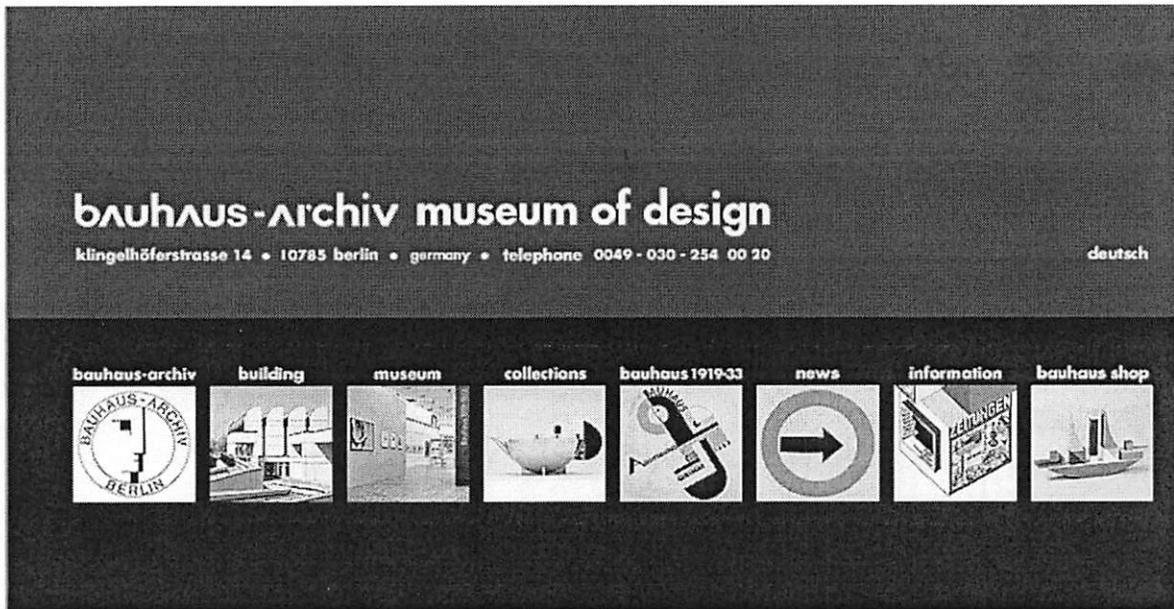
Salience levels of both sites are minimized which means that colors are used in such a way as to neither distract from nor overtly demand the viewer's attention. Sites 3 & 4 are similar in that they present or offer the site to the viewer, without including naturalistic figures looking out at the viewer, demanding attention and interaction.

Overall, these analysis results suggest the semiotic elements of sites 3 and 4 have similarities and differences. The differences between the sites can be attributed to their purpose or function - Site 3 is action oriented and Site 4 is knowledge oriented. Although the sites have separate orientations, the fact they are both conceptual in representation

suggest that again Cloninger has correctly identified two online design communities that share similar visual languages even while they serve different purposes.

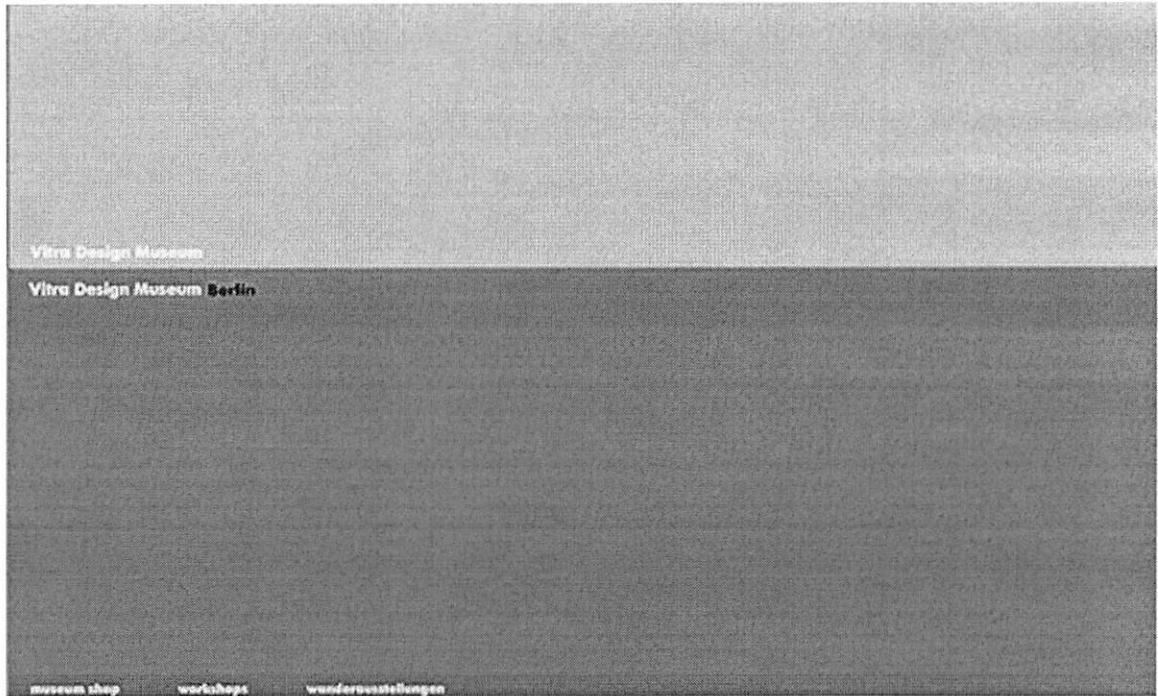
The third design style analyzed is Mondrian poster. A semiotic analysis of two of these ‘Mondrian poster’ sites reflects strong similarities in the composition, meaning and representations of each site. Both sites use color to hierarchically organize space on the front page. Saliency levels of both sites are maximized which means that colors are used in such a way as to demand the viewer’s attention.

### Site 5 – Bauhaus.de.com screen shot<sup>5</sup>



<sup>5</sup> see Appendix 5 for visual charts

Site 6 – design-museum.de.com screen shot<sup>6</sup>



Site 5's front page offers a representational structure that is rich in Conceptual categories including Classificatory, Analytical and Symbolical. The site is Classificatory because it, "relates participants to each other in terms of a 'kind of' relation, a taxonomy" (ibid.: 56). The site is Analytical because of the structured horizontal spatial arrangement of the pictures, each picture representative of parts that combine to form a whole (the whole being the Museum of design and the parts being the different aspects of the Museum such as the building, the collections, the archives, etc.).

Site 6 is also Conceptual in its representational structure, with a heavy emphasis on Symbolism. The Symbolism is Suggestive versus Attributive due to the lack of detail, or lack of any imagery for that matter on the front page of the site. Color alone is offered to the viewer, representing as Site 5 does, an attempt to establish a 'mood' or 'atmosphere.'

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<sup>6</sup> see Appendix 6 for visual charts

Differences between the Mondrian poster sites are minor. Sites 5 and 6 vary simply in the amount of detail presented to the viewer. Both sites offer a sense of detachment due to the absence of naturalistic imagery or interactions offered to viewers. Both sites have Disconnection that is maximized due to the heavy use and reliance upon framing devices, specifically the horizontal division of the front page, between the top and bottom. Both sites focus on knowledge orientation, providing all the information needed for viewers to grasp the meaning and purpose of each museum.

In all, these analysis results suggest the semiotic elements of sites 5 and 6 have more things in common with each other rather than major differences that separate their visual styles. These commonalities again confirm Cloninger has correctly identified two online design communities that not only communicate in the style of Mondrian poster, but also semiotically share similar visual languages.

The overall analysis results suggest the sites fitting Cloninger's style classifications do indeed use similar visual semiotics in communicating to their audience. Differences between same style sites tend to be related more to the site purpose rather than to a division between the visual languages used by the sites.

The most interesting observation of the results points to the complete absence of any narrative representational structures. None of the six websites studied carry a narrative story element, similar to the narrative one might see in a photograph or movie. The visual language used in these sites is completely limited to conceptual representational structures. Kress and Van Leeuwen suggest the move to abstract representation results from, "higher education [which] in our society is an education in detachment, abstraction and decontextualization and against naturalism; this results in an

attitude which looks for a deeper truth behind appearances” (ibid.: 175). A distinctive shift to modern design did occur in 1927 where the notion of visual imagery traveled, “from the dominance of nature and perception to the dominance of signification and the conceptual” (Kress & Van Leeuwen 2000: 200).

What do the analysis results imply? They suggest there is an arena of visual communication that has yet to be explored or even to be acknowledged. Groups of people interact with one another (physically and virtually), all the while unaware that what is transparent within one community in forms of communication is not acknowledged or recognized by those outside the community. What does a better understanding of visual languages (of online communities in particular) offer? The potential is huge, but cannot be considered without first raising levels of awareness regarding the importance of visual literacy and then establishing a standardized vocabulary for discussing visual representation and semiotics.

### **Conclusion**

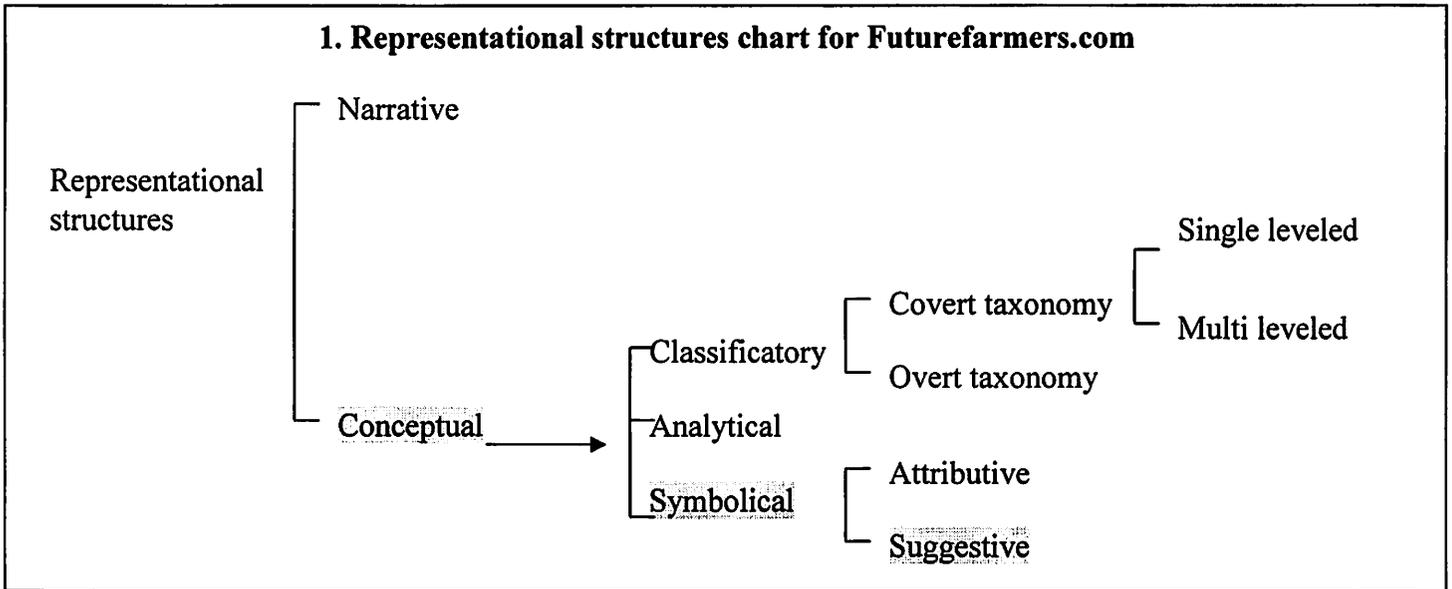
Interpretation of visual languages is by its very nature subjective, and an image can carry multiple messages dependent upon the nature of the visually interpreting culture. Just as Kress and Van Leeuwen suggest that, “...social interactions and social relations can be encoded in images so that we are instructed silently regarding a set of implicit norms,” the analysis results above suggest it is possible to partially decode pictorial structures in order to understand visual languages (Kress & Van Leeuwen 1996: 153).

As new mediums of communication are developed within the field of technology, semiotic analysis of visually represented languages is more important than ever. It would

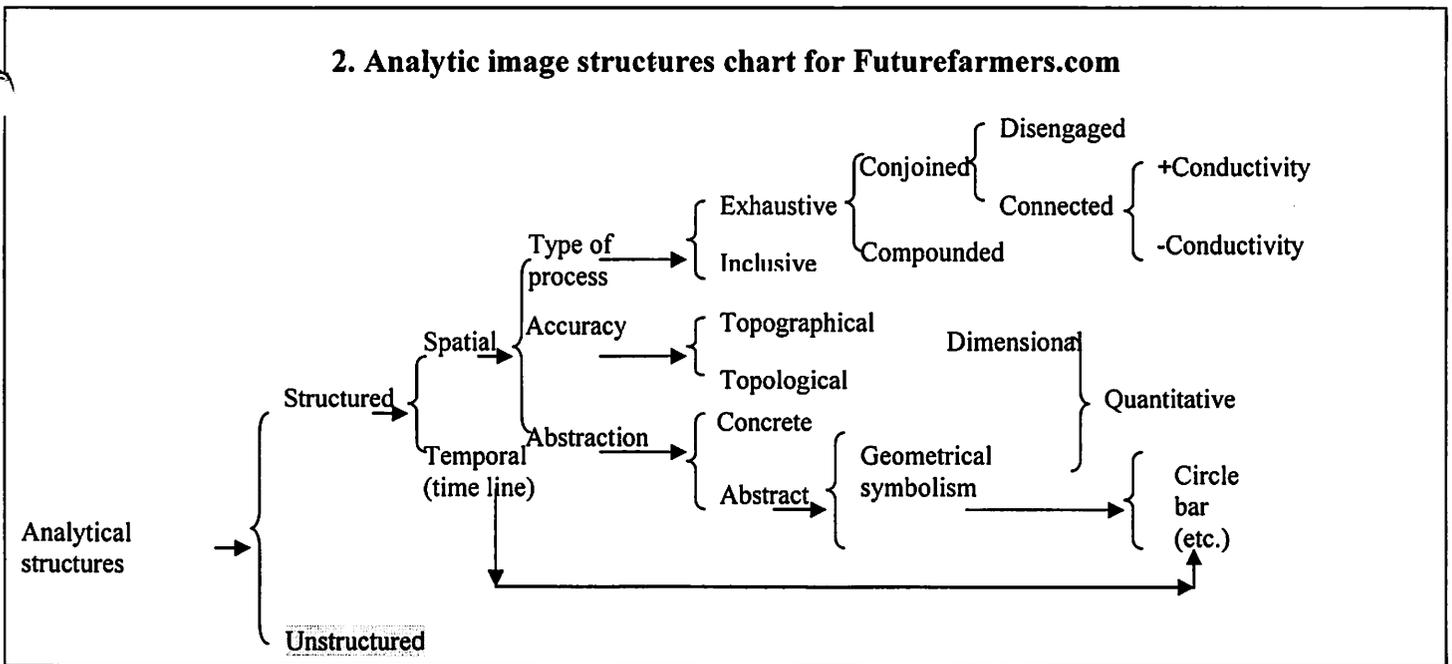
seem that the key to understanding these visual languages lies in first recognizing the new semiotic landscape, and then in exploring the landscape through the ways and means different cultures communicate amongst each other. In other words, through studying the various modes of representation used in visual languages, perhaps a deeper understanding can be achieved regarding the effects of social, economic and technological changes within society upon mediums of communication.

## Appendix 1 - Futurefarmers.com

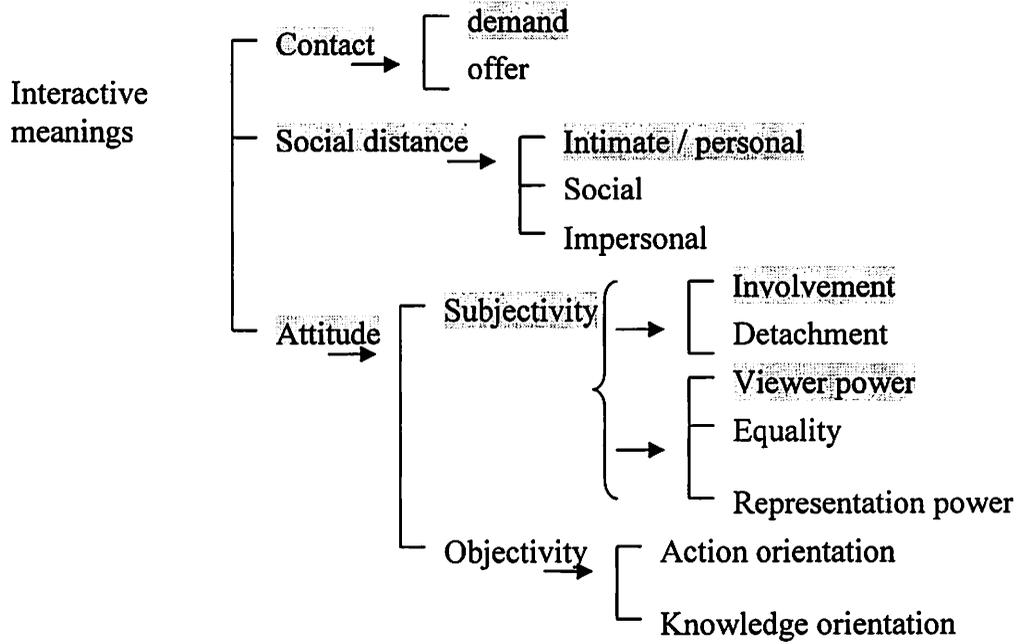
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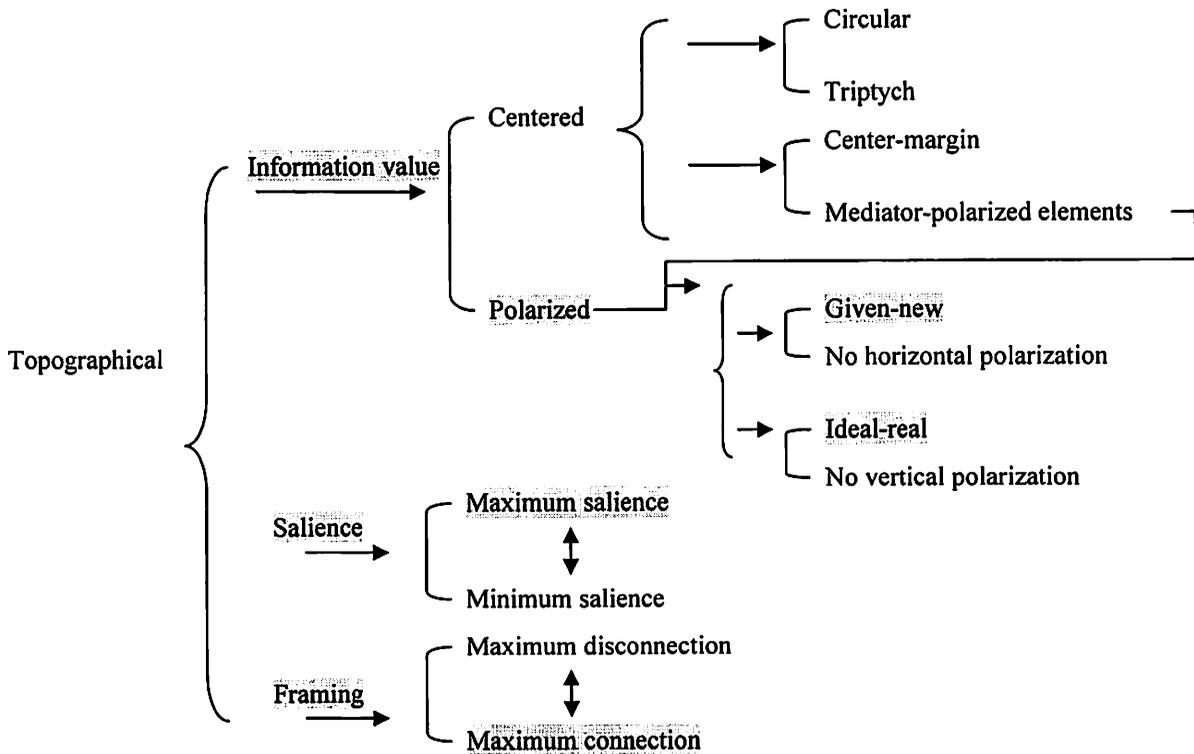
### 2. Analytic image structures chart for Futurefarmers.com



### 3. Interactive meanings in images chart for Futurefarmers.com

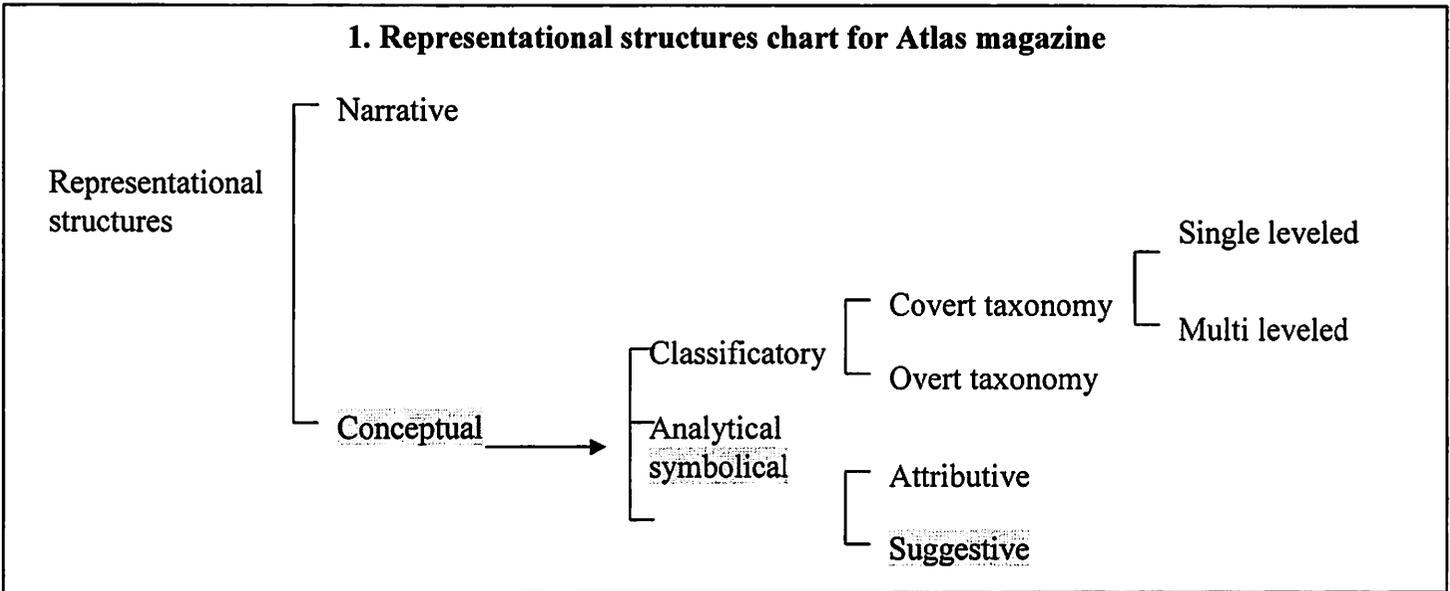


### 4. The meaning of composition for Futurefarmers.com

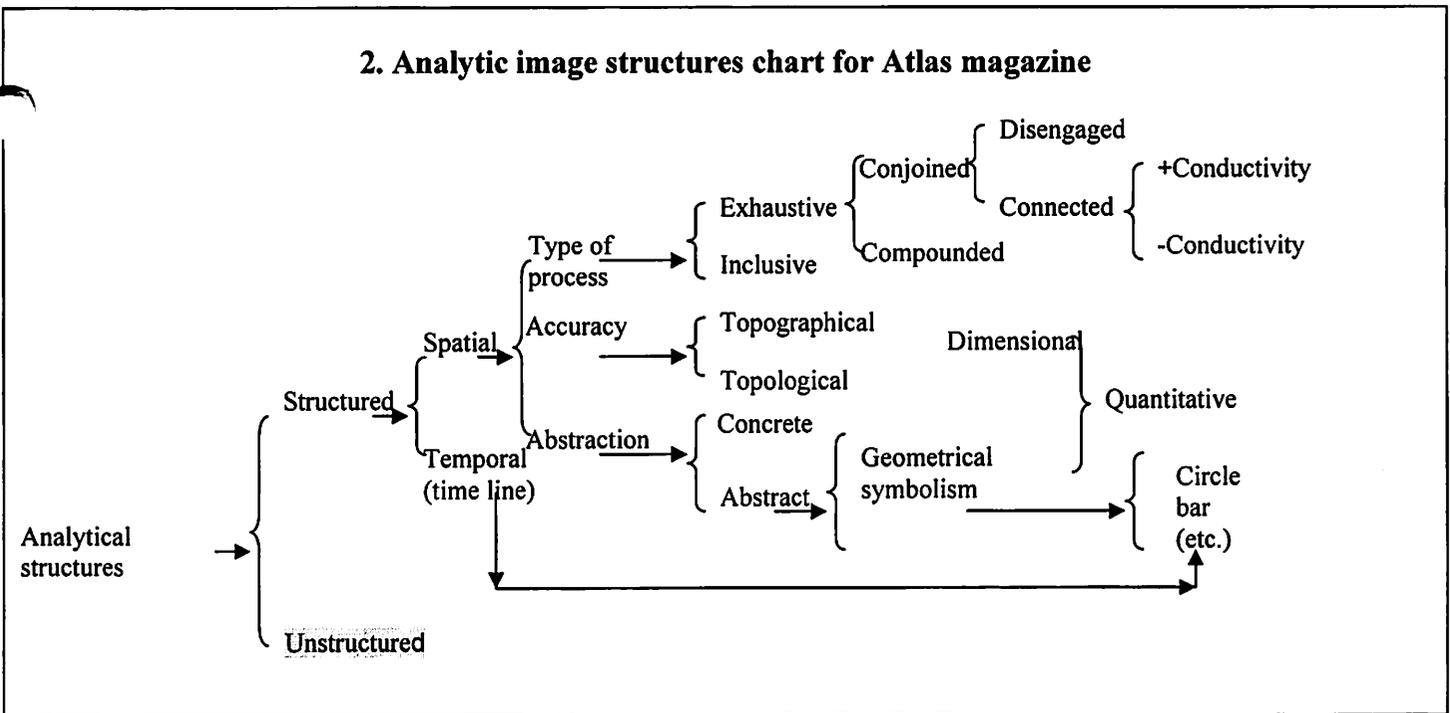


## Appendix 2 - Atlas magazine

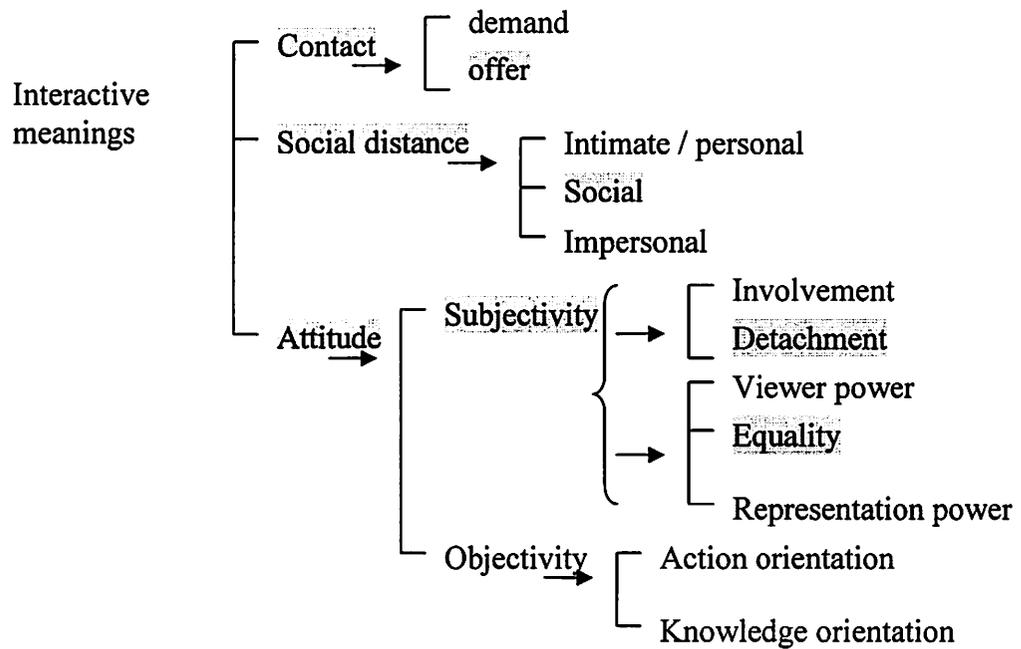
### 1. Representational structures chart for Atlas magazine



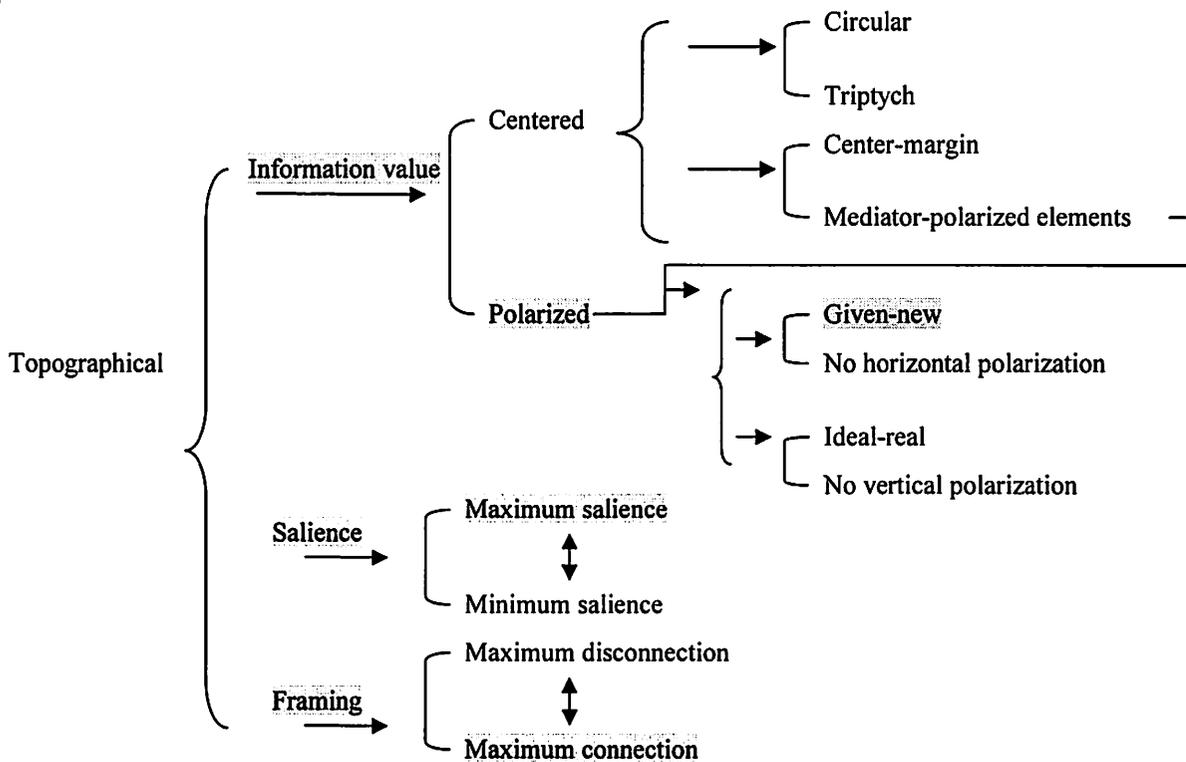
### 2. Analytic image structures chart for Atlas magazine



### 3. Interactive meanings in images chart for Atlas magazine

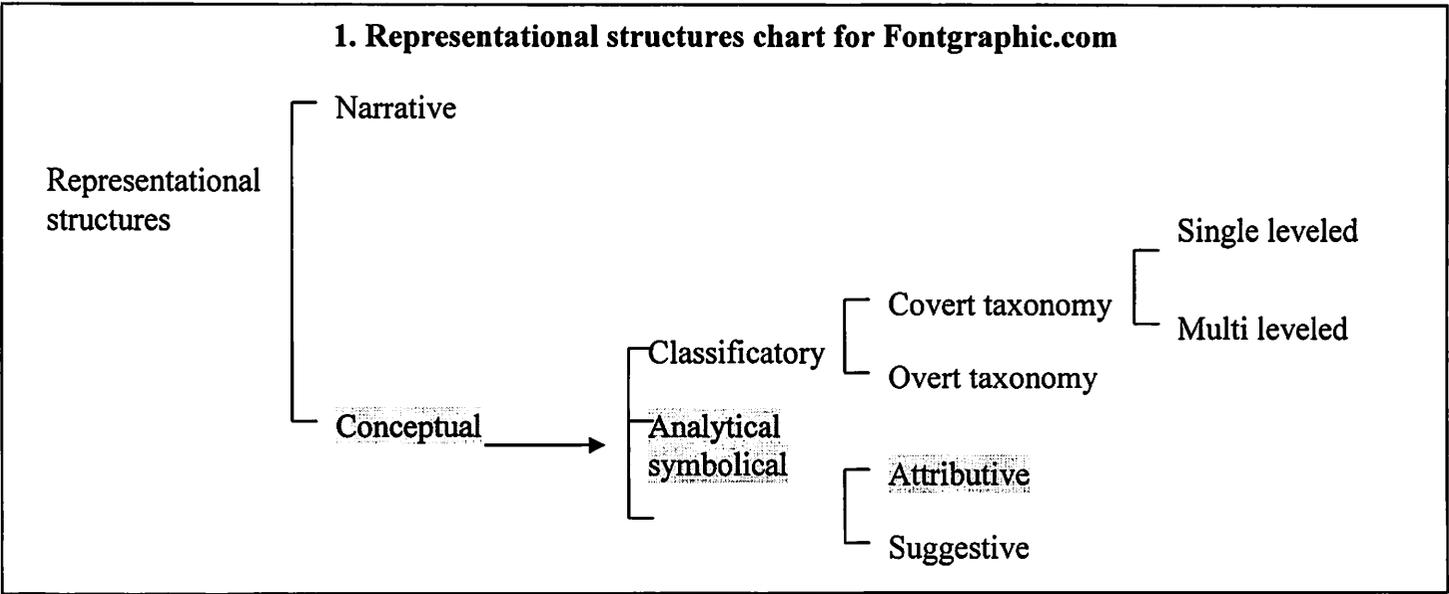


### 4. The meaning of composition for Atlas magazine

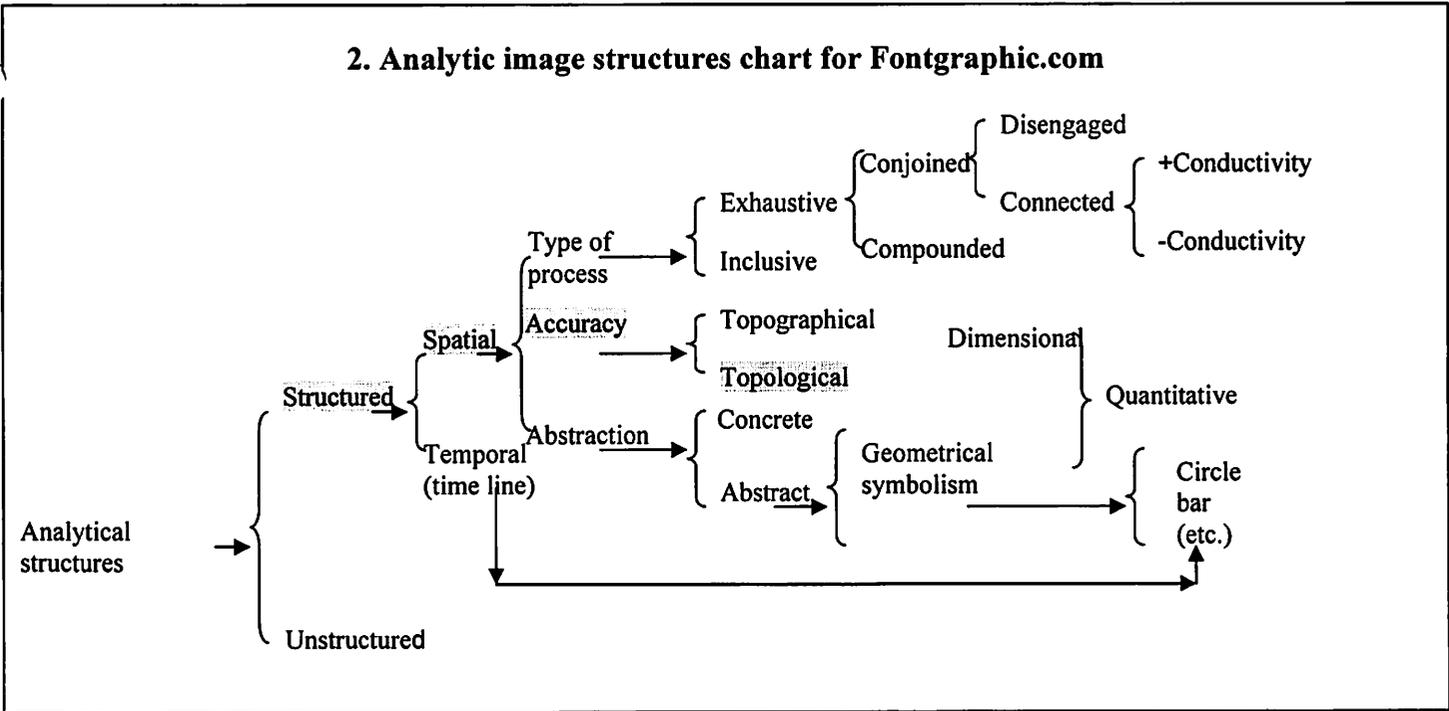


Appendix 3 - Fontgraphic.com

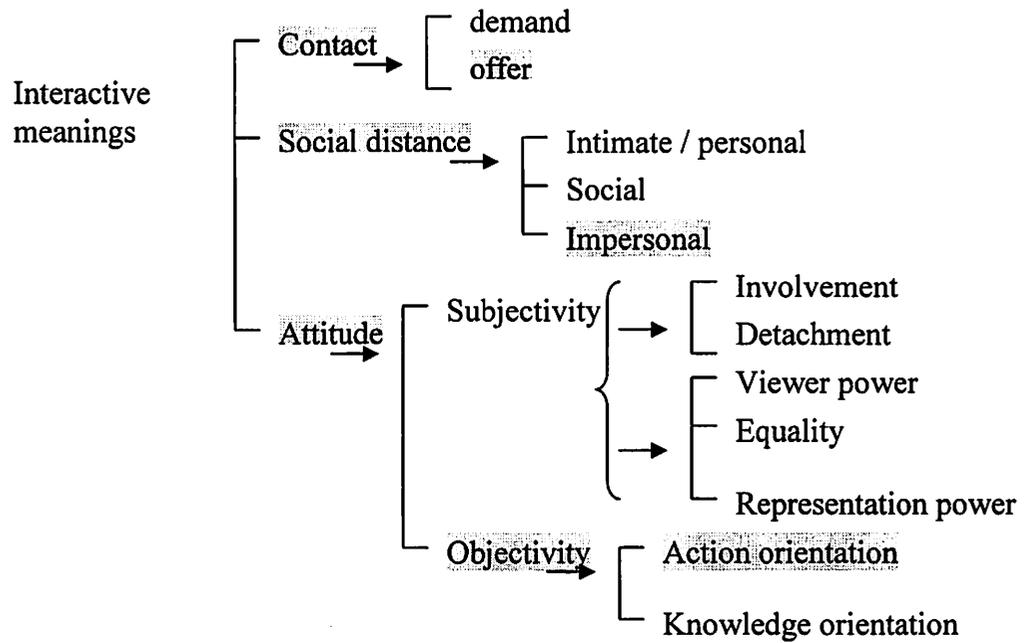
1. Representational structures chart for Fontgraphic.com



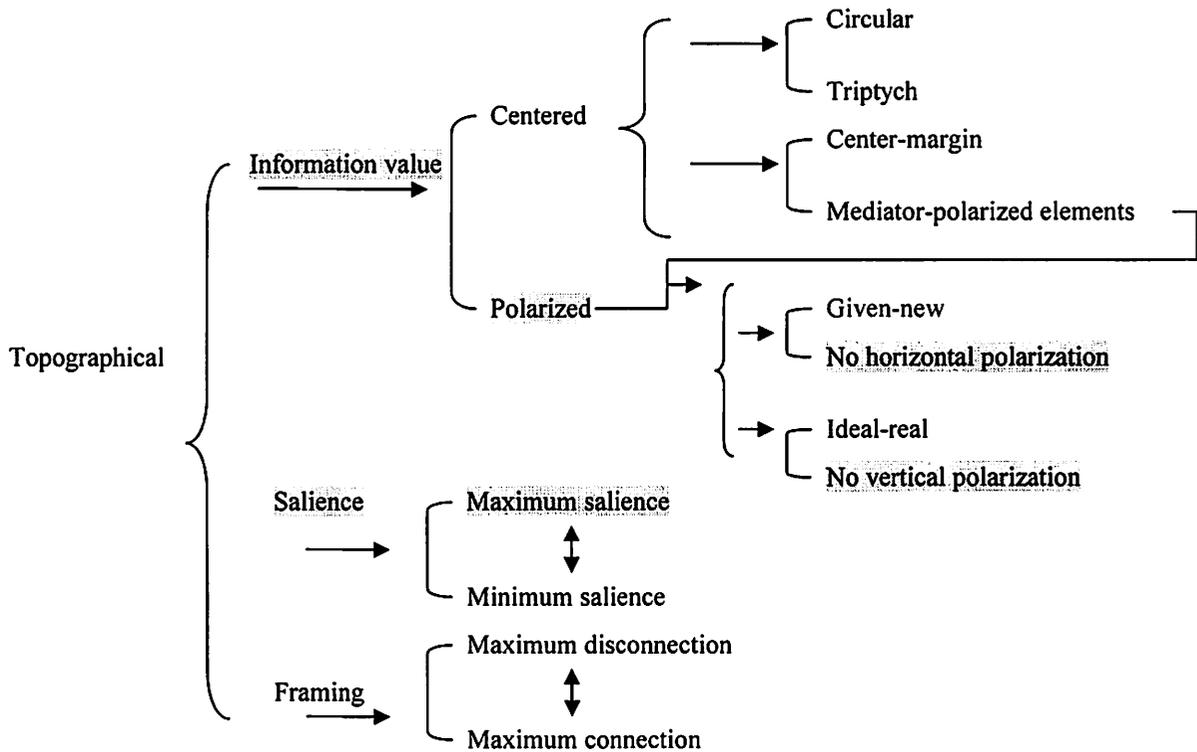
2. Analytic image structures chart for Fontgraphic.com



### 3. Interactive meanings in images chart for Fontgraphic.com

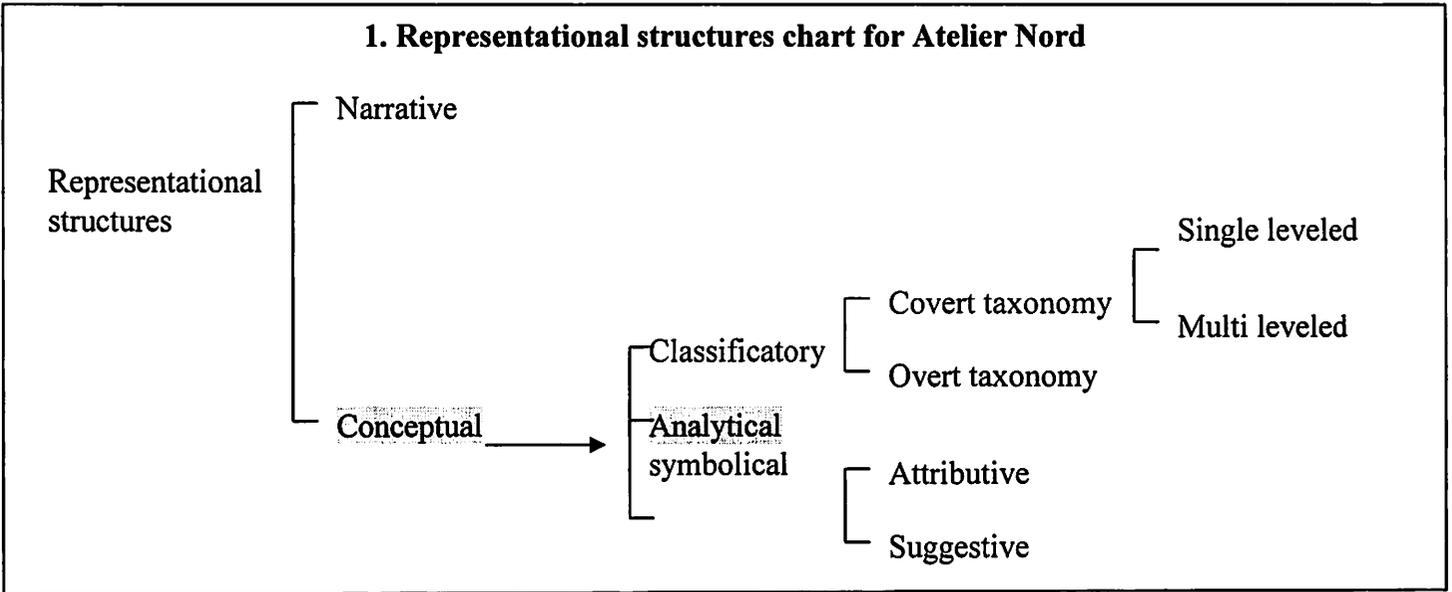


### 4. The meaning of composition for Fontgraphic.com

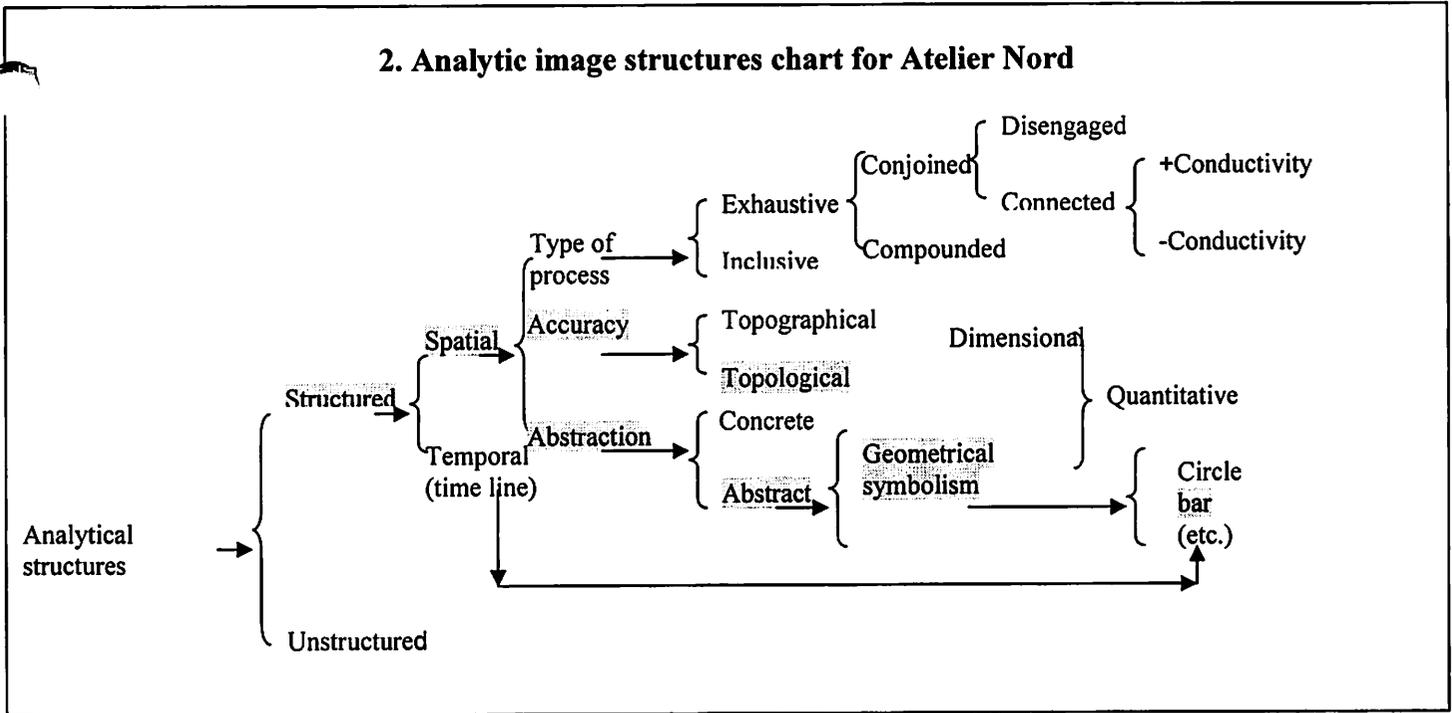


## Appendix 4 - Atelier Nord

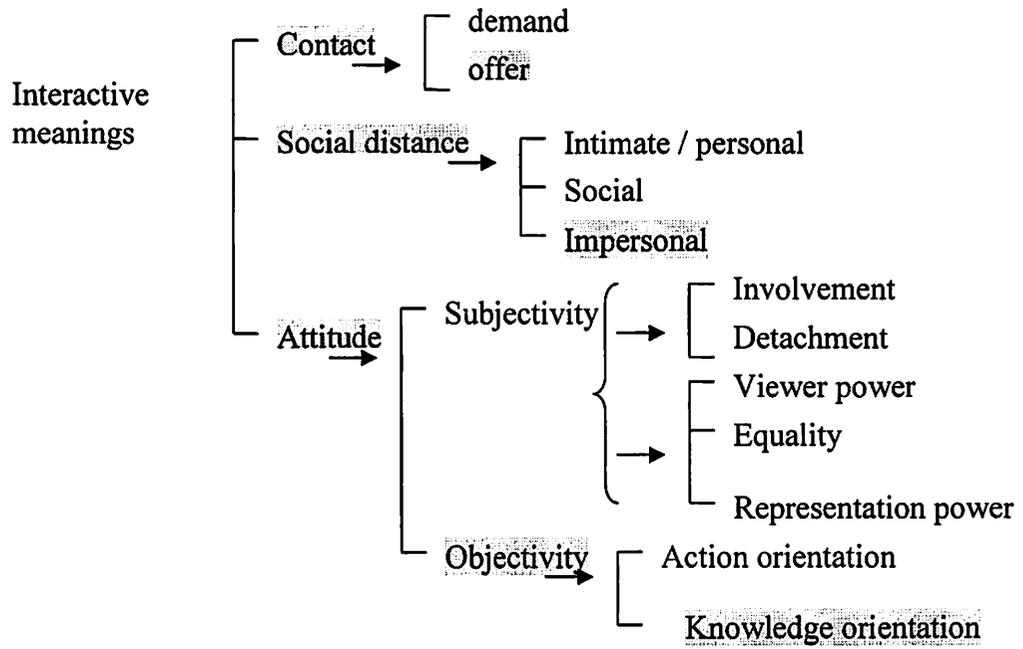
### 1. Representational structures chart for Atelier Nord



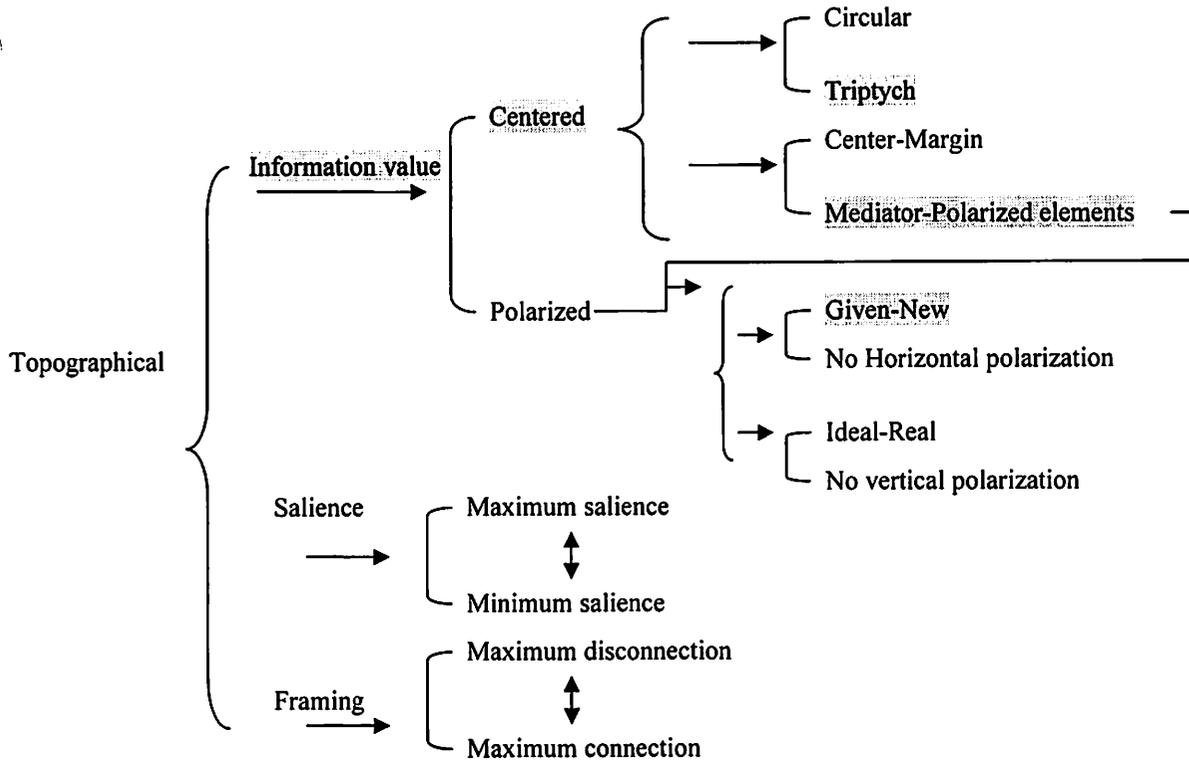
### 2. Analytic image structures chart for Atelier Nord



### 3. Interactive meanings in images chart for Atelier Nord

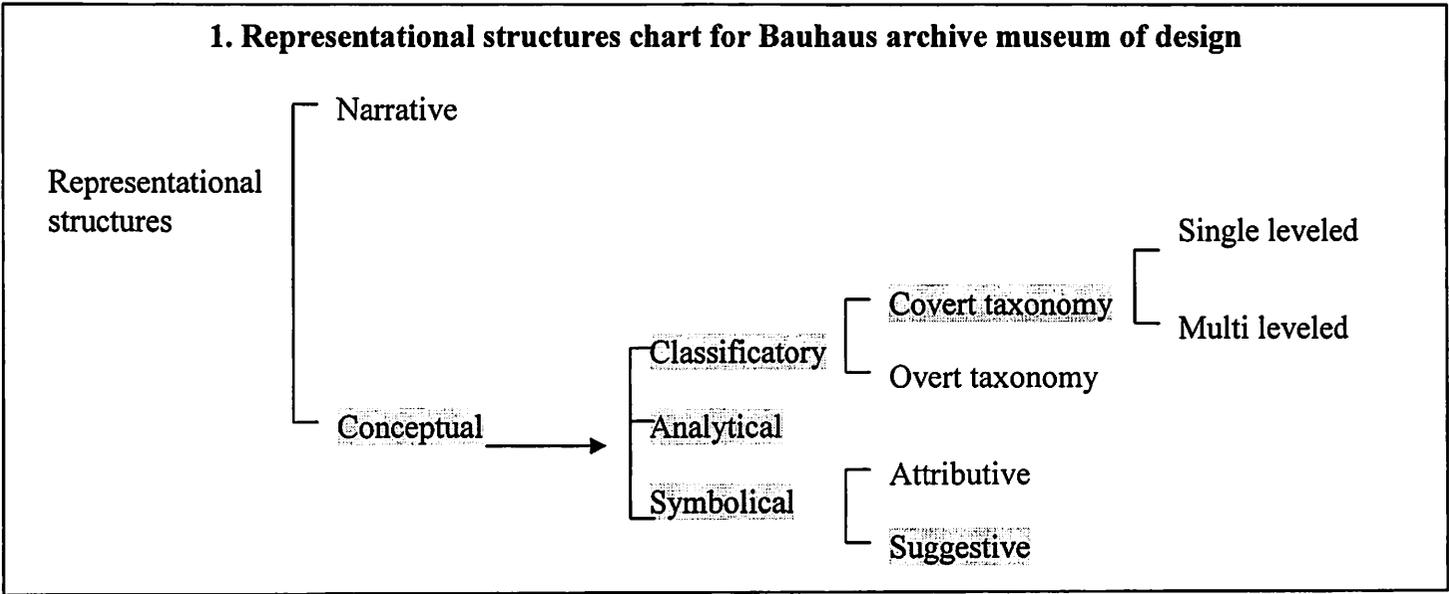


### 4. The meaning of composition for Atelier Nord

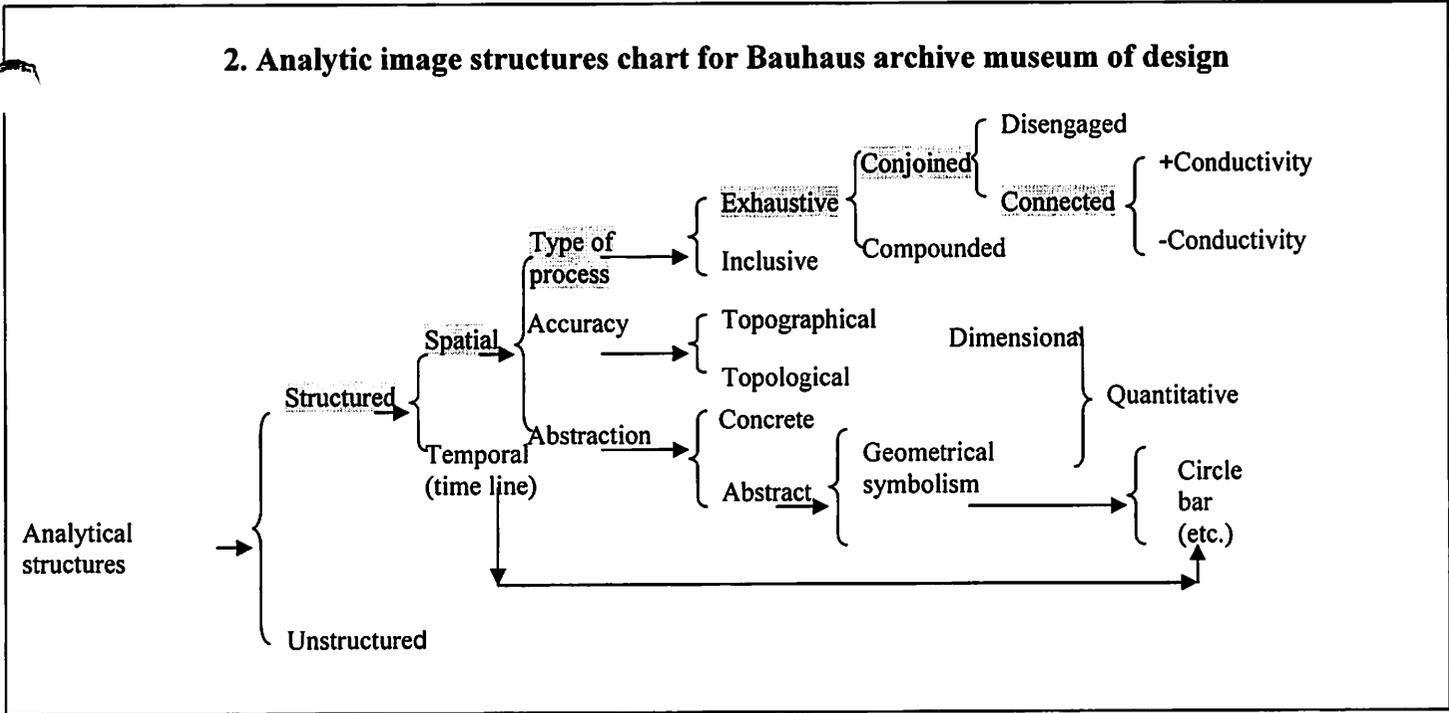


## Appendix 5 - Bauhaus archive museum of design

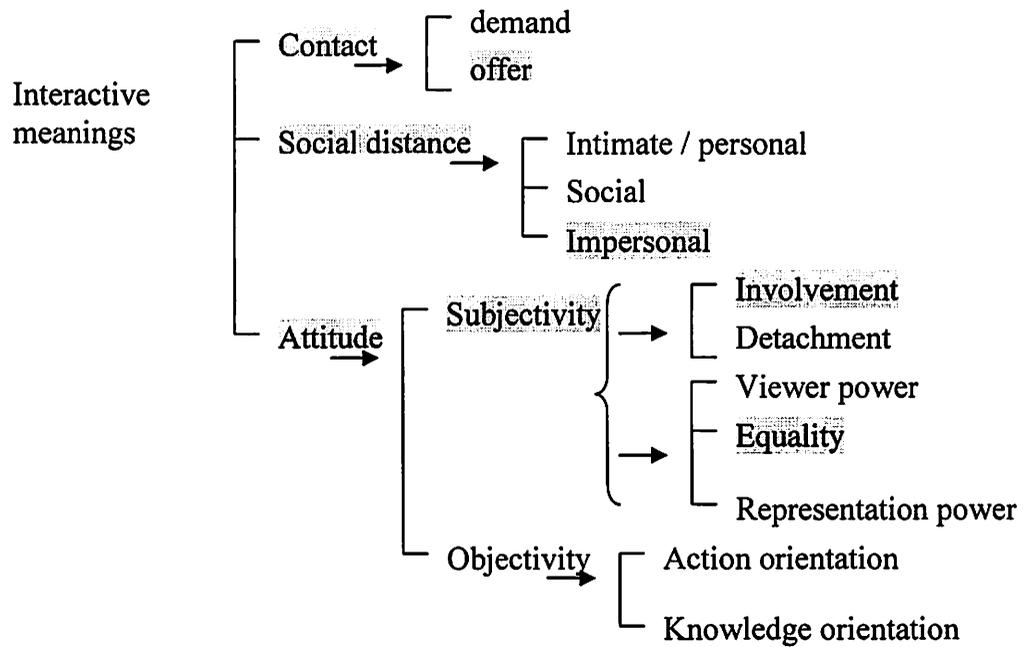
### 1. Representational structures chart for Bauhaus archive museum of design



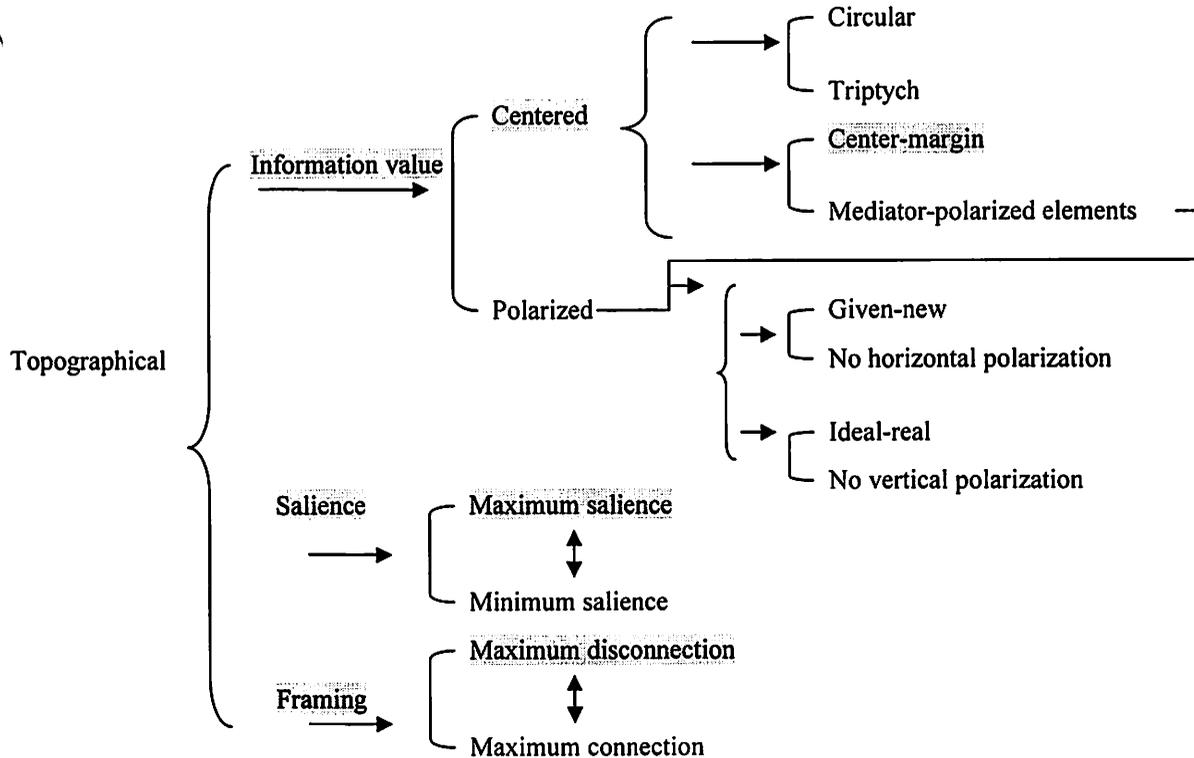
### 2. Analytic image structures chart for Bauhaus archive museum of design



### 3. Interactive meanings in images chart for Bauhaus archive museum of design

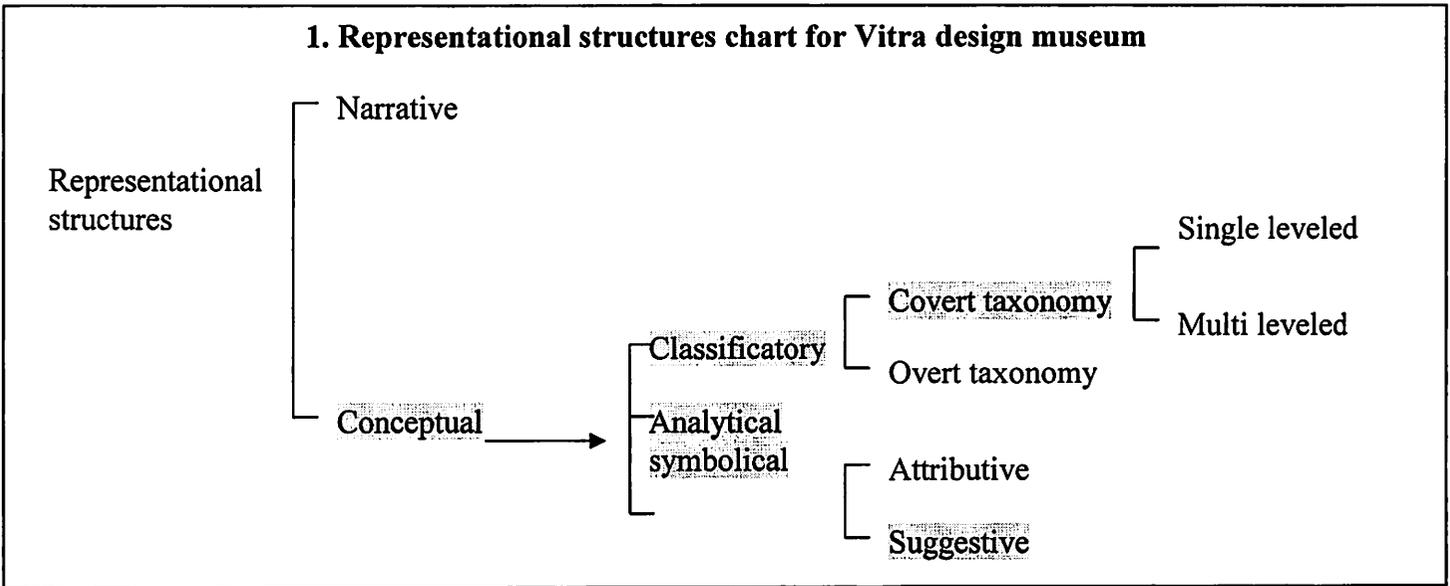


### 4. The meaning of composition for Bauhaus archive museum of design

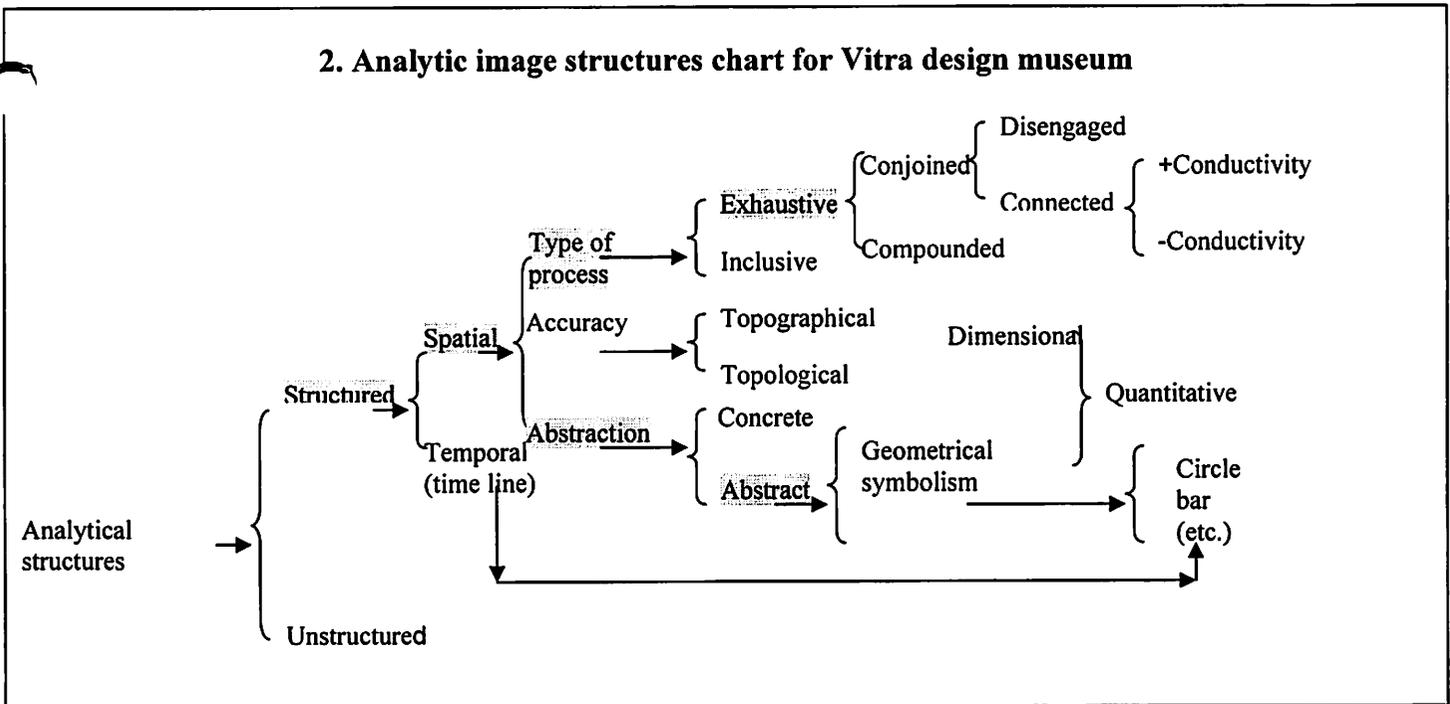


## Appendix 6 -Vitra design museum

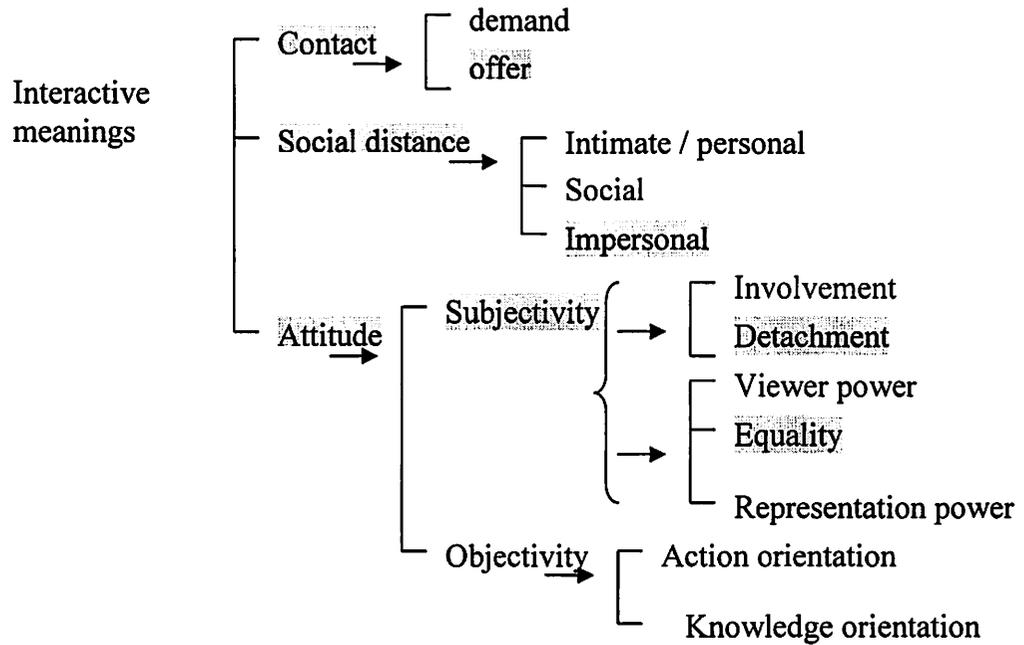
### 1. Representational structures chart for Vitra design museum



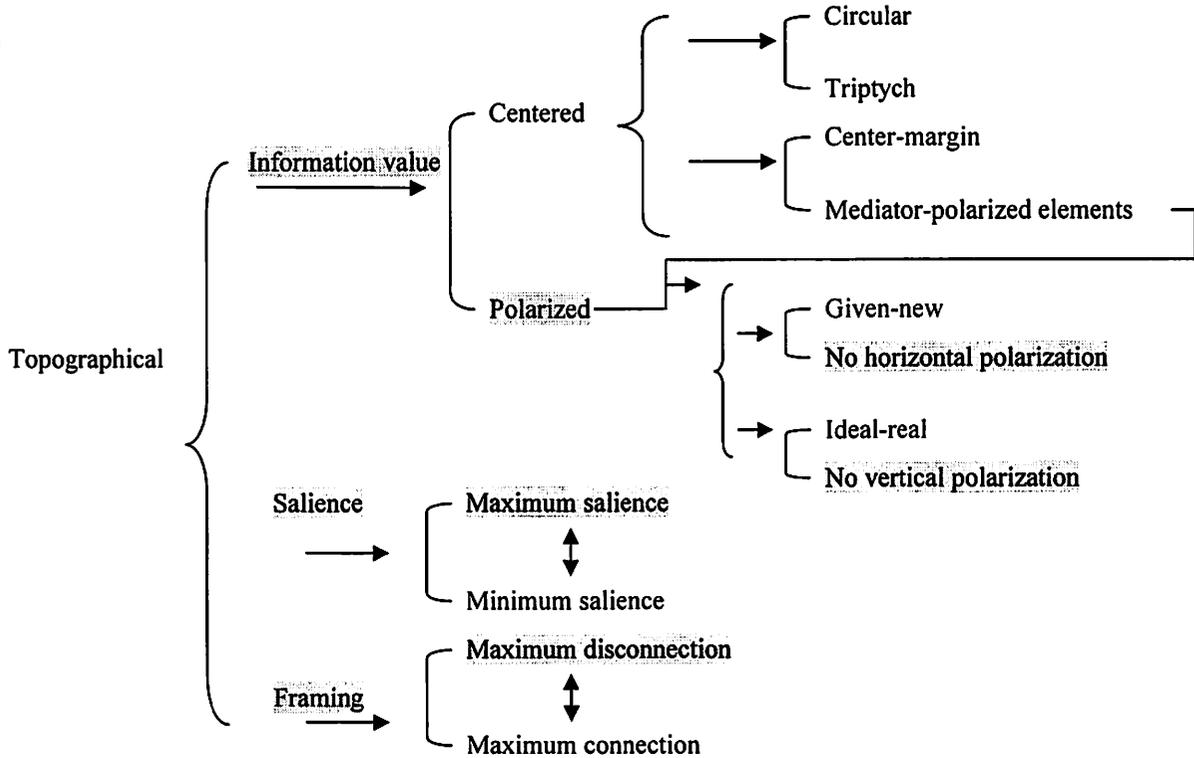
### 2. Analytic image structures chart for Vitra design museum



### 3. Interactive meanings in images chart for Vitra design museum



### 4. The meaning of composition for Vitra design museum



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