The ISU Pavilion for the Des Moines Arts Fair— Manic AIGA

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This paper offers an inquiry into the process of assimilating aspects of contemporary visual culture into architecture. It looks specifically at the role of the AIGA graphics as a marker of that culture and potential source for architectural consideration. It explores this theme through the process of transference from the graphic original via digital fabrication to an architectural scale in the form of a built proposal for the ISU pavilion for the Des Moines Arts Fair. It questions the manner in which the perception of these sources are altered in becoming architectural charting a sequence of critical evaluations made during the drawing process and concludes by locating the proposal within the context of an existing "commercial vernacular".

Figure 1 – The ISU Pavilion at the Des Moines Arts Fair.

Architectural décor

The ISU Pavilion[1] began with a speculation about how decoration might help achieve the desires of our client. Under consideration was the image of the university (ISU) and, in particular, how the teaching of design, arts, and of creative disciplines were perceived by the Iowan public (on a day out at the Des Moines Arts Fair). Also under consideration were both the act and the representation of the buildings central theme - collaboration. Here the "act" can be understood as the schematic negotiations prior to the construction process and "representation" understood as the language adopted by the built form to convey the universities interdepartmental relations. In short the building was to be the result of as well as the embodiment of collaboration.
Both these issues presented problems of considerable scale but different nature. While the former required a strategic solution the latter presented a major question of design and architectural production.

AIGA graphics emerged as a bridge between these two conditions

Consensus of Indifference

The concept behind the facade[2] is relatively simple. Each department is represented though a symbol and the meshing these symbols represents collaboration between departments. The resulting cladding can be described as a filigree screen of enmeshed AIGA-like symbols. It forms an envelope that offers a decorative cloak that narrates the buildings programmatic aspirations

However representing each of the departments on show presented the potentially fraught issue of their individual self-image and particular their approach to design. Allowing each department to design their own symbol would inevitably result in some highly discordant elevation when they were all placed together. It also ran the risk of producing a disparate hierarchy of legibility depending on the strength of each icon and the department's visual sophistication. What was required was a consensus on a single graphic style that would then produce a successful composite pattern when placed together.

The AIGA[3] graphic system began to emerge as a way to overcome this problem. AIGA presents such a utilitarian visual system that no one department could possibly appear more idiosyncratic than the other. The shear anonymity of the system had the strangely positive effect of dampening taste differences between departments with the result that it produced a consensus based on indifference. The basis for its general acceptance was, in this respect, positively negative.

This consensus reflected a somewhat jaded version of the original aims of such graphic systems.

AIGA emerged from "logical positivism" of the Vienna Circle. Ellen Lupton describes the aims of Otto Neurath to "unite society through one ordered and universally readable language of vision" believing verbal language to be to imprecise. The Isotype that emerged from this Gestalt aesthetic was intended to unify language at an international level by reducing common images to precise geometric forms. Through its various permutations (the Tokyo Olympics in 64 and Munich Olympics in 72) it arrived at its most widely accepted application of the AIGA graphic devised in collaboration with the U.S. Department of Transport. AIGA describes their system as a guide to the "crossroads of modern life"[4]

Despite its wide-ranging use the system is now considered coldly objective and inflexible to interpretation. Neurath's belief in an autonomous language of self-evident symbols contrasts with linguistic theory of Ferdinand de Saussure and more recently Roland Barthes.

> "Saussure taught that the significance of any sign is produced solely by its relations with other signs and not by its correspondence to material objects"[5].

The wide-ranging legacy of the Isotype is partly characterized by a skepticism that design could affect such a clean break with the past along with further doubt about its expressive potential. It might be said that our initial client presentations of AIGA-like symbols presented another variation of this skepticism.

However for us this skepticism provided a basis for a transformation of its image.

As the design developed concerns about its coldness were gradually assuaged by the nature of the composite pattern that was, conversely, rich as a result of being multiplied. It became acceptable because our clients recognized a familiarity to decorative patterning albeit one that resisted what would normally be a consequent familiarity of it constituent parts i.e. the pattern was rich although not composed of traditional motifs.

In this respect our proposal offers a critique of both the universality of the system and of the skepticism about its expressive qualities. Despite its universal aims the AIGA has now become specifically identified with public and quasi-public institutions. It appears that images once considered to be autonomous have now become culturally located and absorbed into a chain of signifiers that are being continuously being interpreted[6]. Recently this identification has opened it to the kind of interpretation it had once set out to overcome whether this is through irony, abuse, layering and so on[7]. Our proposal is to be considered within this tradition in this case by adopting iteration and layering as two techniques of estrangement.

In this way the AIGA system provided us with a vehicle for collaboration and consensus on the preliminary design. The subsequent detailed design and production of information presented a different condition for interpretation. What follows is an account of the critical judgments that were made during the process of drawing and constructing the pavilion.
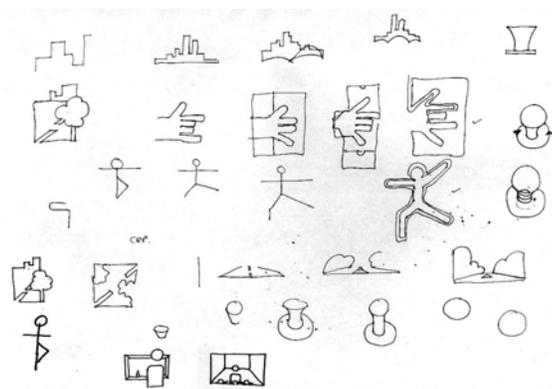
Figure 2 - Initial sketches for departmental symbols.

From the page to the building - Design of the façade

The design of the facade represents a sequential process of transference from the first source AIGA graphic to the building. The earlier stages of this transference required an understanding of the underlying principles of the system. These are primarily the reduction of an image, the use of silhouette, the orthographic or isometric projection and an emphasis on linear or circular geometry. The desired effect is one of consistency. Here geometry forms the "logical" component of logical positivism in that its originators believed that reality can be expressed through "logic geometry and mathematics"[8] In carrying out our analysis we quickly turned to the computer and Adobe Illustrator and in doing so bound them inextricably to the creative process that was to follow.

Implicit in this process was the larger question of the influence of contemporary media/drawing techniques upon architecture. The form of this question could be summarized by students recognizing a connection between what appears on screen (here text in illustrator) and the built environment and feeling uncomfortable about it. At this moments they are making a critical judgment of a drawing process and one that is symptomatic of a wider form of discomfort that emerges periodically with the introduction of new drawing methods and their consequence on the building.

Robin Evans suggests that this is both inevitable and desirable.

> "The attenuated, linear, panel-like character of *rayonnant* Gothic architecture is attributable to the introduction of scaled project drawings on parchment sometime before 1240"[9]

While it is clear that what is being discussed is the discovery of the effect of orthographic projection upon architecture I feel that this also emerges from improved drawing tools. Further to this I feel that these tools are in some way present in the eventual building. In the case of the ISU pavilion the drawing convention and the tools are different (convention lesser, tools greater) but no less

significant in terms of their influence upon the building. As Illustrator/computer is one part of the *modus operandi* of contemporary design then it follows that it too will be present, in some form, in the final outcome.

According to Robin Evans the process of observation-drawing-design is a two-way process wherein design discoveries are to be found during the uncertain act of projection. The AIGA system only became applicable through recognizing the importance of such discoveries during the process of projection from the realm of AIGA graphics to the façade of the building.

"it alters and is altered by what is seen" [10]

Gradually such questions of message and media began to recede in favor of questions of what needed to be done to claim the AIGA system as architecture.

The first significant question about the production of information centered on an understanding of the background of the computer screen. In order to imagine the elevation drawings as built we first had to conceive the background as open space and to imagine any unattached component of the elevation as unsupported in reality. Although this is not unusual in architectural drawing the case of routed, paneled elevation has certain particularities. Not only did each elevation need to be a topologically continuous surface but it also needed to retain continuity when broken into nominal panel size

The continuity of each panel could be simulated on screen by moving it and ensuring it held together with the simple assumption that this would be same when built.

However this continuity would not necessarily accommodate the forces on each panel and further analysis needed to be applied to ensure that all the symbols were adequately overlapped to provide enough overall strength. A system began to emerge that required at least three intersections with other symbols while at the same time ensuring that they did not over intersect. Over-intersection would affect the transparency of the elevation and the legibility of the individual symbols.

A further method of ensuring this continuity lay in the design of the individual symbols. As the design developed we decided that if each symbol were continuous in itself it would
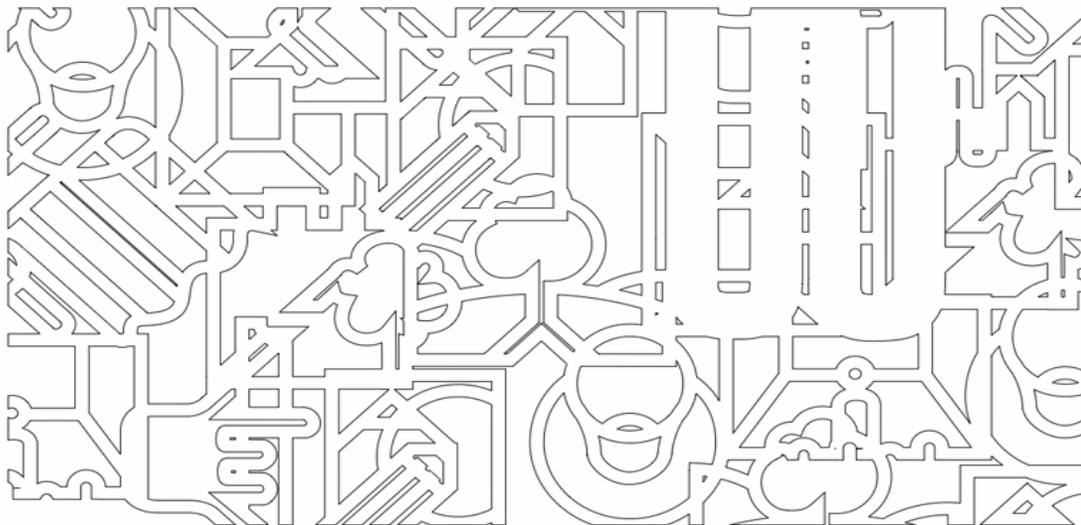
Figure 3 - Routing pattern for 8x4 sheet showing symbols linked at least three times
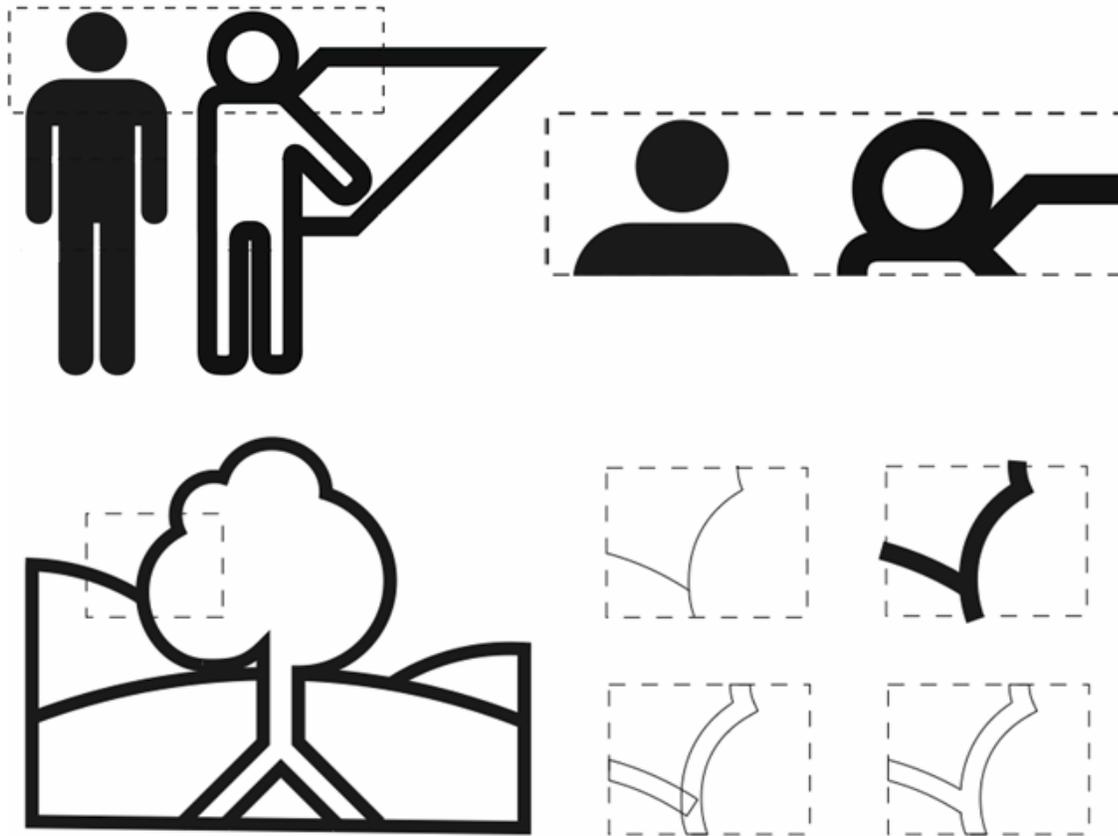
Figure 4 - Clockwise –The AIGA symbol and our version, an enlarged image illustrating problem and solution of continuity, transition of thick line to routing patterns and complete symbol showing location of previous image

further guarantee the continuity of the whole. This implied that each symbol was composed from a single line thickness (unlike the AIGA system that frequently uses areas of block). A single line would ensure control over the strength, levels of transparency and legibility of each symbol. Here again we applied an architectural critique to the AIGA system. Again blank graphic space needs to be considered as unsupporting air.

These interpretations of the AIGA system present a departure from the graphic realm of the original source. Our architectural requirements lead quasi AIGA system with its own rules developed via critical inquiry and tested in built form.

Drawing – the line as line and the line as cut line in 1/4'" routing bit

Further critical inquiry centered on the nature of the graphic lines and how they were converted to cutting lines. The design of each

symbol began with a freehand sketch with the proviso that the pen was never lifted from the page (thus ensuring continuity). This thick and continuous line was then replicated in Illustrator under certain geometric conditions (see later). At each stage the line was to be imagined as an MDF band in space. Prior to the cutting of this band the line needed to be translated into a block with a perimeter line around it (i.e. the cut line). What once was a dimensioned line became a bounded surface.

The production of the façade then plotted a path through a series of computer applications from the design of the icons through to the cutting patterns. Initial sketches passed through Illustrator, AutoCAD, Toolpath and subsequently the universities' CNC router. The whole elevation was broken down into a sequence of 8x4 panels and routed in 3/4″ MDF with a 1/4″ routing bit. This routing bit, in effect, being just one of a number of drawing tools en route to the built façade
At this point it should be stated that our use of

the CNC router is primarily as a two dimensional tool. Early in the design process[11] it was decided that we could gain the maximum effect for our time and budget by focusing our efforts on the vertical planes of the building. This proposal intentionally explores the sophistication of the system within the strict confines of the flat surface. In this respect our use of the machine predates the current obsession with the CNC routers spatial possibilities via parallel and bi-lateral structural elements. The CNC router found its way into architectural production from the discipline of sign writing and it is this technique that we are exploring.

The motivation for this was furthered by our initial client briefing and the requirement for the building to explicitly talk about the teaching of creative disciplines. While the signwriter application represents a commonplace mode of public reception we felt that it would have an effective directness in relaying an important aspect of the drawing-to-building relationship. Our building could be easily explained by relating the façade to the drawing and each elevation as a large drawing surface. While it may seem obvious the strict two dimensionality of the system allowed the visitor to focus attention on the mechanism of this simple yet highly relevant aspect of descriptive geometry. Unlike most buildings the ISU pavilion explicitly states that the drawing is present in the built form. In this way it offers the visitor insight into the fluid and uncertain transition between the drawing and the building and attempts to relate architecture to other fields of everyday experience i.e. conventional signage.
Like many cladding systems their aesthetic qualities and their method of production form dual sources of interest. This in varying proportions according to the system. Many fairgoers, having first expressed their interest in what it was ("I think it has something to do with the Da Vinci Code"[12]) quickly went on to ask how we had made it. It acted like an introduction to public discussions about the technical capabilities of the university and as such helped in getting over an important response to the program i.e. it demonstrated the significance of the drawing in the creative thought process. This appeal was in addition to any information that we had attempted to relay through the decorative pattern of symbols.

Visitor perception of the graphic

The final test of each icon was ability to produce an immediate comprehension with a minimum effort.

The design of each symbol presented a visual challenge in itself. Each icon needed to be created from scratch and, like AIGA symbols, required quasi-universal acceptance. In truth we didn't begin by designing the symbols and then enmeshing them. The process was more complex and oscillated between the individual symbol and the composite. The effect on the composite image and whole elevation could be easily tested by using existing AIGA graphics. Once the language of the overall elevation had been established we set about designing each icon under a set of rules drawn from an analysis of that system. A new system emerged that required using only circular or linear forms (restricted to horizontal, vertical or at 45 degrees) in balanced proportions. Anything excessively linear or circular would have a considerably enhanced bias on the final arrangement. Our versions also differed from the AIGA/Isotype in that we introduced some perspectival conventions as opposed to the strictly orthogonal or isometric projections.

The conjoining of all icons presented further perceptual challenges. The success of the elevation depended on the legibility of each icon against the presence the overall screen. Our aim of producing a sustained visual inquiry in the viewer meant that each icon was to appear neither too obvious nor too buried. To assist with this problem of legibility it was decided that some of the icons should be presented by themselves and at large scale. The supergraphic elements along with the text "ISU" were arranged to offer legible element when seen from afar and as a simple introduction to the denser play on the concept of interrelation. The viewer would perceive one icon and be encouraged to look for more within the entangled whole.

Supergraphics

This use of the supergraphic offers another consideration of the sources of this building. This section cites some architectural precedents and discuss them in relation to our project.

Naturally the ISU pavilion draws heavily upon a study of the "commercial vernacular"[13] and refers to the work of both SITE (from the late 60's early 70's) and Venturi Scott Brown. Projects in particular might be SITE's BEST Distribution Center or VSB's Seattle Art Museum both of which along with several others describe a "re-application" or "transference" of normal things and everyday graphics. BEST in particular adopts a particular approach to this estrangement via scale, multiplication and layering[14] while Venturi explores the graphics of heraldic signs along the Vegas Strip. Venturi explicitly aligns the use of everyday visual environments with the artistic tradition of re-phrasing normative sources.

"Pop artists have shown the value of the old cliché used in a new context to achieve new meaning"[15]

and

"Eliot himself speaks of Joyce doing the best he can "with the material at hand"[16]

In this instance Venturi's "everyday" is the environment of popular entertainment and, in particular, escapism. For Venturi escapism fills the gap in what is lacking in modern architecture by applying the mixed media of Las Vegas with the aim of an "inclusive" architectural proposition. The work of VSB repeatedly achieves this transference of the commonplace via the collage of elements of illusionistic Vegas. While our efforts on the ISU pavilion work to achieve a similar sense of transference our process gradually led us to a departure.

Initially our investigations into the pattern effect of conventional symbols were thwarted by the use of "mixed media". The nature of our collage i.e. densely enmeshed symbols was undermined by using a range of symbol styles and fonts. On the one hand the results failed to achieve a similarly powerful collage and on the other, a cogent final pattern. This double disadvantage was further undermined by the use of ISU serif font[17] that lent further inconsistency to the final outcome. Earlier examples show a quasi-Art Nouveau result (especially with serif text[18]) with complex curves and organic randomness. The pattern

was indecipherable both as a whole and as individual parts. Through this process we discovered that a coherent pattern was only achievable by adhering to one stylistic source and rejecting a mixed media collage in favor of an iterative method. In effect we became un-"inclusive"[19] in our process of generation.

This process lead us away from a broad palette in favor of a reduced one that was formed by the much more recent (yet still historical) language of the utilitarian graphic. In so doing we lost the possibility of an escapist expression of the everyday enjoyed in the work of VSB in exchange for a different everyday of the institutional environment. While Venturi offers escapism for the "sales person from Des Moines Iowa"[20] what transpired in our proposal was iterative reconfiguration of the Taylorist world that he might return to.

This iterative quality maybe more closely aligned to the text based elevations of SITE's Best products Co. Inc Distribution Center in Ashland, Virginia. This project is presented in two forms one built and the other proposed[21]. The built version on Route 1 Ashland Virginia develops an increasingly complex font pattern from left to right by "means of overlapping transparencies"[22]. What begins "as legible information and metamorphosize into an unreadable inversion of the entire premise for corporate identification"[23] In this example it is the iterative quality of the font along with its gradual tonal transition that are used to create the transference of the commonplace to the architectural. Moreover this transference is seen by the authors as satirical reading ("inversion"[24]) of the commercial vernacular. While SITE like VSB refer to contemporary graphics as a source of speculation for their buildings the outcome for SITE is devoid of historical referents. While SITE see architecture "used as a form of media" that media is not mixed but prefers instead to parody its ordinariness by some self referential act of estrangement whether this is by exceeding its boundaries (Parking Lot Showroom) or fragmentation (Notch Project) or by iteration (Best).

Both the contemporariness and the iterative quality of the Best projects are important precedents for the ISU pavilion. In this respect the pavilion also adopts a correlation to a particular use of the symbol as a purveyor of quantative information. In addition to its use as a single decipherable image the isotype is

Figure 5 - ISU Pavilion – Façade detail.

also used to convey statistical information. Neurath's belief in the directness of the isotype extended to the "value free"[25] quality of the isotype chart. "one sign stands for a fixed quantity. These groupings allow instant visual comparison remembered as overall configuration"[26]. These pictorial statistics are now conventionally used as an alternative to numerals either as large versions or repeated smaller ones or sometimes as both[27]. While the iteration of symbols on the ISU pavilion hold no quantative information their repetitious distribution is in part intended to make associations to the world of the visualized facts. In addition to producing a pattern the façade carries an attempt to further estrange institutional objectivity in the form of a mixed up pictorial chart. Like the Best Distribution Center it deploys a repetition of commonplace

symbolism in a manner that disturbs all previously objective association.

Conclusion

This article offers a contemplation of the role of contemporary graphics in architecture. It begins by suggesting that architecture might provide an expressive interpretation of a graphic system that is currently considered universal and objective. It explains the manner in which these prior association of the AIGA graphics can be transformed in favor of new meanings and proposes that the ISU pavilion presents an architectural version of this transformation. It then explores this idea by examining a sequence of transferences in the drawing–to-façade process and at each stage

examines the critical understanding needed to make that transference. This sequence implies a range of interpretation of the line. It suggests that at each stage of the design the method of projection effects the final outcome and conjectures that this is not only an inevitable part of the design process but that it is also desirable as architecture. In the case of the ISU pavilion this process is particularly desirable in that the building is specifically arranged to communicate the design process to the general public. Here the enactment of the design process is coupled with the familiarity of the buildings imagery and commonplace sources. As a consequence it draws parallels to existing buildings that make similar use of everyday images and contemporary graphics.

Endnotes

[1] This building was the result of ISU graduate summer course entitled "Sci-Tech". The course is described as a "detail build" where in the instructor (Jason Griffiths) prepares the project to schematic design after which it is developed and built in collaboration with the students.

[2] This paper deals specifically with the design of the façade.

[3] American Institute of Graphic Arts

[4] http://www.aiga.org/content.cfm?ContentAlias=symbolsigns
This system of 50 symbol signs was designed for use at the crossroads of modern life: in airports and other transportation hubs and at large international events. Produced through a collaboration between the AIGA and the U.S. Department of Transportation, they are an example of how public-minded designers can address a universal communication need.

[5] Ellen Lupton –Reading Isotypes – Design Issues: Vol.III No. 2 P.49

[7] For example the 2" round icons designed by Michael Rock for Rem Koolhaas OMA McCormick Tribune Campus Center
Illinois Institute of Technology

[8] Ellen Lupton –Reading Isotypes – Design Issues: Vol.III No. 2 P.48

[9] Robin Evans cites Robert Branner. Architectural Projection p.20 From Architecture and its Image –

Edited by Eve Blau and Edward Kaufman – CCA. Distributed by MIT Press

[10] Ibid.

[11] Our time table for the whole project was seven weeks from scheme design. Detailed development took approximately half that time leaving three weeks for construction and three days for site assembly.

[12] An anonymous account overheard during the fair.

[13] Learning from Las Vegas P.6 – Venturi Scott Brown Izenour – The MIT Press

[14] Porcelain on steel panels that carry the image of a serif font in capitals.

[15] Learning from Las Vegas P.72 – Venturi Scott Brown Izenour – The MIT Press

[16] ibid

[17] Iowa State approved graphics and fonts.

[18] Not shown in the above diagram although it further added to the Art Nouveau randomness of what is illustrated.

[19] Here I am referring to the word as repeatedly used in Learning from Las Vegas

[20] Learning from Las Vegas P.53 – Venturi Scott Brown Izenour – The MIT Press

[21] SITE – Architecture as Art. St Martins Press P.29 and P.30

[22] Ibid

[23] Ibid

[24] Ibid

[25] Ellen Lupton –Reading Isotypes – Design Issues: Vol.III No. 2 P.52

[26] Ellen Lupton –Reading Isotypes – Design Issues: Vol.III No. 2 P.51

[27] For example global statistics on population