Typotecture:

Histories, Theories and Digital Futures of Typographic Elements in Architectural Design

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Abstract

Written language constitutes an integral part of every urban landscape. However, in many cases there is no logical design and semantic relationship between the typographic elements and the architectural structures to which they are applied, resulting in visual pollution, a cacophony of words within the built environment.

Taking this fact into account we can propose the concept of typotecture, a new form of architecture that integrates the graphic with the architectural field, an architectural practice that, in its role as a medium of communication, incorporates typography into its substance and expression.

The research initially focuses on a systematic, chronologically structured historical analysis of existing examples of typotecture, along with their underlying theory, ranging from primitive pre-modern achievements to more coherent contemporary manifestations. This process helps us to identify an existing yet ill-defined cross-disciplinary design practice. Subsequently it creates a backdrop for its further development through the proposal of new innovative typotectural examples by experimenting with current digital design tools.

The research aims to demonstrate that several building typologies where communication processes are involved (commercial, educational, religious, among others) have the capacity to transmit the required typographic information inherently, either two-dimensionally or three-dimensionally. These can offer fixed and mutable messages either explicitly or implicitly, depending on the function typotecture intends to serve (identification, navigation, promotion, education, recreation or mystification).

The overall goal of the study is to prove that typotecture is capable of enhancing the value of architecture as a medium of communication, and contribute to contemporary meaningful and effective urban environments.

Author's declaration

1. During the period of registered study in which this thesis was prepared the author has not been registered for any other academic award or qualification.

2. The material included in this thesis has not been submitted wholly or in part for any academic award or qualification other than that for which it is now submitted.

C. Tsimourdagkas
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1

Introduction

This research constitutes an investigation into the possibilities that emerge from incorporating typography into architecture. It includes a critical history of architectural designs which integrate typographic elements, informed by the associated underlying theory, and a proposal for new designs using contemporary digital design tools for the future development of this cross-disciplinary practice.

Although the subject of the research involves an engagement with two different design fields, it is already evident that any possible interaction between them is not under consideration. The research is approached from a specific, strictly architectural, perspective, meaning that the ultimate goal in all the examples explored[1] is the creation of habitable structures with a designated programme. Typography is treated as a dynamic tool for the architectural design process, and typographic elements become integral ingredients of the architectural forms generated. Other possible interactions, such as two-dimensional typography with three-dimensional, or even architectural, qualities; three-dimensional typography as a mere sculptural form on a human or even an environmental scale; the architecture of letterforms, or the lettering in architectural drawings or other representations, are outside the range of this research.

In order to establish the scope of this research, it should also be made clear at the start that this study extends only to projects for which the architect chooses deliberately to work with typographic elements. Projects in which graphics are

1. Whether they are already in existence or newly proposed here.

added afterwards, either two-dimensionally to cover a facade (such as posters or graffiti), or three-dimensionally to transform a space (such as artworks or furniture), are not considered. Architectural forms that unintentionally resemble typographic elements, for instance plans, sections or elevations that resemble letterforms, are also excluded.

a. Definitions

Due to the specific approach to the interaction between typography and architecture, the research is expected to be of most interest to historians, theoreticians and practitioners in the field of architecture. Consequently, and without implying that the research is not addressed to typographers or inquiring minds from the world of graphic design and visual communication, the definition of some of the terms associated with the discipline of typography is of crucial importance.

According to The Concise Oxford Dictionary, typography – from the Greek words τύπος (typos), type[2] and γραφή (graphy), writing – is defined as 'the art or process of arranging types and printing from them'.[3] Types, or, as they have already been referred to in this study, typographic elements, take the form of graphic symbols, both alphabetical (letterforms) and non-alphabetical (numerals, punctuation marks, scientific, political or religious symbols, and so on). The arrangement of these typographic elements involves the choosing of both a typeface (or font) from a range of possible styles, and its size. For the creation of a word this arrangement also involves the configuration of the space between pairs of letters (kerning), and, for the creation of a phrase, the space between words (tracking).[4] For typographic outputs that require more than a line of words (paragraphs, for instance), other important features include the line length and line spacing (leading). Typography thus uses both typographic elements and the white space around and through them to create a whole design set. This set is then transferred to a surface, by printing or other techniques, resulting in a text that transmits a message to a recipient.

Typography has the unique capacity to give multimodal expression to the wide range of written languages, and today it constitutes one of the primary means of graphic design (or visual communication design). Graphic design emerged as a discipline during the twentieth century, from the constantly evolving printing and publishing industry; the term itself was first used in the 1950s.[5] Graphic design 'takes ideas, concepts, text and images and presents them in a visually engaging form through print, electronic or other media. It imposes an order and structure to the content in order to facilitate and ease the communication process, while optimising the likelihood that the message will be received and understood by the target audience'.[6] Graphic design thus acts as an agent of communication (usually mass communication), which is also true of architecture.[7] Both disciplines involve the production of a form which carries meaning that needs to be widely and effectively communicated in order for the design process to make sense. Although in graphic design the meaning of the message is usually evident as long as its code (language) is familiar to the recipient, in architecture this is not the case.

2. The word 'type' initially meant a 'characteristic or representative form', but later also acquired the meaning of a 'letterform', which is what it represents in this context. T. F. Hoad: *The Concise Oxford Dictionary of English Etymology* (Oxford: Clarendon, 1986), p. 511. In architecture 'type' usually stands for 'building type' or 'building typology' (e.g. residential, governmental, commercial, etc). In this study the term refers exclusively to 'letterform' for the avoidance of misunderstandings.
3. Judy Pearsall, *The Concise Oxford Dictionary*, 10th edition (Oxford: Oxford University Press, 2001), p. 1552
4. Fixed combinations of specifically designed letterforms, either along with or without other symbols that represent a physical entity, an idea, or a process (such as logotypes) are subject to size adjustment as an entity, but they do not permit changes in typeface, kerning or tracking.
5. Gavin Ambrose and Paul Harris, *The Foundamentals of Graphic Design,* (London: AVA, 2008) p.13
6. Ibid, p. 10
7. 'The notion that architecture is a form of mass culture has become rather popular, and as a communicative operation directed towards large groups of people and confirming certain widely subscribed to attitudes and ways of life while meeting their expectations, it could certainly be called mass communication loosely, without bothering about any detailed criteria'. Umberto Eco, 'Function and Sign: The Semiotics of Architecture', in *Rethinking Architecture*, ed. by Neil Leach (London; New York, Routledge, 1997), p. 187

Fig. 1 Saussure's dyadic conception of a sign

Following the view of Italian philosopher Umberto Eco, we can suggest initially that most architectural objects tend to function, rather than communicate. However, in examining whether function has something to do with communication, Eco concludes that while fulfilling a function the architectural object also communicates the function that needs to be fulfilled.[8] Let us take the example of a Stone Age person who, buffeted by wind and rain, enters a hole on the side of a mountain, a cave. While experiencing the interior of the cave for the first time, this person codifies the spatial configuration as a shelter from natural phenomena. From that point on, an image or a drawing of any similar spatial configuration becomes the communication of a possible function (shelter), remaining thus even when there is neither fulfillment of the function nor a wish to fulfil it. We see that both graphic design and architecture involve signs that produce meaning through forms, a process that is called semiosis (from the Greek word σημείωσις (semeiosis), a derivation of the verb σημειώ (semeio), to mark).[9] The research thus uses terminology originating in the study of signs (semiotics or semiology). Most of the terms used are explained when there is a reference to them in the study. However, one specific term, used throughout the research, requires definition at this point: the 'semiotic sign' itself.

There are two long-established definitions for the semiotic sign. The first of these is based on the theoretical work of the Swiss linguist Ferdinand de Saussure (1857-1913). According to Saussurean semiology, the basic characteristic of the sign is a bilateral relationship of an arbitrary nature between a 'signifier' as its material form (the syntactic dimension) and a 'signified' as its conceptual content (the semantic dimension) **[Fig. 1]**.[10] Thus, the signifier is a representation of an idea or thought (the signified). In typography and graphic design, a text would be the signifier and the message it intends to communicate the signified, whereas in architecture, as Eco clearly states, 'the architectural sign is the presence of a sign vehicle [signifier] whose denoted meaning [signified] is the function it makes possible'.[11] The second definition of the semiotic sign was formulated by the American philosopher Charles Sanders Peirce (1839-1914). Peirce defined the sign as a triadic interaction between a signifying 'representamen' (similar to the Saussurean signifier), a designated 'referent' (similar to the Saussurean signified) and a conceptual 'interpretant' **[Fig. 2]**. Peirce emphasizes the interpretation process and the role of an interpreting entity (the hearer, reader, viewer, etc) in making sense of any given sign. This third element of the sign (the pragmatic dimension), which is not included in Saussure's dyadic conception, is equally important, as it offers, wherever it is necessary in the study, a powerful analysis of the signification process, considering the interference of natural or cultural contexts rather than conditional environments, which are usually positioned in linguistics (the study of languages).[12]

The semiotic sign should not be confused with the terms 'public sign' or simply 'sign', which is used in the context of both typography and architecture. While the public sign acquires all the attributes of a semiotic sign, it has a very specific meaning. The public sign may be defined as 'a pub-

8. Ibid, pp. 173-179
9. 'Semiosis', in Wikipedia: The Free Encyclopedia <http://www.wikipedia.com> [accessed March 2014]

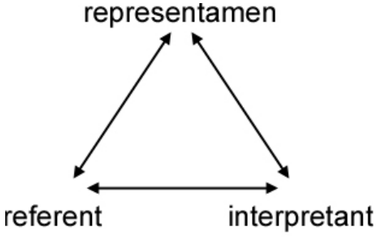


Fig. 2 Peirce's triadic conception of a sign

10. Ferdinand de Saussure, *Course in General Linguistics*, 3rd edition (London: Duckworth, 1993), pp. 65-70
11. Eco, p. 176
12. Unlike Saussure who approached the definition of signs from the study of linguistics, Peirce distinguished "sign" from "word" as only a particular kind of sign, and characterized the sign as the means to understanding. He believed that "all this universe is perfused with signs, if it is not composed exclusively of signs". Daniel Chandler, *Semiotics: The Basics* (London: Routledge, 2002), p. 32-36

lic notice giving information or instructions in a written or symbolic form'.[13] Public signs are located in streets or on the exterior or interior of buildings in order to disseminate messages of general public interest (topographical information, directions, warnings, etc.), as well as those of commercial or political interest. The design of public signs, usually called 'signage', is practised by professional designers with knowledge and skills in both typography and architecture, and follows the implementation of the building design, whenever the two need to coexist. Additionally, while the designer borrows some of the aesthetic or proportional principles used in the architectural design process, his/her final design solution does not play an active role in the structural or spatial configuration of the building.

Signage as a design practice is very similar to that which this research suggests, and its necessity, as is explained later, also justifies the further need for an intentional integration of typographic elements into architectural design. However, the latter is a slightly different cross-disciplinary practice, which is still unnamed. For this reason there has been an attempt to develop a new term to describe this intentional integration. A solution has been offered by the Dutch designer Piet Zwart, the first to develop a connection between the two terms. Zwart practised graphic and architectural design in parallel and collaborated with many supporters of the Modern Movement, without himself articulating its expression because he considered it dogmatic and restrictive. Instead, he used to simply refer to himself as a 'typotect' (typotekt in Dutch), a word that derives from the combination of the

13. Pearsall, p. 1334

words 'typographer' and 'architect', and expresses the cross-disciplinary nature of his work.[14] Although Zwart did not actually experiment with integrating typographic elements into his three-dimensional work, his term typotect envisages a crossing of the boundaries between these disciplines, and is highly relevant – even more relevant than the way he used it – to this study. Etymologically, the word typotect derives from the Greek words typos (τύπος), type, and tekton (τέκτων), builder. As such, the term describes perfectly someone who, instead of arranging letters or other symbols on a surface (i.e. writing), constructs them spatially (i.e. building).

For the main body of this study, borrowing Zwart's term, the designer responsible for the incorporation of typographic elements into an architectural design is referred to as a typotect, the related design practice as 'typotecture' (with 'typotectural' as the adjective) and the forms produced as 'typotectonics'.

b. Originality

This research is the first to focus exclusively on the relatively recent cross-disciplinary subject of typotecture in both theory and practice, meaning that it is the first in-depth collation and analysis of earlier examples of typotectural concepts and experiments, in conjunction with a subsequent demonstration of new typotectural experiments based on current design technologies.

In the field of architecture, similar studies have been conducted, the most notable being Nicolete Gray's *Lettering on*

Fig. 3 'Pharmacie' sign in *Words and Buildings* by J. Kinneir

Fig. 4 'Type X' building in *The Alphabetical City* by S. Holl

14. Kees Broos, *Piet Zwart: Typotect* (New York: Princeton Architectural Press, 2003)

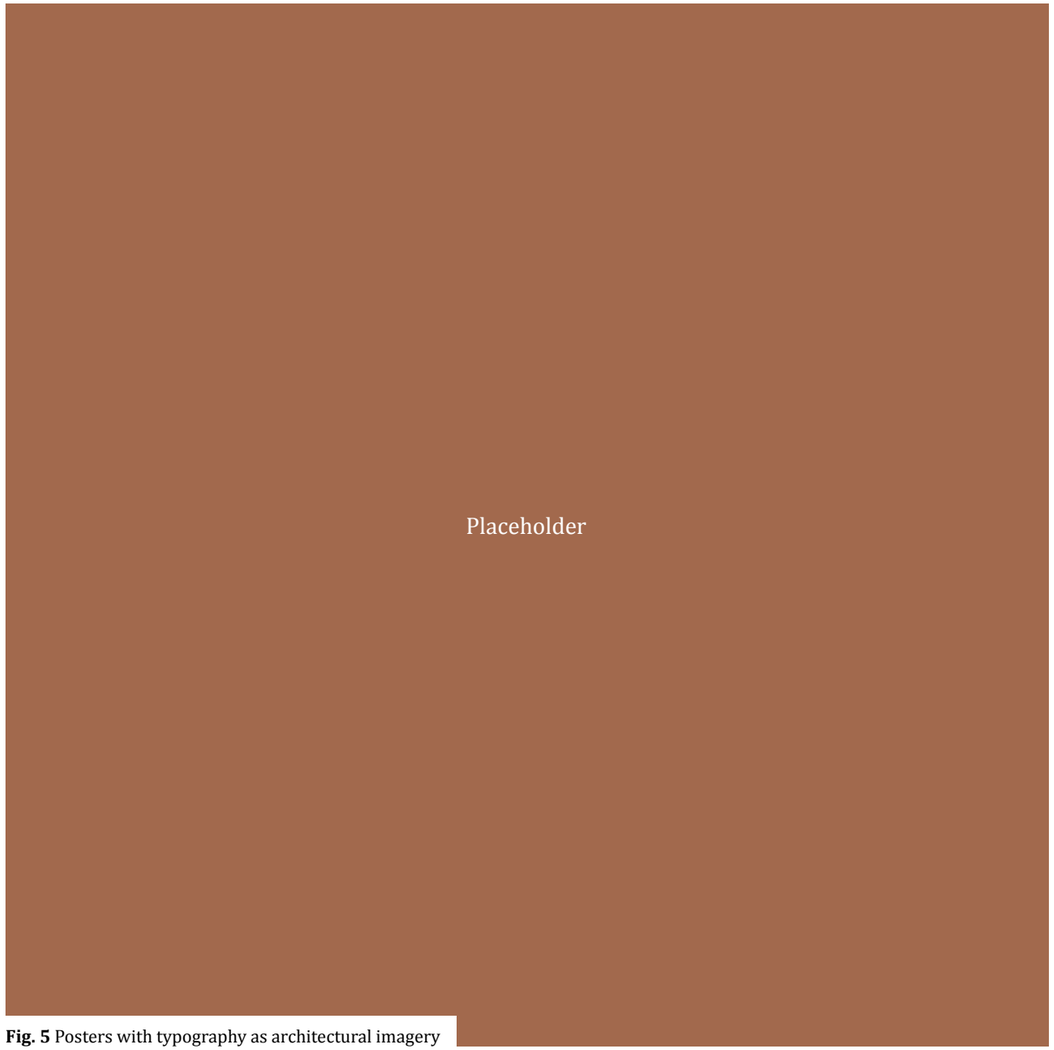


Fig. 5 Posters with typography as architectural imagery

Buildings (1960),[15] Alan Bartram's *Lettering in Architecture* (1975)[16] and Jock Kinneir's *Words and Buildings* (1980).[17] However, these studies were not restricted in scope to cases where the typographic elements play an active role during the architectural design process. Thus most of the examples investigated were products of a design practice that takes place after the construction of a building, and not the results of typotecture [**Fig. 3**]. Steven Holl's study 'The Alphabetical City' (1980)[18] focused on typologies of urban structures that he named after their resemblance to letters, which, again, differs from the subject of this research [**Fig. 4**].

In the field of typography, a project which is closer to this research in subject is Andres Janser's essay in *Typotecture: Typography with Architectural Imagery* (2002).[19] The author focuses on posters from the Museum für Gestaltung, Zürich, in which, as the title implies, the typographic information has spatial or architectural qualities. Although there is a strong link between typography and architecture in all the examples included in the work, and many of them could be easily considered as typotectural experiments, they remain two-dimensional representations of buildings or other objects without any intention of realization [**Fig. 5a-f**]. Similarly, and less relevantly, there are numerous collections of three-dimensional typography, such as *Dimensional Typography: Case Studies on the Shape of Letters in Virtual Environments* (1996),[20] *3D Typography* (2010)[21] and *The 3D Type Book* (2011).[22] The examples in these books include three-dimensional typography as moving objects in space, rendered computer-aided designed objects [**Fig. 6**] and sculpted tactile forms [**Fig. 7**], but they

Fig. 6 Polymorphous (1995) by Z. Licko

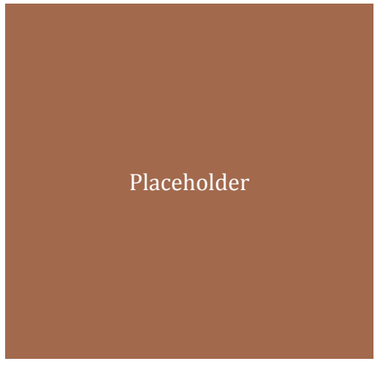


Fig. 7 Word Box (2008) by T. St. John

15. Nicolete Gray, *Lettering on Buildings* (London: The Architectural Press, 1960)
16. Alan Bartram, *Lettering in Architecture* (London: Lund Humphries, 1975)
17. Jock Kinneir, *Words and Buildings: The Art and Practice of Public Lettering* (London: The Architectural Press, 1980)
18. Steven Holl, 'The Alphabetical City', *Pamphlet Architecture*, 5 (1980), 1-72
19. Andres Janser, *Typotecture: Typography as Architectural Imagery* (Zurich: Museum für Gestaltung; Plakatsammlung; Lars Müller, 2002), pp. 35-39

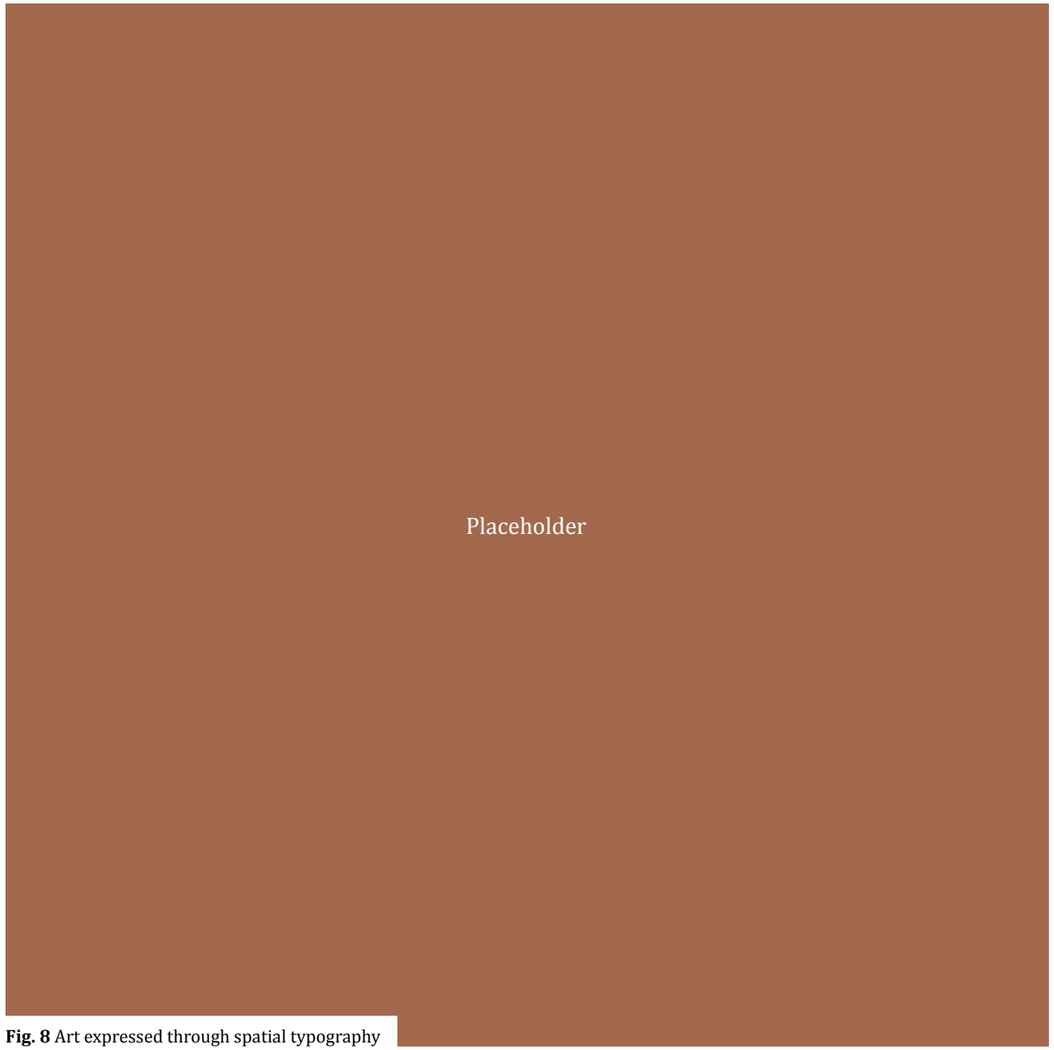


Fig. 8 Art expressed through spatial typography

lack the architectural qualities of structure and programme.

There are also numerous parallel studies of experiments in painting, sculpture and other fine art disciplines. In Simon Morley's book *Writing on the Wall: Word and Image in Modern Art* (2003),[23] a wide range of artefacts demonstrate a relationship between the built environment and the written word. There are a number of established artists, not all of them included in Morley's book, who have expressed an interest in spatial letterforms as prevalent and meaningful elements in their paintings or sculptures. These include Henri Magritte [**Fig. 8a**], Claes Oldenburg [**Fig. 8b**], Robert Indiana [**Fig. 8c**] and, more recently, Paul Noble [**Fig. 8d-f**].

All of the aforementioned studies consider the merging of typography and space, though in every case in a slightly different way from the original approach of this research. It is clear that a thorough analysis of the examples included in these studies goes beyond the purposes of this research, but some of them undoubtedly constitute sources of inspiration or interpretation for typotecture.

c. Historical Context

Before examining the notion of typotecture in detail, it is essential to first explore the history of the human interest in writing on the facades of buildings or other natural elements, the design of letters or other symbols on these surfaces using any medium. This retrospective study, which is structured chronologically, helps to establish the grounds upon which typotecture has been realized, as well as to identify the condi-

20. J. Abbott Miller, *Dimensional Typography: Case Studies on The Shape of Letters in Virtual Environments* (New York: Princeton Architectural Press, 1996)
21. Jeanette Abbink and Emily C. M. Anderson, *3D Typography* (New York; London: Mark Batty; Thames and Hudson, 2010)
22. Agathe Jacquillat and Tomi Vollauschek, *The 3D Type Book* (London: Laurence King, 2011)
23. Simon Morley, *Writing on the Wall: Word and Image in Modern Art* (London: Thames and Hudson, 2003)

Fig. 9 Petroglyphs on Newspaper Rock near Canyonlands National Park, USA

Fig. 10 Egyptian hieroglyphs inscribed on stone

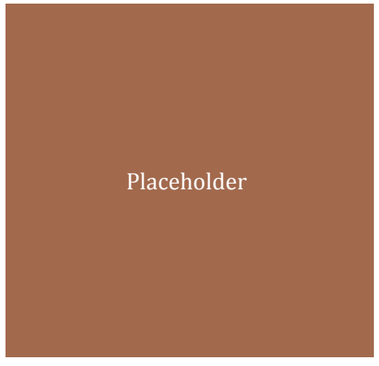


Fig. 11 Chinese calligraphy inscribed on oracle bone

tions under which it continues to be practised and by which it is affected.

The earliest evidence of signs created by humans on natural elements has been found in Africa; these signs are believed to be more than 200,000 years old. A significant number of petroglyphs [**Fig. 9**], signs engraved on rock, have been found since then up to the end of the Neolithic age at about 4,000 BC. Some of these are pictograms, elementary images or sketches that represent tangible subjects such as human or animal figures, and others are ideograms, symbols representing abstract ideas or thoughts. These two types of petroglyphs should not be considered as mere artistic expressions, but also as indicators of the emergence of visual communication, because they were created mainly for ceremonial and functional purposes. They were probably used either in ritual ceremonies to celebrate a successful hunt or to teach young people how to hunt for food.

From the start of the Bronze Age, the human need for a system to record vital information, such as numbers, names and regulations, resulted in the earliest signs, in the form of long texts carved on the surface of built or natural elements (inscriptions). However, the first writing systems, which include cuneiform, Egyptian hieroglyphs [**Fig. 10**] and Chinese calligraphy [**Fig. 11**], were very complicated, and were only accessible to members of a certain social class in terms of either designing or understanding them. The invention of the alphabet during the Iron Age was probably the most important step for the development of visual communication. An alphabet can be described as 'a series of simple visual symbols

that stand for elementary sounds. They can be connected and combined to make a visual configuration for any and every sound, syllable, and word uttered by the human mouth'.[24] The hundreds of symbols of earlier complex writing systems were now replaced by a few easy-to-remember characters: the letters. The Greek alphabet, borrowing elements from the earlier Phoenician alphabet, was the first to provide a full representation of one written symbol per sound for both vowels and consonants [**Fig. 12**]. This alphabet, in turn, was the forerunner of numerous other Western and Middle Eastern scripts that follow the same structural principle, among them Cyrillic and Latin.

In Ancient Greece, although visual communication played a secondary role in the mostly verbally-oriented culture of the Greek city-states, formal and informal inscriptions on public buildings were still necessary and significant. The development of social, political and religious institutions, and particularly the organization of cities as more democratic structures, increasingly required the inscription of texts onto hard surfaces in order for them to endure. 'Due to the fact that democratic regimes do not keep many secrets from their citizens, the decisions were recorded on stones, columns, statue pedestals and were exposed to public spaces to be shared'.[25] The greatest proliferation of inscriptions on public buildings or smaller structures was in the city-state of Athens, where the first example of direct democracy was established by Cleisthenes in 507 BC. These inscriptions presented a high level of visual harmony and beauty, which was due to their geometric structure as well as the optical unifor-

Fig. 12 Early Greek alphabet

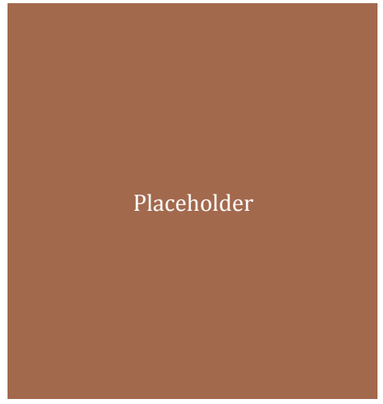


Fig. 13 Formal and informal inscriptions in the ancient city-state of Athens

24. Philip Meggs, *A History of Graphic Design*, 3rd edition (New York: Wiley, 1998), p. 22
25. Stefanos Koumanoudis and Aggelos Matthaiou, *Ancient Greek Inscriptions*, trans. V. Zali, (Athens: Greek Epigraphic Society, 1986), p. 8

Fig. 14 Monumental inscription in ancient Rome

Placeholder

Fig. 15 Islamic calligraphy on the exterior of a mosque

mity and continuity of the letters of the Greek alphabet [**Fig. 13**].

In Ancient Rome, the wide use of inscriptions was primarily to record imperial achievements. These signs were designed to be permanent and monumental. The letterforms of these Roman inscriptions included small lines (serifs) extending from the ends of the major strokes [**Fig. 14**]. According to one theory, 'the serifs were originally chisel marks made by the cleanup strokes as the stonemason finished carving a letter'.[26] Others argue that 'the inscriptions were first drawn on the stone with a flat signwriter's brush, and that the signwriter gave a short gesture before lifting the brush to sharpen the termination of the stroke'.[27] Regardless of the circumstances that initiated the serif as a design element, it is considered to be a significant typographic innovation: typefaces nowadays are mainly described as either 'serif' and 'sans-serif' (in French, 'sans' means 'without'). The Romans, apart from producing these monumental inscriptions, were the first to design and use street and traffic signs. These were usually milestones, either naming a place or giving directions to it with the exact distance. In addition, the first forms of commercial and political campaigns appeared in ancient Rome, in the form of reusable panels on the streets where people could hang messages.

From late antiquity, Christian pilgrims started engraving numerous messages on the walls or columns of ancient temples. These small engravings, which were achieved by pressing a sharp tool against the surface of marble or plaster, were usually the names of relatives or acquaintances, prayers

26. Meggs, p. 31
27. Ibid
28. In an Islamic context, aniconism involves a proscription against the creation of images of sentient living beings

to God or remembrances. Throughout the Middle Ages Christians, Jews and Muslims added sacred texts, under the guidance of divine power, to the interiors of new temples. In the Western world, the use of figures and motifs as an extension of text was very important, and implemented with unusual care and design sensibility. In the Islamic countries of the East the same activity was observed, the only difference being that Muslims, as an aniconist culture, did not include figurative iconography.[28] As such, they paid greater attention to typographic information [**Fig. 15**], developing a range of calligraphic styles from the totally geometric (Kufic) to the more cursive (Naskh).

The invention of movable type printing by Johannes Gutenberg in the mid-15th century was another important step in the development of visual communication. The new printing devices allowed people to reproduce messages easily, resulting in a rapid increase in the speed of the transmission of visual information. In the Renaissance, the written or printed poster became the main medium of communicating messages within the urban context of the Western world [**Fig. 16**]. During the Industrial Revolution, in the late 18th and early 19th centuries, posters were the main way in which new products and services were advertised [**Fig. 17**]. 'In the streets of the expanding cities at the end of the nineteenth century, posters were an expression of economic, social and cultural life, competing to attract buyers for goods and audiences for entertainments'.[29] During the course of the 19th century, the design of posters developed rapidly. They gradually became larger, and the new simplified serif and first

Placeholder

Fig. 16 Advertising poster (18th C.) by R. Clee

Placeholder

Fig. 17 Book illustration (1845) by P. Gavarni

29. Richard Hollis, *Graphic Design: A Concise History* (London: Thames and Hudson, 1994), p. 11

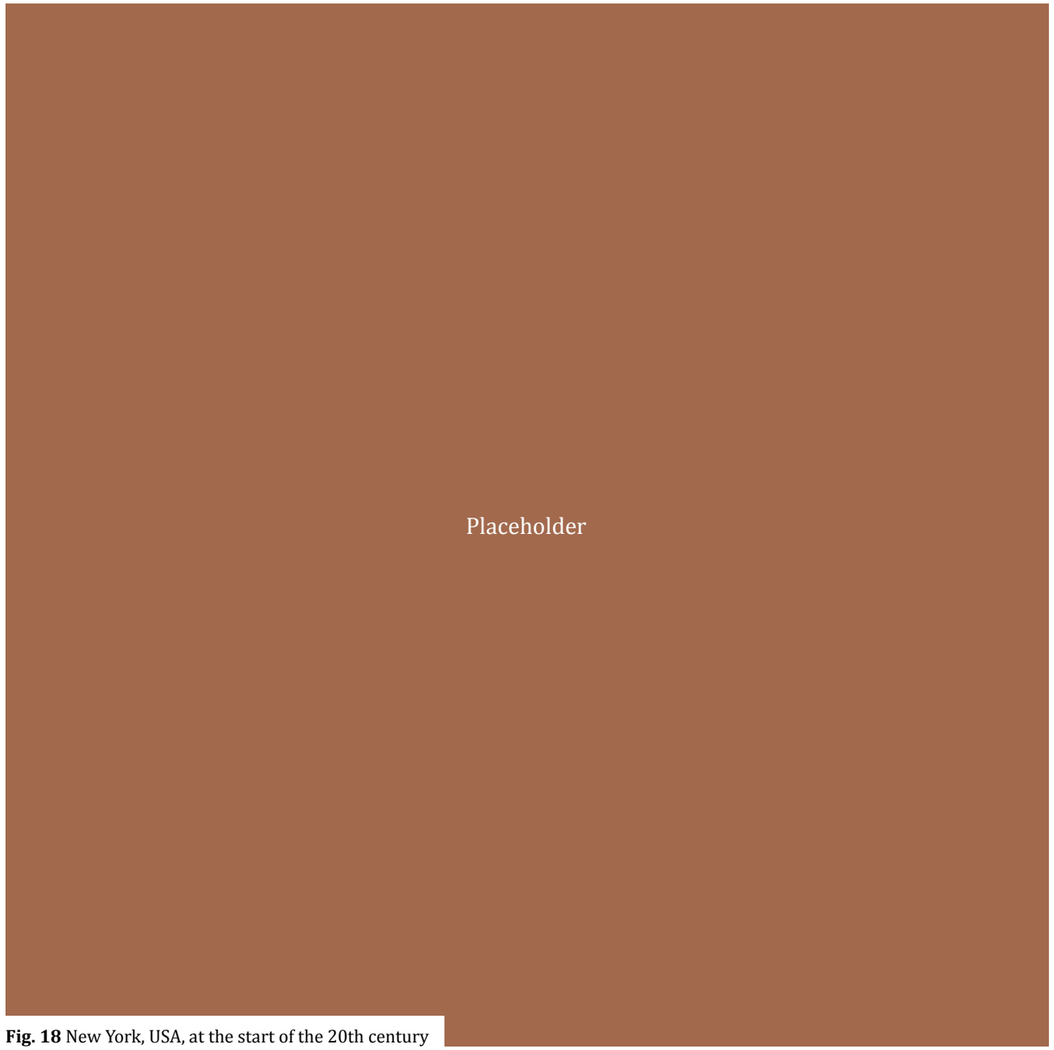


Fig. 18 New York, USA, at the start of the 20th century

sans-serif fonts were used. The invention of photography and chromolithography enriched posters with vividly-coloured iconographic information. The letters of the alphabet were no longer purely vocal symbols; they also functioned as abstract visual forms. The main purpose of these developments was to influence the recipient of the message more effectively.

Throughout the 20th century the use of the poster remained wide and influential [**Fig. 18**]. In addition, especially after the 1960s and 1970s, the expansion of the commercial strategies of developing companies, and the need to enhance their global reputation, resulted in the design of unique corporate visual identities through logotypes and other trademarks. These symbols serve to differentiate each organisation, product or service from its competitors. They 'become miniature worlds that store memories, passions and reputations in the mind of employees, customers and stockholders'.[30] These logotypes and other company trademarks, as well as accompanying all their products, packaging and graphics, began to adorn both the exteriors and interiors of their buildings [**Fig. 19**]. Finally, from the beginning of the 1970s, a new visual expression was added to the face of the built environment: modern graffiti. American youth's illegal activity of leaving their unique signature on walls, train carriages and telephone booths using marker pens or spray paint gradually became a significant global urban phenomenon [**Fig. 20**].

The landscape of the 21st century metropolis is fully typographic.

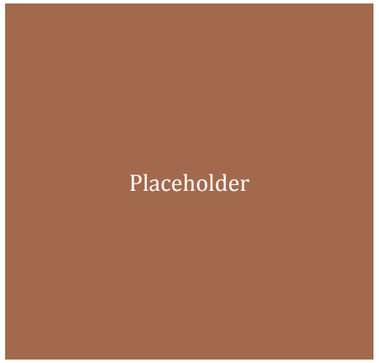


Fig. 19 Corporate visual identity on the exterior of a commercial building

Fig. 20 Modern graffiti on a wall

30. Philip Meggs, 'Introduction', in *Trademarks of the '60s and '70s*, ed. by Tyler Blik (San Francisco: Chronicle, 1998), p. 8

Fig. 21 Tokyo, Japan, at the start of the 21st century

> Every urban environment is a myriad of written messages on public display: office and shop signs, billboards and neon advertisements, traffic signs, topographic information and area maps, emergency guidance and political poster campaigns, stone inscriptions and enigmatic graffiti discourse. These messages bring together a variety of languages and scripts, the total of which constitutes the linguistic landscape of a place.[31]

Probably the richest linguistic landscape in this context can be seen in Tokyo, Japan. A collage of typographic information creates an additional layer on the facades of the buildings, a sort of huge screen. This screen is reconfigured daily, either reminding inhabitants of the aspirational requirement to socialize, politicize and consume, or transmitting their co-citizens' thoughts and feelings [**Fig. 21**].

d. Research Hypothesis

It is evident that throughout human history people of different origins and from different linguistic backgrounds have been compelled to write on the walls of their cities using various technologies and techniques. Thus both letters and other non-alphabetical symbols have played a crucial role in the formation of every urban landscape throughout history. This contribution is even more significant in the context of the most recent industrial and post-industrial societies, where communication is not limited to messages of general pub-

31. Peter Backhaus, *Linguistic Landscapes: A Comparative Study of Urban Multilingualism in Tokyo* (Clevedon: Multilingual Matters, 2007), p. 1

Fig. 22 Contemporary urban environment where various types of typographic information coexist

lic interest, such as topographical information, directions, warnings and commemorations. Public communication also involves messages of political and commercial content, such as propaganda and advertising respectively [**Fig. 22**].[32] Contemporary cities have grown into not only 'places of talk',[33] as the English linguist Michael Halliday has argued, but have also evolved as a locus of writing and reading.

There is a rationale behind this urban phenomenon. Considering the fact that the products of the architectural discipline are relatively rigid and permanent in comparison to the expression of more rapidly mutable social systems, such as language and technology, the acceleration of history renders architecture unable to change at the same pace or with the same subtlety as these fields. Consequently, the very existence of the urban system is always threatened and is thus continually out of date. Typography, as the main medium with which to communicate written language through technology, is one of the primary tools for helping to reverse this constant anachronistic state. As the French architectural historian and theoretician Françoise Choay argued, in the 1960s,

> the fundamental weapon that modern society has at its disposal against the obsolescence threatening its cities belongs to other "unrooted" symbolic systems, such as traffic codes and graphic signs, which began to invade the Western cities at certain stages of their development (first stages of this process: the numbering of houses and the naming of streets with special signs): we shall call them systems of supplementation. To some present theorists like Kevin Lynch they appear as the means of giving the city a new legibility. But the fact that the legibility of our present urban agglomerations is mostly due to the efficiency of such graphic systems (whether designed or not) must not hide the bare, inescapable fact that from now on the built-up systems in Western society have lost their autonomy.[34]

Architecture's inability to carry contemporary meaning makes it dependent on typography, the result being current urban linguistic environments, which Choay calls 'mixed'.[35]

If public signs are likely to remain vital and inevitable additional components of urban structures for the foreseeable future, the importance of these mixed urban conditions should be considered seriously. However, by merely accepting them another problem emerges. Due to the fact that these signs are supplementary, meaning that they have always constituted mere accessorial systems to otherwise pure and frequently hypo-significant urban structures,[36] a chasm between these two elements is likely to be generated. There are many cases where there is no substantial semantic and design relationship between public signs and the structures to which they are applied, resulting in visual pollution, a cacophony of words within the urban landscape [**Fig. 23a-b**]. The question that arises at this point is why contemporary architecture and, in relation to this, the city, does not have the capacity to communicate these urban signs with integrity. An understanding of the urban structure as a system of meanings may

Fig. 23 Visual pollution within the contemporary urban context due to uncontrolled signage

32. However, there is no clear-cut distinction between general interest and political and commercial public signs, because the latter two can provide information of general interest as well.
33. M. A. K. Halliday, *Language as Social Semiotic: The Social Interpretation of Language and Meaning* (London: Edward Arnold, 1978), p. 154
34. Françoise Choay, 'Urbanism and Semiology' in *Meaning in Architecture*, ed. by Charles Jencks and George Baird (London, Cresset, 1969), p. 31
35. Ibid
36. The term 'hypo-significant' is even more relevant for urban structures designed during and after the 20th century Modern movement, during which many of their earlier symbolic features were lost, and structures were limited to being merely functional machines.

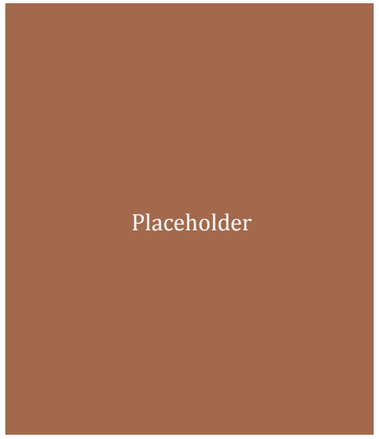


Fig. 24 Diagram of a Duck and a Decorated Shed by R. Venturi, D. Scott Brown and S. Izenour

37. Robert Venturi and Denise Scott Brown and Steven Izenour, *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form* (Cambridge, Mass.: MIT Press, 1997), p. 90
38. 'The American roadside vernacular offers ready examples of the former [Duck]: not just the "Long Island Duckling" cited by Venturi, which we may consider the flagship of the type, but cheese shops in the form of a wheel of Swiss cheese crowned by a happy mouse, rock shops in the form of a rock, eateries in the form of a hotdog with bum, or of a lobster trap – the list is endless. But the "Duck" type should not be reduced to such rather trivial and peripheral buildings. There are also architecturally much more significant examples. Ledoux's Architecture Parlante is an architecture of Ducks. The pyramids are Ducks. So are most medieval churches'. Karsten Harris, *The Ethical Function of Architecture* (Cambridge, MA: MIT Press, 1998), p. 72

lead to the construction of consciously new systems, offering new forms of meaning. In this way not only can urban visual pollution be constrained but new spatial possibilities flourish. However, this kind of experimentation should not lead to a set of gratuitous aesthetics, but generate new unities that are simultaneously functional and communicative.

Although on both a theoretical and a practical level there has been significant activity in this direction since the beginning of the century by pre-Modernist and Modernist architects, the Postmodern American architects Robert Venturi, Denise Scott Brown and Steven Izenour were the first to systematically study and promote the use of public signage as a key element of architecture. In their key 1972 book *Learning from Las Vegas*, after choosing and analysing Las Vegas as a typical Postmodern urban agglomeration, they concluded that its structures can be divided into two categories, which they call 'Ducks' and 'Decorated Sheds' [**Fig. 24**].[37] 'Ducks' are those buildings in which architectural systems of space, structure and programme are submerged and distorted by a symbolic form that represents the function of the building. 'Ducks' can refer not only to vernacular forms of architecture, eg. restaurants or cafés in the form of a duckling **[Fig. 25]** or a hotdog, but also to more architecturally substantial examples. An example of this is the concept of 'architecture parlante' (talking architecture), associated with French architects of the Revolutionary period such as Claude Nicolas Ledoux, Étienne-Louis Boullée and Jean-Jacques Lequeu.[38] *The Oxford Companion to Architecture* defines architecture parlante as 'the radical functionalism dedicated to literal expression of the purpose of a building through manipulation of its form'.[39] Ledoux's 1789 project for a 'maison de plaisir' illustrates well the concept. A building with a phallus-shaped plan is intended to accommodate sexual activity **[Fig. 26]**. A similar contemporary example of a 'Duck', or architecture parlante, is Frank Gehry's Guggenheim Museum in Bilbao, Spain, where a building dedicated to contemporary art becomes a piece of contemporary art itself. On the other hand, 'Decorated Sheds' are the fairly mundane structures, or 'boxes', where large-scale decoration, either as text (advertising Disney or Starbucks, for instance) or as clear symbols (the McDonald's golden arches or the Nike swoosh) is applied independently **[Fig. 27]**. Venturi, Scott Brown and Izenour's 'Ducks' communicate somewhat ambiguous visual information, while their 'Decorated Sheds', through straightforward signage, support products, services or experiences by generating the enthusiasm or other positive emotions that the building itself cannot arouse. Through this observation Venturi and Scott Brown acknowledged the importance of public signs in architecture and attempted to use them in an open, diverse and inclusive way in order to add new meanings to architectural forms. However, possibly because of unsophisticated technology, the boundaries between typography and architecture were still visible in their work, in a similar way to the Decorated Shed approach, as we will see later.

Today, the use of new design technologies and techniques related to typography and architecture has brought the two disciplines so close that their boundaries are now blurred. The two-dimensional typographic layer which for-

Fig. 25 Building in the shape of a duck used as a shop to sell ducks and duck eggs, Long Island, US

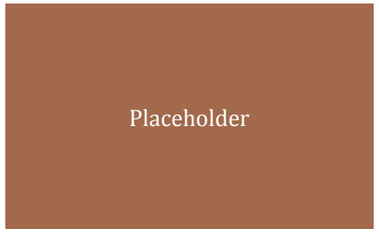


Fig. 26 Maison de Plaisir by Claude Nicolas Ledoux

Fig. 27 A typical McDonald's 'Decorated Shed' building

39. Patrick Goode, *The Oxford Companion to Architecture, Volume. 1* (Oxford: Oxford University Press, 2009), p. 34

merly covered the building can now transcend its thinness and become the building itself. In the light of this development we can propose the concept of typotecture, a new form of architecture that truly integrates the graphic with the architectural field, an architectural practice that, in its role as a medium of communication, incorporates typography into its substance as a signifier, and into its expression as a signified.[40] New hybrid forms can be produced that are a result of neither purely typographic nor purely architectural design; they are neither Ducks nor Decorated Sheds. Typotecture, in a way, supersedes this traditional categorization of 'talking' buildings. It suggests a new approach to architecture, according to which the semantics, the messages on a building that communicate with the visitor or passer-by, which are usually part of the decoration of a box-like structure, become part of the syntax of the building, a system of rules for the generation of a new type of tectonics: typotectonics.

It can be argued that in conventional architecture the basic units of written language (letters) correspond to bricks or other construction materials, and the significant units of language (words and phrases) to the windows, doors, slabs etc.[41] By practising typotecture, however, we are facing a real transformation of linguistic units into architectural elements or the reverse, and new questions arise, such as: is it appropriate to blur the boundaries between writing and constructing? If the reply is yes, what does it finally mean to build a text or to textualise a building?

40. Following the Saussurean theory of the dual nature of a semiotic sign.
41. However, according to Jencks, the architectural term is more elastic and polymorphous than the written and spoken term. For instance, a column could correspond with a letter, a word, a phrase or a whole novel, according to the way it is used. See Charles Jencks, 'The Architectural Sign' in *Signs, Symbols and Architecture*, ed. by Geoffrey Broadbent and Richard Bunt and Charles Jencks (New York: Wiley, 1980), pp. 95-96

e. Aims and Objectives

The general aim of this research is to prove that typotecture is capable of enhancing the value of architecture as a medium of communication, and contribute to contemporary meaningful and effective urban environments. Ideally, this will provide a stimulus to other researchers, organizations and commercial institutions in the fields of typography and, more importantly, architecture in order to prompt future investigation into a subject of which a thorough knowledge has not yet been acquired.

More specifically, the aims of this new hybrid typology is to enhance urban environments where highly communicative architecture is required, such as commercial, educational and religious contexts. In order to achieve this, the intention is for it to become a bridge between the principles of Modernism and Postmodernism. It does not adhere to the pure compositional formalism of Modernism, i.e. avoiding any reference to meaning, and at the same time it does not conform to the meaning of Postmodernism as 'a mere play of surfaces and signifiers'.[42] On the contrary, typotecture seeks the use of the semiotic sign (both signifiers and signifieds) in an open-ended process for the generation of new tectonics. Similarly to Reiser and Umemoto's approach to tectonics, it intends to generate an architecture of multiplicities which 'operates as much with the visible conditions of architecture as the invisible processes of, for example, structure and program'.[43] In Reiser and Umemoto's approach this is achieved through 'a properly material contest of material logics';[44] however, ty-

42. Reiser + Umemoto, *Atlas of Novel Tectonics* (New York: Princeton Architectural Press, 2006), p. 27
43. Ibid
44. Ibid

potecture seeks to implement this via an effective interplay between the properties of various letterforms or other symbols. The generated forms (signifiers) can be either permanent or ephemeral, giving the building the capacity to reveal the past and at the same time adapt to new urban conditions. Buildings can have the inner capacity to communicate meanings which are either fixed or mutable (signifieds), whether explicitly or implicitly, prosaically or lyrically, depending on the function they serve, such as identification, navigation or promotion, among others.

In order for these aims to be met there are specific objectives that this research attempts to achieve. It intends firstly to identify typotecture as an existing yet ill-defined cross-disciplinary design practice. By recording different theoretical and practical approaches to the subject it seeks to establish the ground for an independent design practice in its own right, as opposed to a spontaneous design experimentation, as typotecture has been regarded up to the time of writing. This process creates a theoretical backdrop for the next objective, the investigation of the potential for typotecture's further development, securing, in a way, its autonomous status.

f. Methodology

For the accomplishment of all the objectives, the research follows a specific methodology [**Fig. 28**]. As a whole, it is exploratory in nature because it is used to tackle a new subject about which little is known, so the research argument cannot be specifically formulated at the outset. In order to reach con-

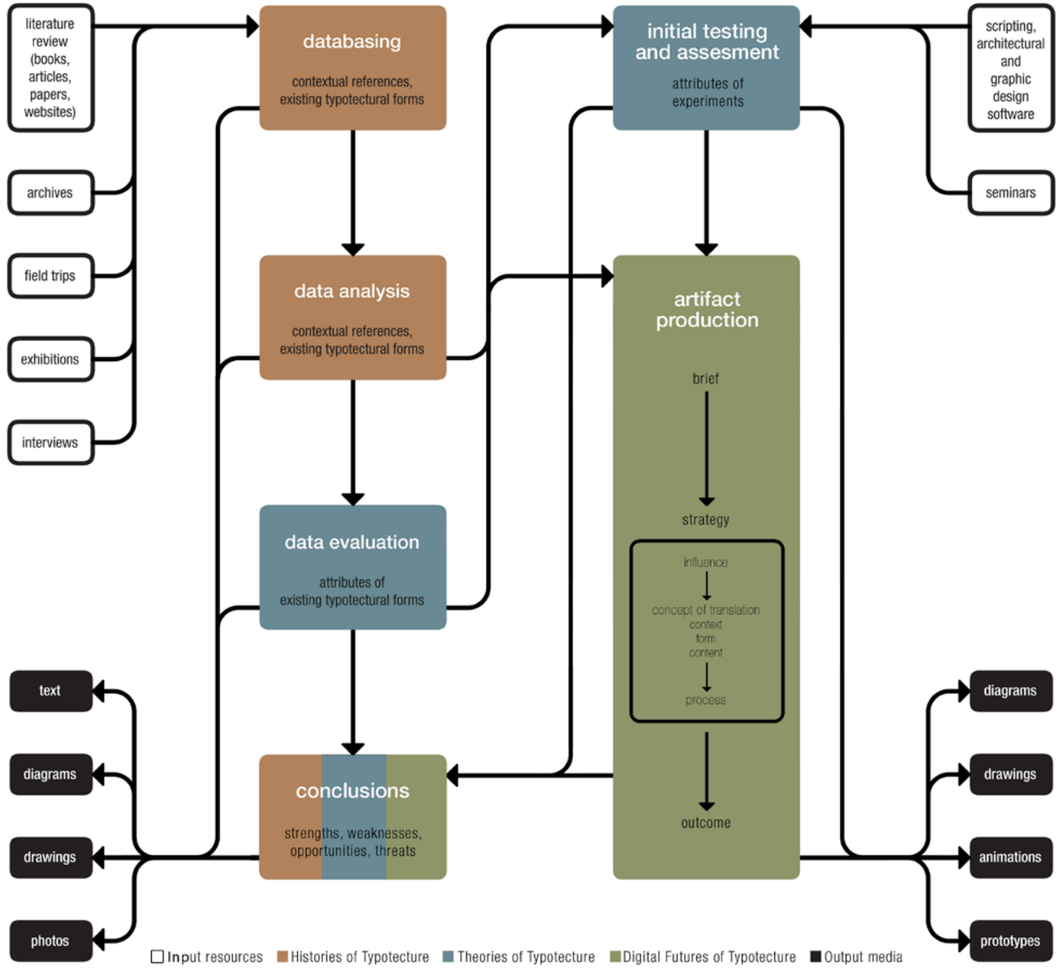


Fig. 28 Diagram of research methodology

crete conclusions, the study is divided into three main parts, which are developed in separate chapters, ‘Histories of Typotecture’, ‘Theories of Typotecture’ and ‘Digital Futures of Typotecture’. In all chapters there is a qualitative approach, meaning that the research is carried out to look at, describe, evaluate and understand beliefs, concepts and experiments, without considering quantitative features such as numbers and statistics. The three chapters were developed simultaneously, the second always reflecting the first, and the third considering both. In order for this to be achieved, during the first phases of the research an emphasis was given to the historical and theoretical aspects, which was gradually transferred to the practical approaches towards the final stages.

‘Histories of Typotecture’ focuses on a systematic, chronologically structured collection, and then offers an analysis of existing examples of typotecture and the conceptual background to these, ranging from primitive pre-modern achievements to more coherent contemporary manifestations. Although there is an intention to include the full range of representative typotectural examples, some omissions are inevitable. As the study approaches the present, the increasing proliferation of typotectural experimentation means that the overview becomes more selective, seeking to draw attention to innovative approaches, in particular to the impact of new design tools and trends and new construction techniques. Throughout all these examples, which are presented within the socio-cultural and ideological framework of each historic period of design, it observes meticulously the step-by-step evolution of the relationship between typography and architecture from the viewpoint of typotecture, and understands the mechanisms that drive it. All these procedures intend to establish a theoretical framework that is in turn capable of driving the practical aspects of the research. These are developed in the next two main chapters, ‘Theories of Typotecture’ and ‘Digital Futures of Typotecture’. Additionally, in conjunction with these two chapters they intend to contribute to the formulation of conclusions relating to the role of this kind of hybrid design.

‘Histories of Typotecture’ involves a literature review, which includes books, journal articles, conference papers and websites. It also documents a considerable number of visits to relevant libraries, exhibitions and archives, as well as field trips to existing typotectural projects, along with interviews with users of these environments. The conclusion to this section consists of text in conjunction with diagrams, drawings, illustrations and photographs.

‘Theories of Typotecture’ starts with an evaluation of the historical precedents analysed in the first chapter. This evaluation is achieved by classifying these examples according to different attributes, and is summarized in the diagram ‘Taxonomy of Precedents’ **[Fig. 89]**. Considering the above findings, and through a concise study of the diachronic relationship between the architectural and typographic design process, as well as the effect of current digital tools and techniques, the research continues with a series of sketch experimentations of typography in space without limiting the procedure by parameters such as site and programme. In order for the experiments to become a dynamic part of a theoretical

approach to typotecture, they are then categorised according to the design decisions and operations used for their implemention, as well as their potential to be translated into architectural elements. This is outlined in the diagram 'Taxonomy of Experiments' **[Fig. 115]**.

'Digital Futures of Typotecture' focuses on the proposal for three new typotectural projects which experiment with current digital design tools. The first stage of this work involves the selection of architectural briefs relating to specific contexts and programmes where the concept of typotecture is applicable (the commercial, educational and religious fields). For each of the three briefs the design strategy that has been followed is described extensively. The strategy starts by analysing the historical examples that influenced the design process. It continues with an account of the way these precedents have been manipulated, extracted and extended, by considering at the same time the proposed site (context), the outputs of the initial experimentation that have been considered for the generation of the proposal's architecture (form) and the messages that these forms need to communicate (content). Each proposal reaches its final form through an iterative evolutionary design process. Lastly, the outcome is described and assessed.

'Theories of Typotecture' and 'Digital Futures of Typotecture', apart from literature review, also involve testing and assessing outputs using cutting-edge digital technologies. These include programming software such as Microsoft Visual Basic, McNeel Rhino Script and Autodesk Maya Mel, software for advanced digital modelling such as McNeel Rhinoceros, Autodesk Maya and XenoDream, as well as software for communicating and presenting research, such as Adobe Photoshop, Adobe Illustrator, Adobe InDesign, Adobe Premier Pro and Adobe Flash. In addition, rapid prototyping techniques such as laser-cutting and 3D printing constitute an important aspect of the assessment of the experimental outputs. The final conclusion of this section consists of text in conjunction with diagrams, 2D and 3D drawings, animations and physical models.

Finally, as mentioned above, all the practical experimentation, in conjunction with the knowledge gained from the historical and theoretical analyses, leads to the formulation of conclusions relating to the overall role of typotecture. This is supported through a Strengths - Weaknesses - Opportunities - Threats (SWOT) Analysis.

2

Histories of Typotecture

As has already been analysed in the previous chapter, typographic elements have constituted a vital part of every urban agglomeration. However, up to the end of the 19th century they would not normally have been considered as potentially active components during the architectural design process. Any required signage would be generally implemented as an additional feature straight after the construction of the building (or even much later) by a specialist craftsman, a letter carver or letter cutter, who would either follow the principles of the architect or his own aesthetics. In many cases the signs were easily identifiable as parts which were additional to the structure. In other cases the craftsman would integrate the sign into the building to such an extent that it appeared part of an architectural unity. This latter design activity, which is usually known as architectural lettering, was used to glorify the patron, the state or the builder, to commemorate an event, for religious exhortations, or to name the building.[45] There are a considerable number of examples of architectural lettering surviving from the ancient Roman period, the Renaissance and Baroque periods in Italy and France and the early modern eras in England (16th to 19th century) [**Fig. 29**].

Fig. 29 Castle Ashby, England, built in 1574; architectural lettering dating from 1624

a. Earliest References

Architectural lettering can definitely be seen as the precursor of typotecture, as it reveals an interest in the integra-

45. Bartram, p. 60

tion of letters into buildings, although it still remained a separate design practice. It may be true that during these periods some architects had originally designed the lettering as part of their buildings. However, due to the fact that pre-construction drawings of buildings from these periods are not always available, it is difficult to estimate the frequency of this phenomenon. Some examples that surely constitute forms of typotecture are the cruciform plans of churches and cases, adventurous for those times, where architects proposed building plans and sections based on the Latin alphabet. The French architect Thomas Gobert (1625-1690) compiled a manuscript entitled 'Traité d'Architecture dedié à Louis XIV' (Architectural Treaty dedicated to Louis XIV) in around 1670, which included a series of building plans that spelled, in stylized letters, the words 'LOVIS LE GRAND' (Louis the Great) [**Fig. 30a**].[46] Similarly, the German architect Johann David Steingruber (1702-1787) designed the Architectonisches Alphabeth (Architectural Alphabet, 1773) in which each letter of the alphabet was transformed into the plan of a palatial building [**Fig. 30b**],[47] and the French architect Anton Glonner based his plan for a Jesuit church and accompanying theological college (1774) on the monogram for the holy name of Jesus, 'IHS' [**Fig. 30c**].[48] Last, but probably more interesting, is the case of the Italian artist and designer Antonio Basoli (1774–1848) who designed the Alfabeto Pittorico (Pictorial Alphabet, 1839), a study of the way in which each letter of the alphabet can be translated into structural or non-structural elements (columns, staircases, etc.) in imaginary built environments [**Fig. 30d**].[49]

46. Ulrich Conrads and Hans-Günther Sperlich, *The Architecture of Fantasy: Utopian Building and Planning in Modern Times* (New York: Frederick A. Praeger, 1962), p. 87
47. Joseph Kiermeier-Debre and Frinz Franz Vogel, *Johann David Steingruber: Architectonisches Alphabeth 1773* (Ravensburg: Ravensburger Buchverlag, 1997)
48. Conrads and Sperlich, p. 87
49. Joseph Kiermeier-Debre and Frinz Franz Vogel, *Antonio Basoli: Alfabeto Pittorico 1839* (Ravensburg: Ravensburger Buchverlag, 1997)

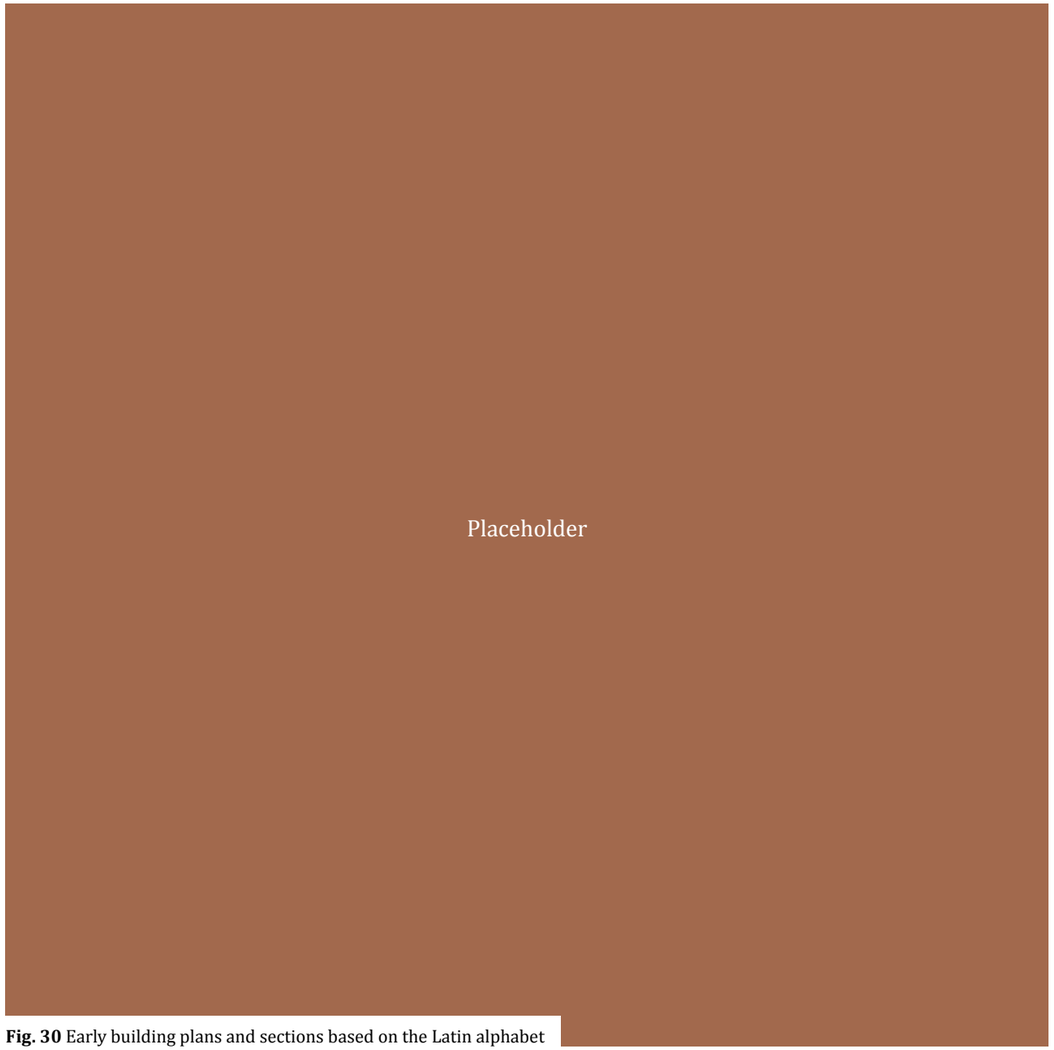


Fig. 30 Early building plans and sections based on the Latin alphabet

Placeholder

Fig. 31 Paris Métro Entrance by H. Guimard

Placeholder

Fig. 32 Die Zeit Telegraph Office by O. Wagner

50. Gray, p. 87

Apart from these early exceptional experiments, an appropriate starting point for a systematic approach to typotecture would seem to be the beginning of the 20th century. This constituted a transitional period, due to the proliferation of technological innovations achieved by the Industrial Revolution and the subsequent need for new design philosophies and practices that were capable of effectively addressing the changing social, economic and cultural conditions. The new architecture had to respond to the demand for new types of structures and, more importantly, to propose easily distinguishable buildings in increasingly competitive urban environments. Letterforms, as highly communicative and diverse elements, became one of the most promising tools for architects to enable them to contribute towards this. Instead of assigning lettering to traditional specialists, many architects showed an unusual interest in integrating typographic elements in their proposed structures with the aid of the new materials and techniques. As the English writer Nicolete Gray mentions in her book *Lettering on Buildings* (1960),

> the relation between lettering and building is new today [referring to the 20th century]. In the past lettering has been an extra, something deliberately chosen and added either by the architect or the client, because he wanted it for some reason of his own. Today for many types it is a necessity... Sometimes and for some sorts of work, for instance the shop fronts, it is more considered, and is planned from the start as one of the conditions given.[50]

Well-known early examples of this kind are the first Paris Métro entrances [**Fig. 31a-b**] (the first of these was constructed in 1900) by the French Art Nouveau architect Hector Guimard (1867-1942). As the architectural historian Kenneth Frampton notes, Guimard 'treated the typography and illumination of these structures as the sinuous continuation of their form'.[51] Similar approaches are evident in the Die Zeit Telegraph Office (1902) by the Austrian Secession architect Otto Wagner (1841-1918) [**Fig. 32**], the Glasgow School of Art (1909) by the Scottish Arts and Crafts architect Charles Rennie Mackintosh (1868-1928) [**Fig. 33**] and Parc Güell (1914) by the Modernista Catalan architect Antoni Gaudí (1852-1926) [**Fig. 34**].

The German designer and architect Peter Behrens (1868-1940) was a key figure in the development of a thorough theoretical and practical ground for typotecture. Behrens' work was strongly focused on the relationship between design and the social, cultural and technological conditions of the post-industrial era. He believed that, apart from architecture, typography constituted one of the most significant confirmations of the intellectual development of human beings. The various typographic experiments he carried out were a deliberate attempt to express the spirit of his times. In the course of this attempt, Behrens developed a new theory which applied not only to graphic design but also to other forms of design. Design was regarded as an engine that propels society forward. In order for this engine to function effectively, the designer ought, firstly, to concentrate on new technologies, construction techniques and functionality and,

Fig. 33 Glasgow School of Art by C. R. Mackintosh

Placeholder

Fig. 34 Parc Güell by A. Gaudí

51. Kenneth Frampton, *Modern Architecture: A Critical History,* 3rd edition (London: Thames and Hudson, 1992), p. 70

Placeholder

Fig. 35 Design methodology of P. Behrens

Placeholder

Fig. 36 Architectural and graphic design applications by P. Behrens

Placeholder

Fig. 37 AEG Turbinenfabrik by P. Behrens

secondly, to establish a formal language of harmony and proportion through the study of design history, a fruitful activity for the successful unification of the separate components towards the production of a whole. Based on this theoretical background, Behrens developed new design approaches using geometrical compositions. The basic structure of these was a system of grids composed of squares contoured outside circles. Numerous combinations could be created by subdividing and copying this structure [**Fig. 35**]. The resulting geometrical forms could be used for the definition of sizes, proportions and subdivisions in the design of a wide range of products, from graphic to architectural applications [**Fig. 36**].

This design innovation proved to be crucial for the further development of typotecture because it constituted a fundamental system for visual organization. Following this system, and working as a general director of Allgemeine Elektricitäts Gesellschaft (AEG), one of the world's largest electrical manufacturing corporations, Behrens produced, amongst others, a significant typotectural form, the AEG Turbinenfabrik (AEG Turbine Factory) (1909) in Berlin [**Fig. 37a-b**]. The building was designed according to the design logic adopted for AEG's products. The form follows its function and is constructed using materials which were innovative at that time, such as metal, concrete and glass. On the upper part of the main façade Behrens inscribed the name of the building, 'Turbinenfabrik', using the AEG corporate typeface, and above that, with reference to the polyhedral roof, the hexagonal logotype of the corporation. The uniqueness of the form of the building, in conjunction with the harmoniously inscribed corporate visual identity on the main façade, creates a kind of monumentality which, according to Behrens, prompts positive conclusions about the quality and performance of the corporation.[52]

b. The Modern Movement

During the inter-war period, the main impetus in the architectural, industrial and graphic design fields was the questioning of the boundaries between arts, crafts, technology and society for the production of universal functional forms with exceptional aesthetics. This new ideological and aesthetic development, which became known as the Modern Movement, was applied to the field of typotecture by many designers in different ways, depending mainly on their geographical and cultural context. For this reason each country's typotectural activity during this period is studied separately.

i. Italian Futurism

Futurism was founded when the Italian poet Filippo Marinetti (1876-1944) published his 'Manifesto del Futurismo' (Futurist Manifesto) in the French newspaper *Le Figaro* on 20 February 1909.[53] Marinetti described Futurism as a revolutionary movement that advocated the engagement of all the arts with the new realities of the technological and industrial society, avoiding, or even eliminating, earlier institutions and artefacts, and he urged artists to embrace the concepts of speed, machinery and the contemporary way of life.

52. Meggs, pp. 245-250
53. Filippo Marinetti, 'The Founding and Manifesto of Futurism 1909', in *Futurist Manifestos*, ed. by Umbro Apollonio (London: Thames and Hudson, 1973), p. 19-24

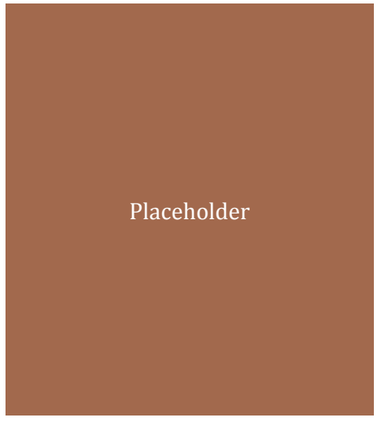


Fig. 38 La Città Nuova (1914) by A. Sant'Elia

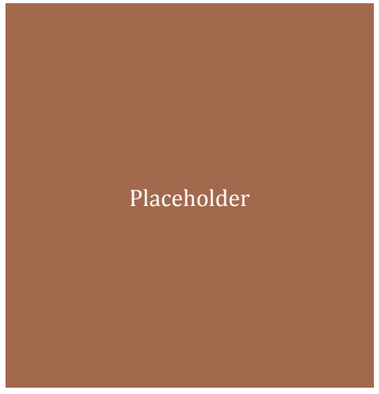


Fig. 39 Tipografia (1915) by A. Soffici

The followers of Futurism produced dynamic works that elicited powerful emotional responses. Futurist architects designed structures based on the new technologies and requirements of a modern lifestyle. They used diagonal and curved lines because they believed that these contours are stronger than horizontal and vertical straight lines [**Fig. 38**]. In graphic design, Futurist designers, believing that the printed word as a form of recorded speech loses expression, attempted to overcome this limitation. They focused particularly on the size, thickness, colour and position of each word in a composition [**Fig. 39**]. Marinetti described this approach as 'words-in-freedom'.

Amongst the designers who applied the philosophy of Futurism to architectural and graphic design was the Italian artist Fortunato Depero (1892-1960). Depero was very interested in all forms of advertising art. As he asserted in several of his manuscripts,

> the art of the future will be definitely advertising. I learnt this heretical teaching from museums, from the great works of the past. Every art of the past centuries has been marked with the glorification of war and religion. […] The art of today needs to enhance our glories, our men, our products. Speed, practicality, electricity. Light. Advertising art is free from any academic refrain, is pleasantly bold, exhilarating, hygienic and optimistic. It is an art of difficult synthesis where the artist deals with authentic creativity and modernity at all costs. It is inevitably necessary, it is inevitably bold, it is inevitably paid, it is inevitably lived.[54]

Depero developed his theories about advertising art into a significant number of graphic projects, working with Italian companies such as Campari, Strega, S. Pellegrino, Venus, Società Nazionale Gazometri [**Fig. 40a**] and V&D [**Fig. 40b**]. In most of these projects the letters have a three-dimensional nature and become part of the composition, integrating with human figures and objects. Using certain dynamic effects, Depero managed to make forms and writing seemingly extrude towards the outside of the flat graphic application.

This experimentation with three-dimensionality in graphic design was the forerunner of one of Depero's most original inventions, 'advertising architecture'. His interest in ephemeral architectural design for promotional purposes found its theoretical basis in the pages of his 1927 book *Depero Futurista*.[55] In this seminal book he included the 'Manifesto agli industriali' (Manifesto for the Industrialists), where he clearly stated,

> dear industrialists, we are going to create not only the sacred image of your products, the Poster, but also the temple, the Pavilion, to house them in dignity. Palaces and pavilions where the style of the steel, the style of the crystal, the style of the machine will triumph. Pavilions of light, of crystal, of metals, of fabrics, inspired by liqueurs, pens, pumps, fruits, flowers, bottles, etc.[56]

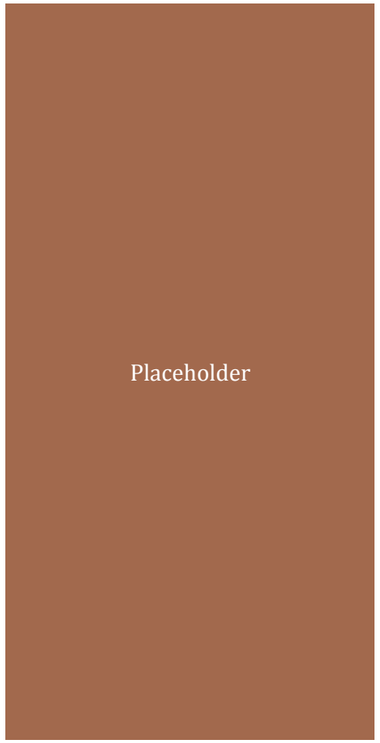


Fig. 40 Advertising posters by F. Depero

54. Rovereto, Museum of Modern and Contemporary Art of Trento and Rovereto, Archivio del '900, MS Depero 4209, trans. M. Mollaki, ff. 1-4
55. This is also known as 'il libro imbullonato' (the bolted book) because its pages are held together by two aluminium bolts. Fortunato Depero, *Depero Futurista* (Milan: Dinamo-Azari, 1927)
56. Ibid, trans. M. Mollaki, p. 85

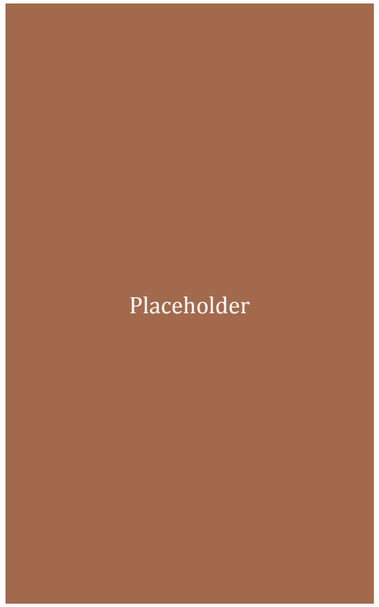


Fig. 41 Kiosk for Venezia Tridentina in Milan (1922) by F. Depero

These structures were not designed with the intention of enduring, but rather to provide the public with immediate and strong visual stimulation. This concept found its first application, though it was never built, in the kiosk for the Italian region of Venezia Tridentina at the 2nd Fiera Internazionale di Milano (2nd Milan International Fair) in 1922, where Depero proposed a colorful octagonal-based synthesis that resembled characteristic elements of that region such as mountains (the Dolomites), churches and hotels [**Fig. 41**].

However, the most sophisticated aspect of Depero's challenging concept of 'advertising architecture' was his 'typographic architecture'. He worked particularly with the idea of incorporating typography into architecture for promotional purposes. In his 1947 book *So I Think, So I Paint: Ideologies of an Italian Self-made Artist* he defines typographic architecture as

> that special architectural form suggested by typographic types which has been used with great efficacy in advertising artistic constructions, in pavilions, kiosks and advertising plastics of national and international exhibitions of decorative art and in industrial and commercial exhibitions.[57]

The key example of Depero's work in which this concept may be seen was the Padiglione del Libro (Book Pavilion) designed for the publishers Bestetti, Tumminelli and Treves at the 3rd Mostra Internazionale delle Arti Decorative (International Decorative Arts Fair) in Monza (1927) [**Fig. 42**].

57. Fortunato Depero, *So I Think, so I Paint: Ideologies of an Italian Self-made Painter* (Milan; New York, Mutilati e Invalidi, 1947), p. 18

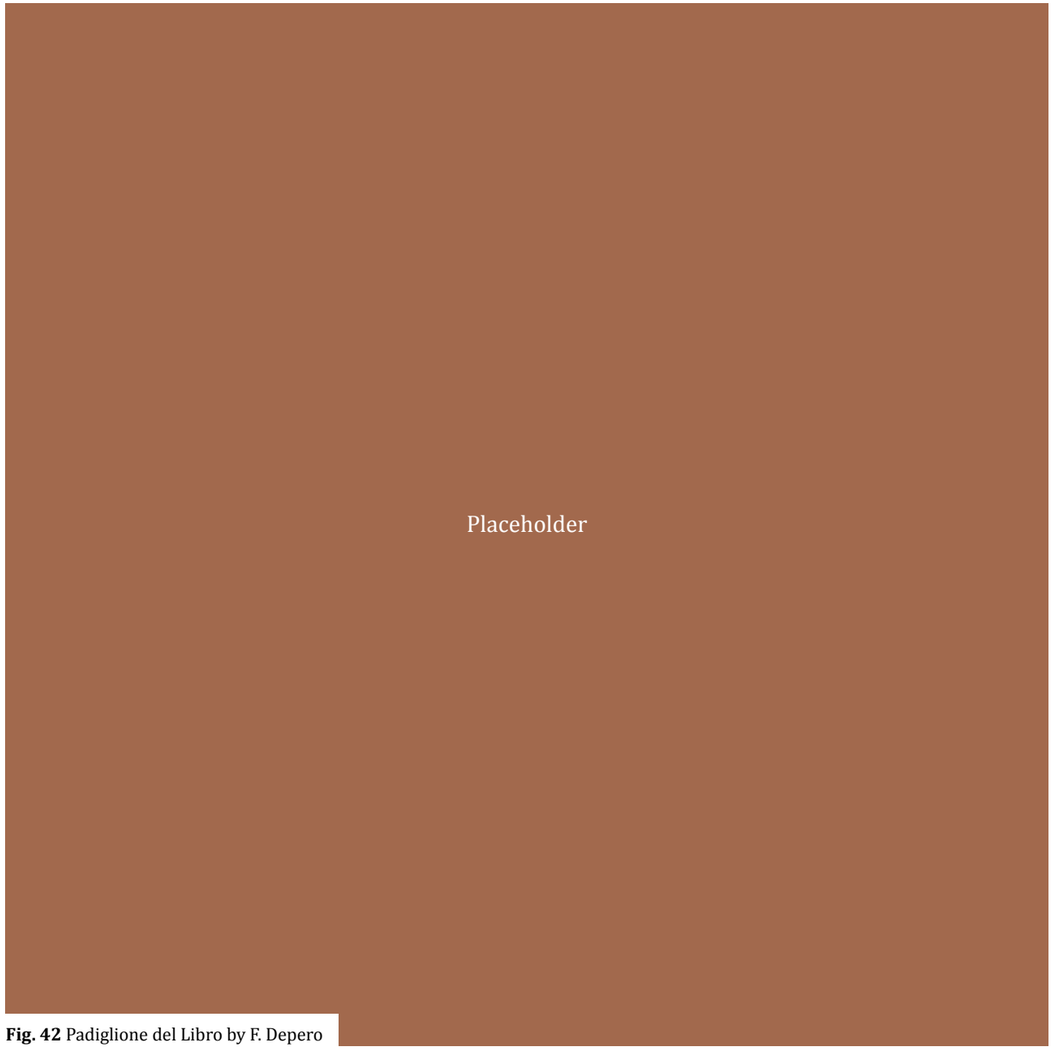


Fig. 42 Padiglione del Libro by F. Depero

Fig. 43 Exterior view of Padiglione del Libro

Fig. 44 Interior view of Padiglione del Libro

Fig. 45 Study for the Casa del Arte by F. Depero

After a formal invitation by the artistic council of the Fair on 26 July 1926, Depero, instead of presenting a space simply constructed and decorated according to the principles of Greco-Roman, Baroque or Art Nouveau palaces that were frequently followed for the pavilions of that period, chose to use three-dimensional letters taken from the name of the publishers as the load-bearing and non-structural parts of the pavilion. After several unsuccessful studies, where only a few solid letters of same scale appeared, mainly on the facades of the pavilion, he submitted a drawing showing a more complex and playful composition similar to Marinetti's concept of 'words-in-freedom'. The facades and roof of the final nine-metre high pavilion, constructed in less than a month [**Fig. 43**], were mainly composed of gigantic solid letters, some of which were unconventionally located. Smaller-scale solid typographic elements formed the names of the publishers vertically on the facades of the pavilion, and were also positioned on the ground a small distance from the main body of the building. These latter elements resembled columns from older civilizations (totems) that had a symbolic significance and a monumental character. The doors, windows, ceiling, and even the furniture were inspired by letters [**Fig. 44**]. For instance, the chairs in the interior were extruded versions of the letters 'E' and 'R'. Depero's main intention was to promote the publishers' books using the symbolism of the typographic process, the production of 'an architectonic unit of great effect and of a high advertising value'[58] by producing an innovative, entertaining 'verbal' ambience.

In the years that followed, Depero attempted to repeat the production of similar advertising projects using the concept of typographic architecture, but not for the publishing sector. These consisted of a number of studies for the construction of his own workshop, Casa del Arte (House of Art), in 1927 [**Fig. 45**], as well as the unexecuted Padiglione Komarek (Komarek Pavilion) in 1932 [**Fig. 46**] and the Padiglione Campari (Campari Pavilion) in 1933 [**Fig. 47**]. However, the designs for these were not as spectacular as the Padiglione del Libro. Letters functioned only as elements of three-dimensional signage without offering further spatial solutions.

ii. Russian Constructivism

In Russia, the arts faced radical changes from 1917, when the revolution against the Tsarist regime started and new political and social conditions emerged. The new reality presented an opportunity for Russian artists to re-examine their social and cultural role. Influenced by other European movements, though mainly by Futurism, they introduced innovations whose main objectives were initially to react against the rules of the Tsarist regime and to express the new conditions of Communism. In the following years, two main artistic movements emerged: Suprematism, which denied the social role of artists, believing that the sole role of art is to comprehend the world by inventing forms in space and time, and Constructivism, which was devoted to serving the new Communist society through architecture, industrial design, visual communications and the applied arts.

A common aesthetic feature of the work of both the Rus-

58. Rovereto, Museum of Modern and Contemporary Art of Trento and Rovereto, Archivio del '900, MS Depero ES9P 035BIS, f. 1

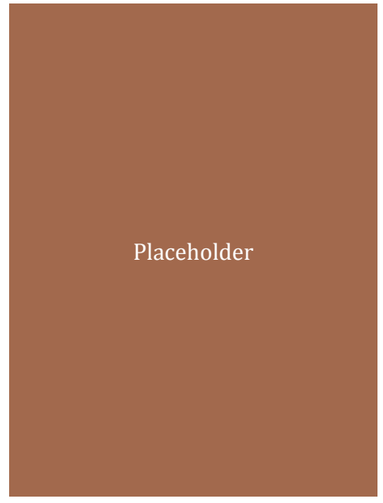


Fig. 46 Padiglione Komarek by F. Depero

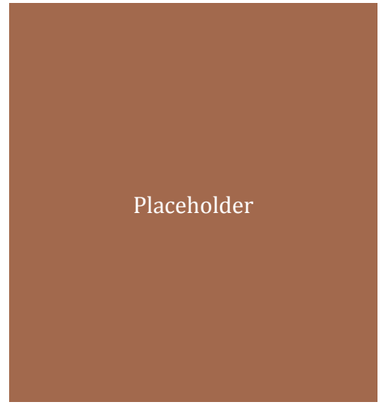


Fig. 47 Padiglione Campari by F. Depero

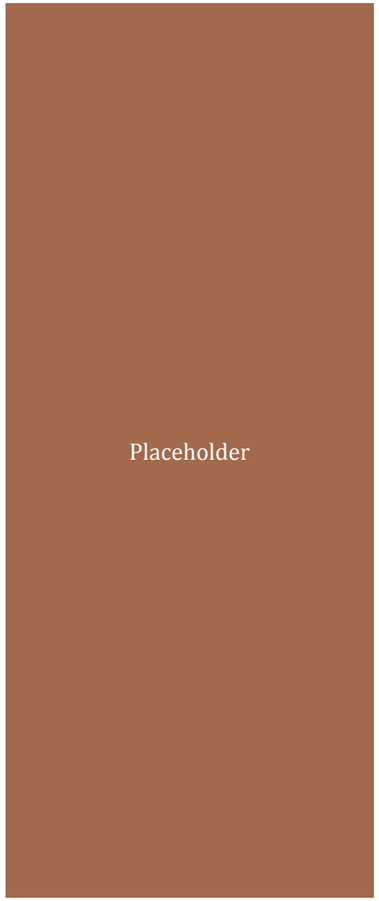


Fig. 48 Leningrad Pravda Tower by the Vesnin brothers

sian avant-garde movements in every design discipline was asymmetrical abstraction. Nevertheless, the Constructivists used letters and images in their design vocabulary because they believed that, in their semi-literate society, these components could play a substantial role in awakening the human spirit. The main medium for this was posters, and the principal aim was to cover every available surface with them, using stirring slogans and allegorical imagery. Artists were also responsible for the design of banners for street parades. Notable here is their construction of special lightweight folding structures for banners with revolutionary slogans.

Many Russian architects, influenced by the aforementioned propagandist design activities and captured by a desire to promote the new Russian Communist culture and developing trade, designed significant examples of typotecture, mainly kiosks for propaganda and pavilions for local and international exhibitions, most of which remained unrealized because of their structural complexity. The common characteristic of these undertakings was the inclusion of everyday elements such as clocks, antennae, searchlights, funnels, horns and, in particular, signs and slogans in their architectural vocabulary, in unexpected juxtapositions that puzzled spectators. These components were, until then, familiar in contexts such as radio stations or billboards. However,

> when placed into a new context, they suddenly acquired unexpected prominence and unprecedented importance. As a result, the information overload dealing with architectonics was often further enlivened by the visual wit of a transplanted but highly politicized collage sensibility.[59]

These architectural collages were thus not merely a new architectural tool, offering innovative visual stimulation, but also a strong political and ideological weapon. El Lissitzky (1890-1941), one of the most important figures of the Russian avant-garde, trying to describe this interdisciplinary design activity, stated in his book *Russia: An Architecture for World Revolution* (1930) that in one of these projects, the Leningrad Pravda Tower (1924) [**Fig. 48**], by Aleksandr, Leonid and Viktor Vesnin,

> all accessories, which on a typical city street are usually tacked onto the building, such as signs, advertising, clocks, loudspeakers and even the elevators inside, have been incorporated as integral elements of the design and combined into a unified whole. This is the aesthetic of constructivism.[60]

The very first examples of such undertakings, all of them unrealized, were generated by Alexander Rodchenko (1891-1956). In his 1919 series of kiosks entitled 'Down with Imperialism', 'The Future - Our Only Goal', 'All Power to the Soviets', and his House of Soviet Deputies (1920) [**Fig. 49**], the central element of the design is a structure similar to a mast. This structure becomes the base of common architectural elements, such as walls, balconies, braces and openings, as well as recognizable elements such as clocks and quotations

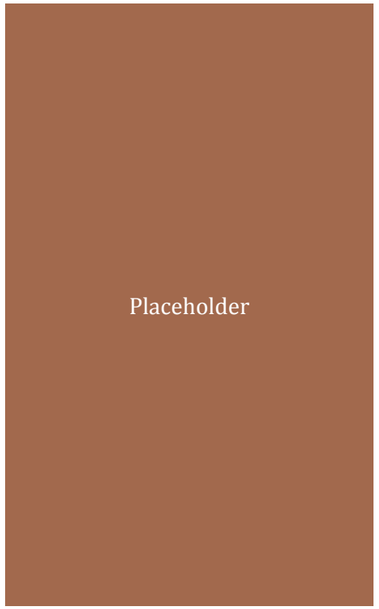


Fig. 49 Propaganda Kiosks and House of Soviet Deputies by A. Rodchenko

59. Kestutis Paul Zygas, *Form Follows Form: Source Imagery of Constructivist Architecture 1917-1925* (Ann Arbor, MI: UMI Research Press, 1981), p. 72
60. El Lissitzky, *Russia: An Architecture for World Revolution* (London: Lund Humphries, 1970), p. 32

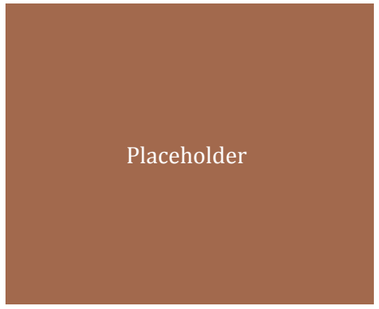


Fig. 50 Radio-Orator Stands by G. Klucis

Fig. 51 Propaganda Kiosks by G. Klucis

from ideological texts summarized into slogans. All these elements, placed in a non-geometric relationship, constitute an ambiguous expressionistic architectural collage that aims to sharpen a political message. Similar approaches were made by Gustav Klucis (1895-1938) in his Radio-Orator Stands series (1922) [**Fig. 50**] as well as in the 1922 designs for kiosks entitled 'Agit-prop for Communism of the Proletariat of the World' and 'Down with Art, Long Live Agitational Propaganda' [**Fig. 51**]. Klucis, however, uses a cage assembled from discrete linear elements as the canvas of his architectural collage, and there is a more obvious geometric relationship between the architectural and linguistic elements.

Other characteristic examples of typotectural design are three of the entries for a pavilion to represent the USSR, for the first time after its foundation, at the 1925 Exposition Internationale des Arts Décoratifs et Industriels Modernes (International Exposition of Modern Decorative and Industrial Arts) in Paris [3.24]. In the proposal by Ilia Golosov (1883-1945) a modernistic approach is evident, without any driving conceptual core [**Fig. 52a**]. The vivid colours, however, in conjunction with letters and symbols, give a playful style which, according to Golosov, is absolutely relevant to a pavilion. In contrast, the proposal by Ivan Fomin (1872-1936) demonstrates elements of early rationalism with heavy symbolism, a trend that developed fully in Russia in the 1930s [**Fig. 52b**]. A human figure and letters in this proposal serve a symbolic purpose. The three-dimensional letters in the center of the composition, in particular, create a gate to the pavilion and, with the formation of the letters 'USSR', they symbol-

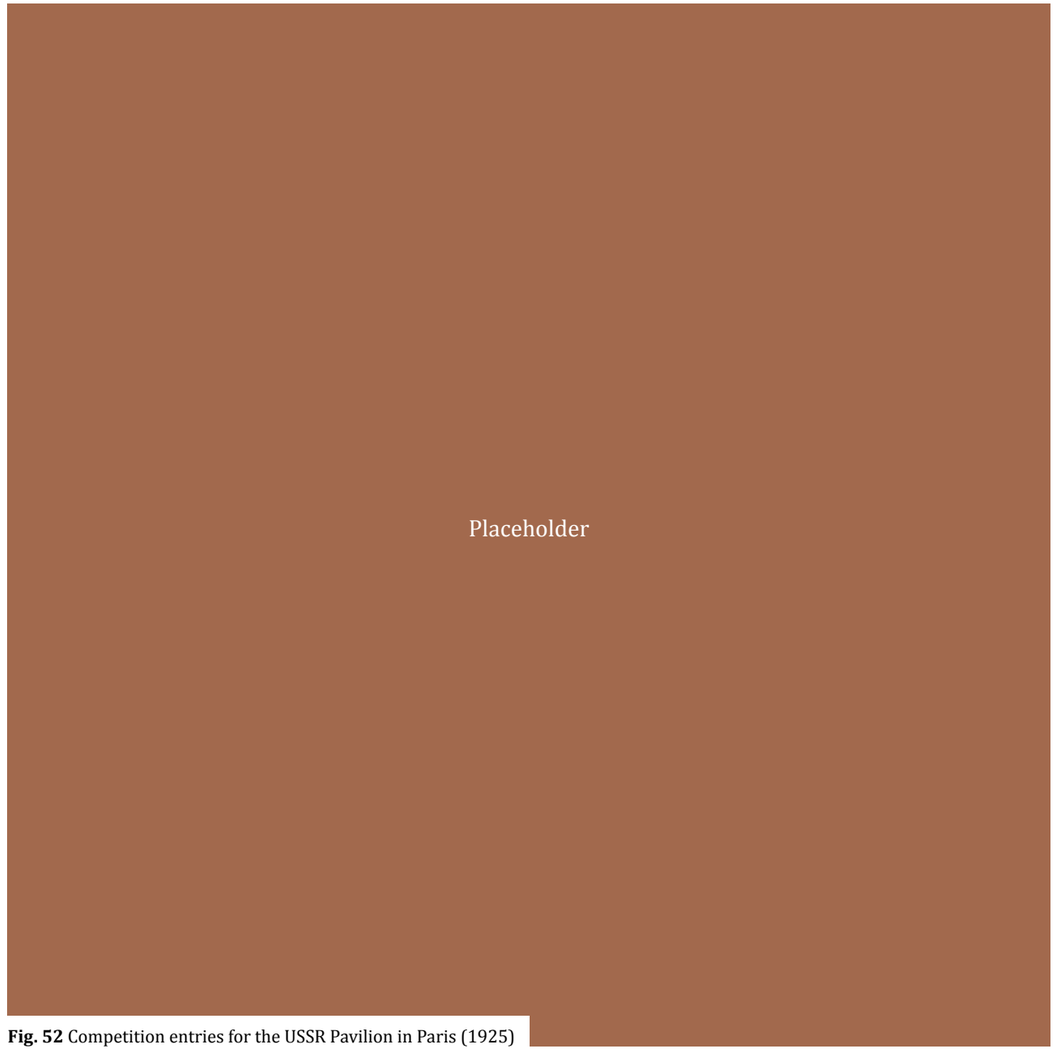


Fig. 52 Competition entries for the USSR Pavilion in Paris (1925)

ize the new open-minded image of the USSR. As Fomin states, 'the central figure is a worker, calling others, and on all sides the architectural forms gravitate toward him, as a symbol of how all nationalities are aspiring to unite in response to the call of the worker and have come together into the USSR'.[61] In the proposal by Konstantin Melnikov (1890-1976), which was finally approved and constructed, the impact of Russian propaganda posters is evident. From the first sketches [**Fig. 52c**] to the final version [**Fig. 52d**] of the building the simple geometrical compositions are accompanied by words of various sizes and emblems of vigorous colours that run diagonally and in curves on intricate metal structures. However, their demanding and costly construction forced the generation of a simplified version with letters that act as signage, rather than constituting an integral part of the total design [**Fig. 52e**].

Another Russian Constructivist architect who experimented with typographic elements was Iakov Chernikhov (1889-1951). Influenced by the Italian Futurists, and acknowledging the paramount role of the machine in the 20th century, Chernikhov generated exceptional architectural fantasies based on mechanical forms [**Fig. 53**]. These were included in his book *Construction of Architectural and Machine Forms* (1931)[62] and were not intended to be built. For each example he did not merely copy the aesthetics of machines, as he believed that imitations of machinery or nature 'are in their spirit outsiders to architecture, since they are based on a false understanding of the chief stimulus for construction as such'.[63] Instead, he attempted to interpret the logic within which individual parts are rationally assembled into a fully

61. Ivan Fomin, quoted in *Architectural Drawings of the Russian Avant-Garde*, ed. by Catherine Cooke (New York: The Museum of Modern Art, 1990), pp. 25-26
62. Iakov Chernikhov, *Construction of Architectural and Machine Forms* (Leningrad: Leningrad Society of Architects, 1931)
63. Iakov Chernikhov, quoted in 'Construction of Architectural and Machine Forms 1925-1931', in Iakov Chernikhov International Foundation <http://www.icif.ru> [accessed 28 October 2009]

Placeholder

Fig. 53 Architectural and Machine Forms by I. Chernikhov

functional machine. The composition of many of his projects included letters, numbers and words. These were either two-dimensional, inscribed on surfaces, or three-dimensional, suspended on solid forms. Although some of these elements have propagandist purposes, most of them, especially numbers, communicate ambiguous information. They probably symbolize the need to specify each part of a machine so that it can be successfully assembled.

From the examples above, it is evident that the Russian Constructivist architects were fascinated by the interdisciplinary activity of typotecture. However, they only applied it to the exteriors of their projects, without considering the spaces within. The elevations and perspectives of their typotectural proposals were detailed, well-executed and very informative. The plans and sections, on the other hand, were either underdeveloped or diagrammatic, with no attempt to extend the play with language to the internal spatial arrangements, and as such to design a building that acts as a propagandist weapon on every level.

iii. Dutch De Stijl

The De Stijl movement, or Neoplasticism, was established in the Netherlands in 1917, when its principles were set out in the first issue of the journal *De Stijl* by its founder Theo Van Doesburg (1883-1931). Its followers proposed a new balance between the individual and the universal and the liberation of art not only from the limitation that tradition imposed, but also from all individual, casual and secondary incidentals. They looked for universal laws of balance and harmony for the arts that would constitute an archetype for a new social organization.

The principles of the movement were expressed in practice with an austere abstract clarity, the basis of which was formed by horizontal and vertical lines, squares and rectangular shapes, and the artistic palette was reduced to primary colors (red, yellow, blue) and neutrals (black, grey, white).[64] These rules were applied simultaneously to graphic design and three-dimensional applications such as products, furniture and buildings [**Fig. 54a-b**]. The typefaces were constructed in a similar way. They were sans-serif, with minimal or no diagonal and curved lines, because it was believed that these reduced the legibility of the letterforms.

The only project that constituted an intersection between architecture and typography in the De Stijl movement was the Café De Unie (1924) in Rotterdam [**Fig. 55**], designed by Jacobus Johannes Pieter Oud (1980-1963). Oud was commissioned to design a café-restaurant with a lifespan of 10 years on an empty plot between two buildings on Caland Square, the continuation of the large and busy Coolsingel Boulevard.[65] These buildings were the Erasmiaans Gymnasium (Erasmian Grammar School) and Maria Catharina Van Doorn's Liefdegesticht van Weldadigheid (Charity almshouses), both imposing structures. Thus the design of the main facade of this café-restaurant was of extreme significance. As Oud wrote in the Dutch architectural journal *Bouwkundig Weekblad* in 1925,

Placeholder

Fig. 54 Architectural, furniture, and graphic design applications of De Stijl

64. There are a few cases, however, where diagonal lines, as well as secondary colours such as green, orange and violet, were also used.
65. The building, however, remained in this position until 1940, 15 years after its construction, when it was damaged by bombing. It was reconstructed in 1985 on Mauritsweg 43, about 500 metres from its initial position.

> The point was to determine the correct nature of the mutual relation of the front views. To make the café a connective element between the adjacent buildings was impermissible. For one, this would have disparaged the latter to the level of the first, which would have justly provoked protests. On the contrary, the requirement was to keep the café separate and, thus, try to show respect for the value of either building by means of logical contrast.[66]

Therefore, during the design process he decided to 'let the café be a cafe, an eating and drinking house that does everything it can to attract attention using all means appropriate and suitable, such as neon signs, legends, form, colour, etc.'[67] It was designed in such a way that the effect on passers-by was made as clear as possible on all sides, but only on and from its own premises, without interfering with the views of the adjacent buildings [**Fig. 56**]. As a result,

> there was a deviation from the normal procedure to such extent that these means were not called in later on, as it is customary with all its disorderly and characterless consequences. Instead, they were made to form a whole from the very beginning, which one could find beautiful or ugly, but of which one would not be able to deny the integrity of intention.[68]

The outcome was an asymmetrical facade composed of horizontal and vertical surfaces in primary and neutral col-

66. J. J. Pieter Oud, 'Een Café', *Bouwkundig Weekblad*, 31 (1925), trans. J. van Doremalen, 397-400
67. Ibid, p. 400
68. Ibid, pp. 398-399

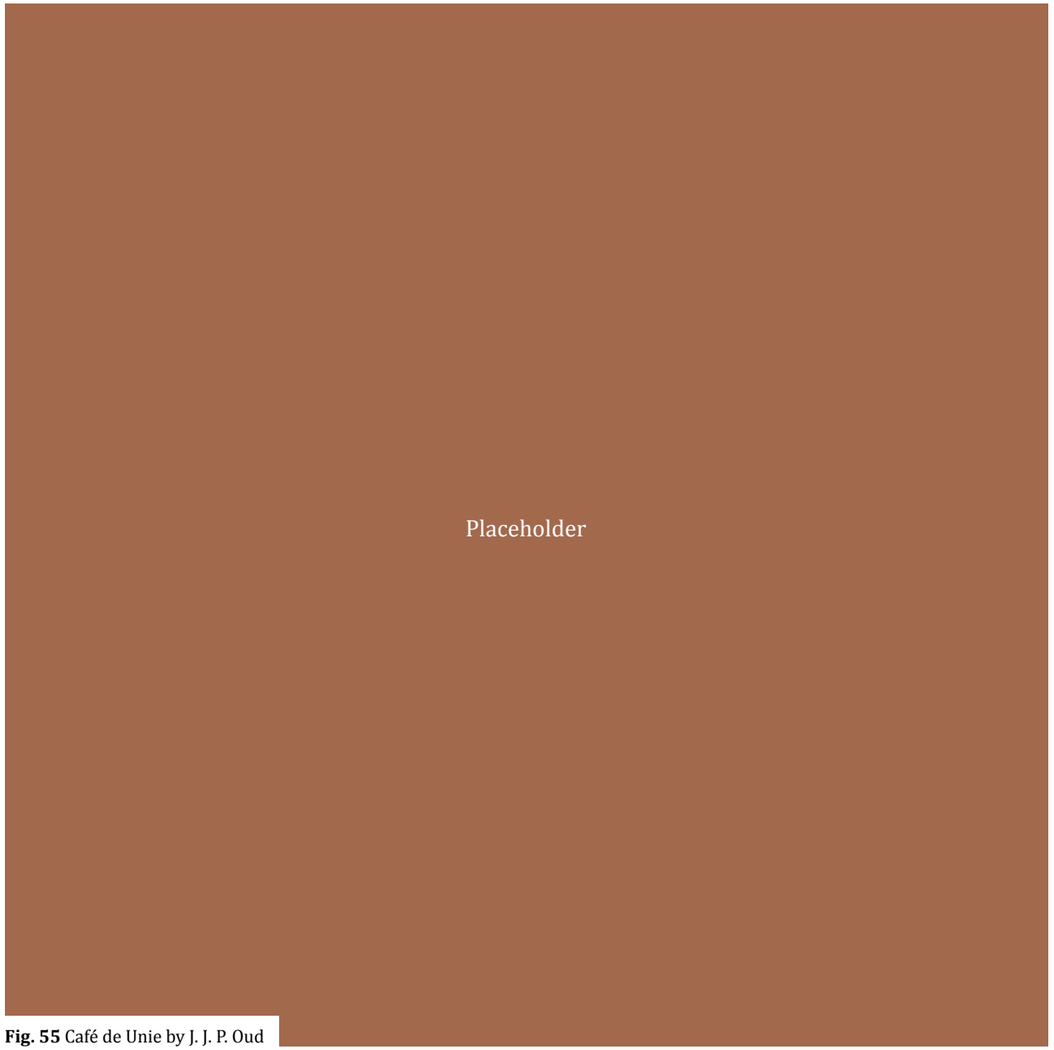


Fig. 55 Café de Unie by J. J. P. Oud

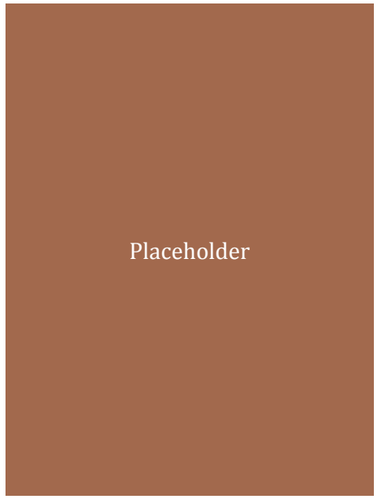


Fig. 56 Exterior view of Café de Unie

ors, a typical De Stijl composition. Some of these surfaces were used as openings, and on one the name and the function of the building were inscribed in sans-serif letters. Two additional vertical elements with neon signs were integrated into the design. However, the graphics were applied only to the front and inside areas of these, and not to the outward-facing ones, indicating, in conjunction with two recesses at the junction of the facades, his consideration and respect towards the adjacent buildings. As intended, the overall design process for the facade had a cross-disciplinary nature. This is evident in Oud's description of the colours of the composition, where he refers to both architectural and graphic elements as being of equal importance.

> The right upper corner is vermilion red, the window frame on the left is canary yellow; grey are both the recesses at the joining of the fronts and the half a cylinder above one of the neon signs; yellow is the upper cylinder-body covering. Ultramarine blue with black end piers is the lower front, grey the front door; yellow, grey and white with black corners are the small windows above the lower front. The letters of the neon signs are white on a blue background, the closed sides of these devices yellow; the billboard has grey letters on a black background, a yellow light box and yellow side legends; the brickwork is white.[69]

Although Oud paid great attention to the design of the facade, he did not show the same enthusiasm towards the design of the interiors, which remained unsophisticated open-plan spaces, with the additional necessary secondary functions at the back, distributed on two floors and connected with a single staircase.

Oud's intention was the production of a facade of an otherwise conventional architectural structure that integrates architectural elements such as solids and voids with typographic features such as letters and lines, resolving issues about context and function and, at the same time, the identification and promotion of a commercial building. As he noted about his design approach,

> the structure was built from the inside to the outside. [...] The rest is logic from the outside to the inside: advertisement! 'From the outside to the inside', it might be good to stress this again, as the inside to outside of a functional building sometimes means going from the outside to the inside as well.[70]

Nevertheless, although the use of the characteristic colours of De Stijl created an illusion of depth in the overall composition, Oud's intention to work 'from the outside to the inside as well' was not fully accomplished, as the final facade remains a more or less flat graphic application, lacking in the three-dimensional architectural qualities that gradually penetrate the interior and merge with it. It becomes an odd boundary between the outside and the inside, and not a prelude to a similarly constructed inner world.

69. Ibid, p. 399

70. Ibid, p. 400

iv. German Bauhaus

In Germany, the Bauhaus School, from 1919 in Weimar but particularly after 1925 in Dessau, developed Behrens' theory of design, influenced significantly by Russian Constructivism and Dutch Neoplasticism. Removing the boundaries between art and technology, the school attempted to establish relationships between art and life through a set of functional design practices, which was considered to be a way forward for social change and cultural revival.

Following the fundamental principle that form follows function, tutors and students of the school produced a significant number of architectural, industrial and graphic design outputs. In the discipline of graphics, they focused heavily on letter design, as these were regarded as the primary means of communication [**Fig. 57**]. The affirmative clarity of the message was of prime importance for the Bauhaus designers. For this reason, they designed exclusively sans-serif typefaces constructed from simple, clear and rational shapes. The size, thickness and colour of each letter or word, in conjunction with symbols (points, lines, shapes) and photographs, created an optical hierarchy that was capable of directing the eye of the viewer and indicating the important elements of each application [**Fig. 58**].

The Austrian designer Herbert Bayer (1900-1985), a Bauhaus tutor who had been a student at the school, experimented notably with the blending of typography and architecture. Although during his Bauhaus period Bayer focused more on designing typefaces and graphic applications at both a small and an environmental scale, he also experimented with architectural design for kiosks and exhibition stands, attempting to incorporate typographic elements for identificational, promotional, orientational and directional purposes. As he stated,

> I began to feel that design in two dimensions only is confining and limited, and I could no longer accept the boundaries between painting, sculpture, design and architecture. Exhibition design was discovered to be a new medium of communication, which goes far beyond the use of graphics in two dimensions. It embraces all possible visual media, all dimensions of space and includes oral-aural techniques. It is a new dimension in the art of conveying complex information and has developed through an exciting history with many new discoveries. Fascination with optical effects for display purposes, to make exhibits exciting and eye-catching, anticipated some of the optical art of today.[71]

Following this concept, in 1924 Bayer made a series of drawings for projects, mostly kiosks and pavilions for trade fairs, that were never realized. His drawings show simple structures with prefabricated rectangular planes or, in some cases, cylindrical and spherical surfaces, using primary colours and black, grey and white, revealing the influence of De Stijl. Verbal or written elements were incorporated into his compositions, including modern technical equipment, such

Fig. 57 Universal typeface, narrow and bold (1925) by H. Bayer

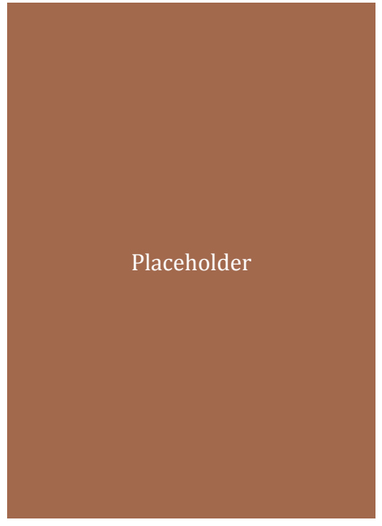


Fig. 58 Bauhaus magazine cover (1928) by H. Bayer

71. Herbert Bayer, *Herbert Bayer: Painter, Designer, Architect* (New York: Rheinhold, 1967), p. 11

as loudspeakers, film projectors, flashing light bulbs and vents, along with posters, newspapers and signs. This design activity resembles, and was probably influenced by, the Russian Constructivists' frequent experimentation with slogans and horns in their architectural vocabulary. It can be seen clearly in two of Bayer's 1924 designs, for structures advertising electrical products at exhibitions. In one, a freestanding display tower promotes the products with flashing light bulbs which form words in various colours [**Fig. 59a**]. In the other, a revolving sphere covered with a time-based lighting system consisting of electric bulbs forms letters and words that continually reconfigure [**Fig. 59b**]. In the design for a pavilion advertising and selling Regina toothpaste [**Fig. 59c**], the basic structural unit is a box whose exterior coloured surfaces become a base for a loudspeaker proclaiming the product and its uses, a roof vent emitting smoke in the form of letters, with flashing light bulbs and a film projection, engaging both verbal and written language to capture the attention of the passer-by and promote the product. Bayer's design for a kiosk advertising and selling brand P cigarettes [**Fig. 59d**] features a small rectangular element on the yellow front wall, on which the word 'CIGARETTEN' appears in green letters. Next to this there is an enormous 'P', illuminated with light bulbs, undoubtedly a reference to the brand name, against a red vertical plane. The composition is completed by a giant three-dimensional cigarette emitting smoke. Bayer also designed an open air streetcar station with a news-stand [**Fig. 60**]; the composition consists of intersecting planes of red, white and blue passing each other on top of a rectangular

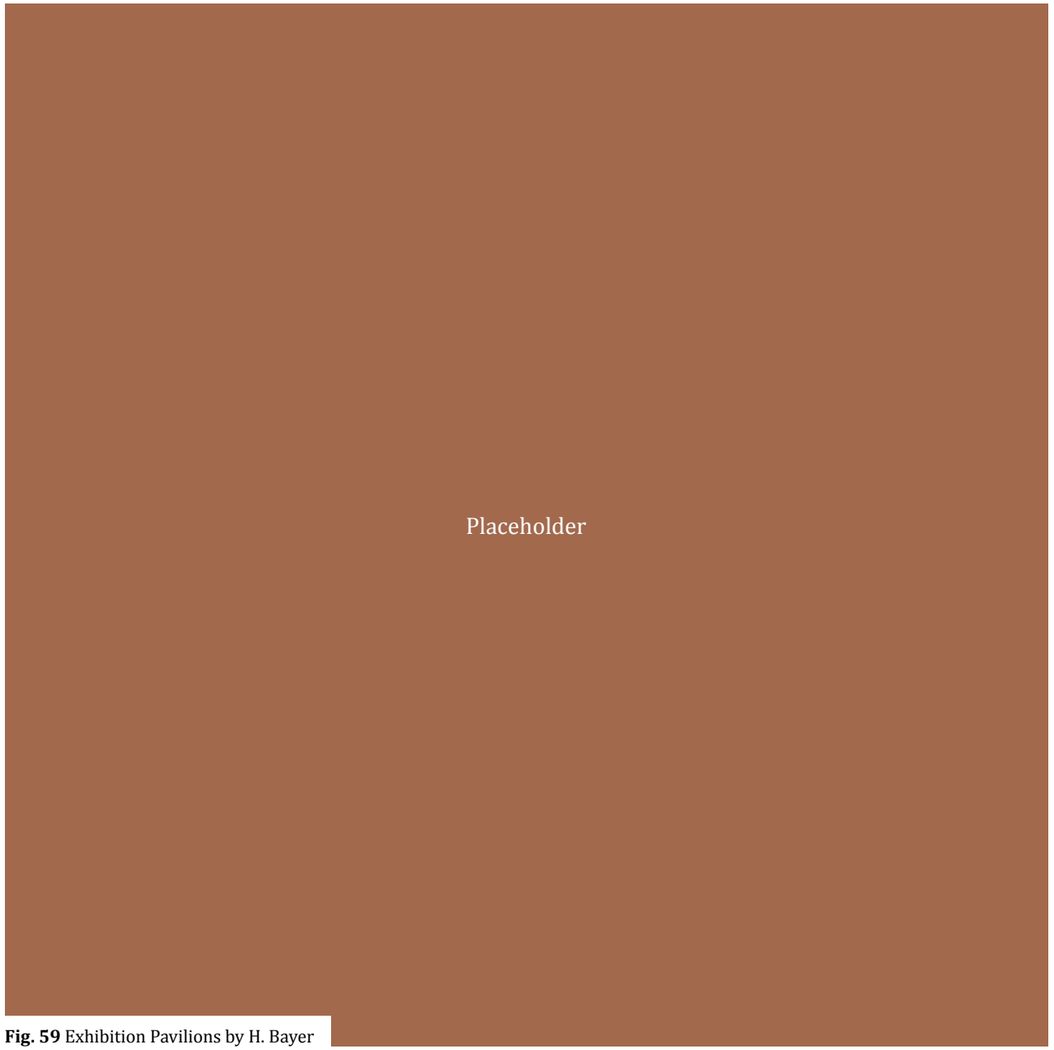


Fig. 59 Exhibition Pavilions by H. Bayer

Fig. 60 Streetcar Station with News-stand by H. Bayer

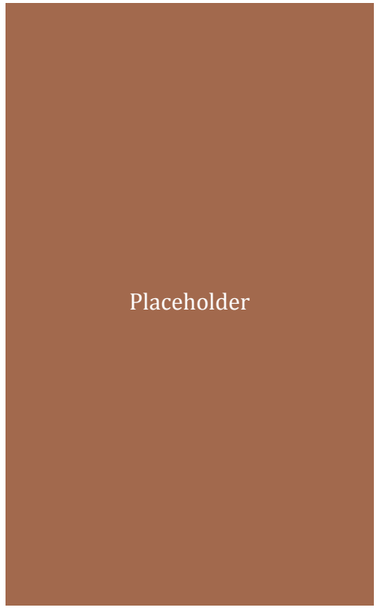


Fig. 61 Kiosk for Newspapers by H. Bayer

box. These planes become the canvas for constantly changing advertising posters that combine words and images. In his design for a kiosk advertising and selling newspapers [**Fig. 61**], Bayer, used the words 'JOURNALE' and 'ZEITUNGEN' on a system of differently coloured elements for identificational and promotional purposes; he also designed one of the sides as a place where newspapers could be attached. This feature enables the facade of the kiosk to be constantly reconfigured with new information. In order to demonstrate this facility, Bayer used a photomontage of newspaper elements consisting of headlines, body text and images. The composition is accompanied by a huge arrow pointing to the sales counter, for navigation purposes.

Bayer's experimentation shows his interest in developing innovative integrated visual communication systems for ephemeral commercial structures. It was the outcome of his 'experimental curiosity about new solutions to old problems, adapting the most immediately innovative design vocabulary to the treatment of a familiar problem that had been theretofore conventionally resolved'.[72] Although, like most of the typotects of the time, he did not take into account such crucial issues as orchestrating the enclosed spaces with the same design logic, he managed to create the most sophisticated typotectural concepts of the period, always involving a durational element (smoke in the form of letters, film projections, the reconfiguring of facades with newspapers) and playing more than anyone else with the absurd (oversized letters and arrows), both of these being effective attention-grabbing techniques for commercial, as well as political, purposes.

72. Arthur A. Cohen, *Herbert Bayer: The Complete Work* (Cambridge, MA: MIT Press, 1984), p. 284

c. The International Style

During the 1930s, and more specifically after the end of the Second World War, this Modernist approach to the disciplines of architectural, industrial and graphic design expanded to the rest of the developed world. The Modernist approach, although it operated differently in each area with variations according to specific environmental and cultural conditions, had a phenomenal homogeneity, and thus became known as the International Style. In architectural design, the International Style promoted clarity of form, open and asymmetric architectural plans, the avoidance of applied decoration, the use of contemporary materials such as concrete and glass, and modular standardization. In graphic design, great emphasis was given to clarity of means and legibility of communication. Sans-serif letters were used almost exclusively, because designers believed that these, in addition to geometric symbols and mathematical grids – whether visible or otherwise – expressed the spirit of their progressive times, since they were considered to be the most legible and harmonious means for the construction of information.

Although one of the basic features of the International Style in architecture was the absence of decoration, there are several examples of buildings where lettering was added to the design, the most prominent being the Hamburg Kunstverein (Hamburg Art Association) [**Fig. 62**], Germany, built in 1930 by Karl Schneider (1892-1945) and the Finnish Pavilion at the 1930 Antwerp World Fair [**Fig. 63**], Belgium, by Erik Bryggman (1891-1955). This demonstrates that, as seen in

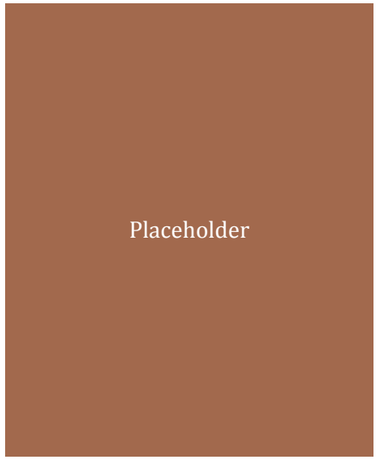


Fig. 62 Hamburg Kunstverein by K. Schneider

Fig. 63 Finnish Pavilion in Antwerp (1930) by E. Bryggman

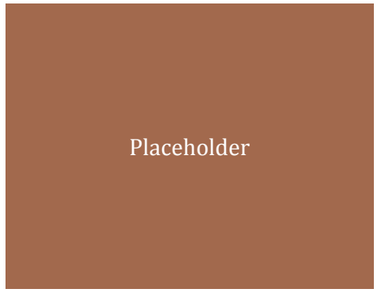


Fig. 64 Nantes-Rezé Unité d' Habitation by Le Corbusier

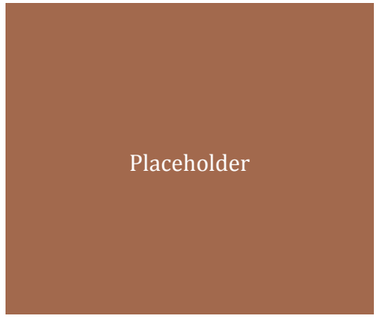


Fig. 65 Sketches for the design of the Chandigarh Capitol Complex by Le Corbusier

the previous examples of Modernist design, typotecture has a functional purpose, either to indicate the use of the building and its different elements, or for advertising. However, according to the principles of the movement, as expressed by Henry-Russell Hitchcock (1903-1987) and Philip Johnson (1906-2005) in their 1966 book *The International Style*,[73] lettering should be used strictly to serve the purposes of communication in the most lucid way without being integrated with, or affecting, the architectural form. As they stated,

> clear unseriffed letter forms are most legible at a good scale and conform most harmoniously to the geometrical character of contemporary design. Letters set forward from the wall surface or in silhouette above a roof decorate a building without breaking up the wall surface. In the choice of letter forms, in the spacing of letters and words, in the use of color and lighting and handsome materials, and above all in the relation of the scale of the inscription to the scale of the building there are immense possibilities for subtlety. The principle of regularity must be respected. In architectural lettering, as in printing, legibility is a prime consideration. Script forms and fantastic placing may be justified for the effectiveness in advertising, but they are on the whole unarchitectural and best avoided. Like other sorts of decoration in contemporary architecture, lettering can be easily abused.[74]

73. Originally published in 1932 by the same authors as *The International Style: Architecture since 1922* to accompany the exhibition 'Modern Architecture: International Exhibition' at the Museum of Modern Art in New York, organised by them. Published as *The International Style* in 1966 with a foreword written by Hitchcock. Henry-Russell Hitchcock and Philip Johnson, *The International Style* (New York: W. W. Norton, 1966)
74. Ibid, pp. 74-75

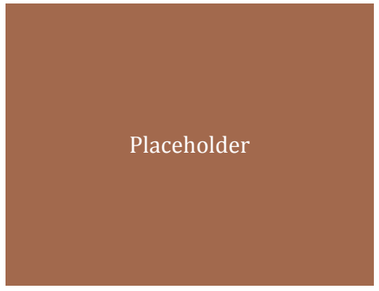
It is evident that although the supporters of the International Style accepted typographic elements in their architectural vocabulary, they insisted on separating them from pure tectonic form, creating a distance between the two disciplines and consequently limiting the further development of typotecture.

In the same period, the Swiss architect Le Corbusier (1887-1965) took a slightly different approach to the principles of the International Style. He was alone in truly experimenting with the incorporation of graphic elements to his otherwise abstract concrete compositions. However, these elements were not purely typographic in nature: rather than being modern alphabetical symbols they were mainly terrestrial and cosmic pictograms similar to those seen in ancient modes of visual communication, such as footprints, clouds, plants, animals, the passage of the sun, the harmonic spiral, human body features and his well-known Modulor.[75] The principal way in which Le Corbusier incorporated his unique pictographic vocabulary into architecture was by encrusting it in the formwork for his reinforced concrete walls. This is evident in projects such as the Unité d'Habitation, Nantes-Rezé, France (1952) [**Fig. 64**], the Capitol Complex in Chandigarh, India (1952-1959) [**Fig. 65**], the Maison de la Culture et de la Jeunesse (Youth and Cultural Centre) in Firminy, France (1964) [**Fig. 66**] and the Palais de Congrès (Congress Hall) in Strasbourg, France (1965) [**Fig. 67**]. In all these projects, Le Corbusier 'does not merely indicate a surprising rapprochement to art theory and the techniques of advertising',[76] but searches for 'an elementary language of heraldic forms sym-

Fig. 66 Firminy Maison de la Culture et de la Jeunesse by Le Corbusier

Fig. 67 Strasbourg Palais de Congrés by Le Corbusier

75. The Modulor is an anthropometric scale of proportion, devised by Le Corbusier, that was used as an organisational system for a number of his projects.
76. Stanislaus von Moos, *Le Corbusier: Elements of Synthesis* (Cambridge, MA: MIT Press, 1979), p. 290



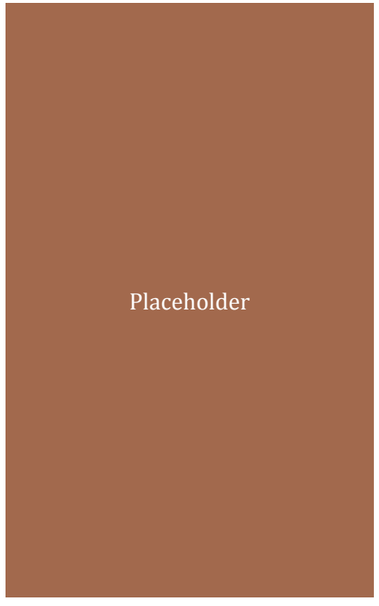


Fig. 68 IBM Pavilion in New York (1964) by E. Saarinen

bolizing the essential values in which a community of men is able to recognize itself and its spiritual aims'.[77] The final outcome is intended to be a unified poetic synthesis. As Le Corbusier himself suggests, 'there is no such thing as a pure sculptor, a pure painter or a pure architect. The three-dimensional event finds its fulfilment in an artistic whole at the service of poetry'.[78]

By the beginning of the 1960s, the installation of environmental graphic applications such as logotypes and other trademarks on the headquarters buildings of developing multinational corporations, as part of a coordinated and cohesive identity design programme, was a distinct architectural influence. Many architects attempted to incorporate these graphic elements into the architectural forms they produced for these new corporate buildings, ignoring the strictures against applied decoration imposed by the International Style.

The most prominent example of such an approach is the IBM Pavilion, designed by the Finnish architect Eero Saarinen (1910-1961) for the 1964 New York World's Fair [**Fig. 68a-b**]. The main space of the pavilion, which stood above a forest of 45 32-foot high stylized trees made of sheet metal, was ellipsoidal; the IBM logotype was written a thousand times in extruded characters on its facade. Inside this 90-foot tall embossed shell was The Information Machine [**Fig. 69**], designed by Charles Eames (1907–1978). This was a multimedia show using 14 synchronized projectors and 9 randomly-sized screens. Visitors were taken in a 12-tier hydraulic lift system, the 'People Wall', from ground level up into the interior of the shell, to watch the show, which demonstrated the social benefits of IBM computer technology. In this project, although Saarinen enacted some of the principles of the International Style, such as the emphasis on construction materials, he rejected its asymmetric geometric abstraction. Instead, he went for sculptural and mechanical exaggerations which, in conjunction with the typotectural facade, were an attempt not only to underline the dominance of IBM in the computer industry, but also to promote the United States' reputation for technological excellence to a global audience.

A later example, demonstrating a different way of incorporating a corporate logotype into its premises is the National Westminster Tower (later the NatWest Tower, now known as Tower 42) in London, designed by the British architect Richard Seifert (1910-2001) for the National Westminster Bank in 1969 (the construction completed in 1980) [**Fig. 70a-b**]. The organisation's logotype was literally translated into the footprint of the tower. Although for functional reasons some changes to the original shape of the logotype were required, the concept was still quite visible. The purpose of this approach to typotecture could be questioned, as it does not obviously communicate visual information to anyone passing by or using the building. However, the National Westminster Tower was the first building to identify the fifth elevation of a building, the roof, as a location for typotectural experimentation by taking into consideration the aerial view of the building, seen by aeroplane passengers, for instance. Interestingly, it shows significant similarities with early church design, where the fundamental symbol (logotype) of Christianity, the

77. Ibid, p. 290
78. Le Corbusier, quoted in Moos, p. 279

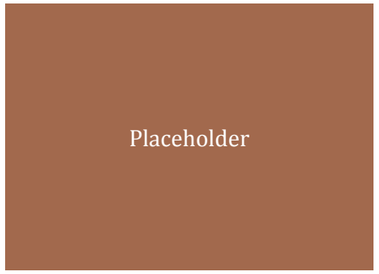


Fig. 69 The Information Machine by C. Eames

Fig. 70 National Westminster Tower by R. Seifert

cross, becomes the basis for the plan of the building, adding spirituality to the space. In the same way, a logotype-shaped commercial building transforms it into a monument for the corporation, a microcosm in which the values of the company are symbolically embodied and inherently promoted.

d. The Postmodern Movement

By the end of the 1960s many architectural, industrial and graphic designers had moved in a direction beyond or counter to the International Style, or other Modernist modes, because they believed that these failed to address design issues universally, as they had publically claimed to do, and that they imposed many unrealistic stylistic restrictions. This opposition to the ideological and aesthetic values of Modernism is usually defined as Postmodernism. Although a wide range of approaches can be found under the umbrella of Postmodernism, a common feature of the movement is the way in which designers in every discipline re-examined, or even abolished, existing rules, working in a more open, diverse and inclusive way. They even suggested observing the vernacular, or looking back to tradition as starting points for design, something that Modernist approaches eschewed. They sought meaning by engaging different codes of visual communication, in every form.

This questioning of Modernism can also be found in the field of typotecture. Although there is evidence of a continuation of the design logic which involved the use of large-scale typographic elements in architecture, developed during the final period of the International Style, this now occurs in unconventional and irrational ways. Outsize typefaces, in conjunction with bold geometric shapes in vivid colours and enormous imagery, are juxtaposed at a scale that is out of context with the exterior or interior surfaces on which they appear. These features became known as ‘supergraphics’. Clyde Ray Smith (1929-1988) was the first to define and illustrate in detail the features of supergraphics in his book *Supermannerism: New Attitudes in Postmodern Architecture* (1977).

> Supergraphics are gigantic, superscale, and double-scale designs painted or otherwise applied to architectural surfaces, either exterior or interior, in order to produce an optical effect of expanding a space or volume. Supergraphics start with two-dimensional forms that become three-dimensional explosions. Supergraphic designs can be abstracts or two-dimensional typefaces, flat outlines of solid geometric forms – spheres, cones, or cylinders – or fragments of representational photomurals from billboard advertising. Generally they create optical effects; always they destroy architectural planes, distort corners, explode the rectangular boxes that we construct as rooms and consequently change architectural scale. In the purest supergraphics the fragments of forms cannot be contained within the interior volume or the exterior volume. As a consequence, the viewer completes the fragment as a gestalt in his mind’s eye.

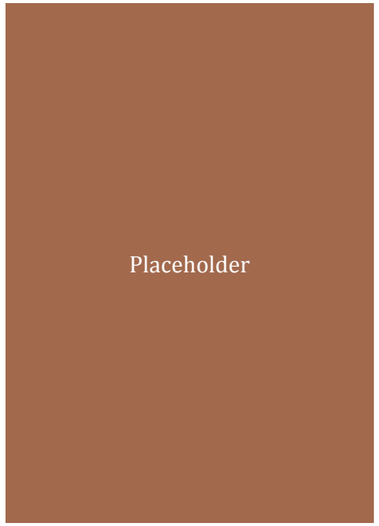


Fig. 71 Grand's Restaurant by R. Venturi

> His vision expands beyond the volume into the outer space of a bigger world.[79]

Although the production of supergraphics involves decorative techniques, such as painting, they should not be identified as mere decorative devices: they also have a functional aspect. Apart from communicating identificational, promotional, orientational or directional information (a feature that had also been evident in Modernist practice), supergraphics also have the potential to scale space up and down, and even distort it. In their expanded role beyond the simple transferral of messages, supergraphics may be seen as the first example in which graphics play an active role in the configuration of architectural space.

The American architect Robert Venturi (1925-) was closely associated with early forms of supergraphics. Venturi paid close attention to the ugly and unloved urban landscape, with its plethora of signs and the billboards, and sought there a functional utility. He even proposed that designers could learn from the glitz and glamour of Las Vegas. Environmentally-scaled letters, unusually positioned and with an unconventional use of materials, were incorporated into his architectural vocabulary. Venturi's key work foreshadowing the concept of supergraphics was the renovation of the ground floor of a modest neighbourhood building housing a student café, Grand's Restaurant (1962), in Philadelphia, USA [**Fig. 71a-b**]. Venturi made a feature of the low-budget aspect of the project by deciding to 'use conventional ways and elements throughout but in such a way as to make the common

79. Clyde Ray Smith, *Supermannerism: New Attitudes in Postmodern Architecture* (New York: Dutton, 1977), p. 270

things take on a meaning in their new context'.[80] Amongst the techniques he used was to cover the two long grey opposing walls of the restaurant with one-metre high yellow stencilled letters. On one wall these letters formed the name of the restaurant, and on the opposite wall the same letters appeared in reverse. Although the letters were flat, by being mirrored on opposite walls they gave the impression of being three-dimensional, thus connecting the two walls. Apart from the letters, stripes created new boundaries that reduced the impact of the inevitable boundary between wall and ceiling.[81] Venturi's intention was to adjust the scale of the interior space to enable the perception of this modest place as a public environment. As he comments, in relation to this technique, 'the enormous letters create a scale and unity appropriate to a public place and make a contrast to the inevitable individual scale of the multiple tables and booths'.[82]

Supergraphics, as they were later known, first appeared at Sea Ranch Condominium (1965), California, USA, designed by Charles Moore (1925-1993). For this large-scale housing project, individual elements of traditional barns and rural industrial structures were 'gathered up together, losing some of their own identity, to create an overall architectural entity'.[83] In the case of the Sea Ranch Swim and Tennis Club No. 1 [**Fig. 72a-b**], Moore collaborated with the graphic designer Barbara Stauffacher-Solomon (1932-) on the interiors. The graphic elements consisted of sans-serif letters, arches and diagonal stripes, all of them in vivid colours, the composition of which created a result that contradicted the architectural forms and the penetrating light. Specifically, along with the

80. Robert Venturi, *Complexity and Contradiction in Architecture*, 2nd edition (New York: Museum of Modern Art, 1977), p. 112
81. The walls were redecorated after a year due to the owner's dissatisfaction with the design.
82. Venturi, p. 112
83. Gerald Allen, *Charles Moore* (New York: Whitney Library of Design, 1980), p. 30

randomly-placed stencilled letters, they

> painted red and black stripes jagging across the men's locker room and blue stripes on the women's locker room, which slide down the stairs, spin around the corner, and climb back up again. An arrow at a corner window vertically shoves us toward the view. Other arrows direct us to turn corners, hop up the stairs, and swing around the landing to the second floor.[84]

The designs, apart from giving a sculptural dimension to the otherwise simple architectural forms, enhanced the efficiency of patterns of circulation throughout the building. As Stauffacher-Solomon notes, the overall design was 'like a three-dimensional internal sculpture house that you can walk into, a kinesthetic world of shapes and color'.[85] Moore also used supergraphics for the design of his own house, Moore House (1966) in New Haven, USA [**Fig. 72c-d**], as well as for the Faculty Club at the University of California (1969) at Santa Barbara, USA [**Fig. 72e**]. However, the supergraphics involved in both cases mainly imagery, and only limited use of letterforms. In the first, there were only a series of cutout numbers on sliding double-layered plywood panels, and, in the second there were ambiguous letters in the form of neon signs.

Supergraphics became a frequent design tool from the late 1960s to the 1980s for the interior and exterior surfaces of newly-designed buildings. However, in only few cases did

84. Clyde Ray Smith, p. 290
85. Barbara Stauffacher-Solomon, quoted in Clyde Ray Smith, p. 290

Placeholder

Fig. 72 Supergraphics in projects by C. Moore

these contain letters, numbers or other symbols. One notable example is the ecumenical Hillcrest Church (1969) in Toronto, Canada, by the Dunlop, Wardell, Natusi and Aitken architectural practice, in collaboration with the graphic designer Barrie Briscoe (1936-) [**Fig. 73a-b**]. The interior walls relating to the three different congregations (Anglican, Presbyterian and United Church of Canada) were unified with colored stripes: large-scale religious symbols, such as crosses and the letters of the word Christ in Greek, were superimposed in multiples of three, signifying the Christian Trinity as well as the three sects that were associated with the building. The Ni-Ban-Kahn (No. 2 Building) (1970), a multi-rental store in Tokyo, Japan, designed by the architect Minoru Takeyaha[86] (1934-), is another such example [**Fig. 73c**]. The multi-faceted exterior of the building is painted with red and white stripes and incomplete bull's-eye motifs, along with a giant '2' for identificational and promotional purposes. In the BEST Catalog Sales Center (1979), Ashland, USA [**Fig. 73d**], by the SITE architectural practice, the use of letterforms is even more dominant. A large-scale version of the company's logotype, 'BEST', is painted repeatedly along the main facade and the space between the letters is gradually reduced towards one side, creating an illusionistic effect seen by people travelling by car on the nearby highway.[87] A later example is the Santa Monica Place Parking Garage (1980) by Frank Gehry (1929-) [**Fig. 73e-f**], where the phrase 'Santa Monica Place' is attached in outsize letters to the main, semi-transparent facade of the garage. Though two-dimensional, the letterforms appear three-dimensional and mobile, or even four-dimen-

86. In 1971, Minoru Takeyama, with four other architects (Takefumi Aida, Mayumi Miyawaki, Takamitsu Azuma, Makota Suzuki), formed ArchiteXt, an informal association that investigated the systems of signs in the city, along with a new understanding of architecture as language.
87. This is one of the nine commercial projects that SITE designed for the BEST Products Company, Richmond, Virginia, a retail merchandiser of hardware in the USA. Each of these projects treated the standard 'box' typology of suburban commercial buildings as the canvas for an art statement. By different methods in each case, such as inversion, fragmentation, displacement, distortions of scale or invasions of nature, these projects have been seen as a means of commenting on the suburban shopping strip.

Placeholder

Fig. 73 Supergraphics as architectural design tool in the 1960s - 1980s

sional, as the shadow they cast in the interior of the garage changes constantly with the movement of the sun during the day and the lights of cars that pass by at night.

During the same period the use of new technology, seen in developments such as electric billboards, influenced the face of the urban built environment. Venturi, as well as pioneering the use of supergraphics, was an early supporter of the use of imagery through new technology as a tool for architectural design. This is evident in his proposal for the National College Football Hall of Fame (1967) in New Brunswick, New Jersey, USA [**Fig. 74a-e**]. The main facade of the building is a huge screen of moving letters and other graphics made from a flashing light board system that creates an image, similar to that in other electronic media, in order to inform and entertain a large audience. This screen constitutes the primary component of the building, with moving and constantly-changing information thus replacing a stable structure as the dominant architectural theme. Called a 'bill(ding)board' by Venturi, it shares aspects of Bayer's experimental work, but offers a more technologically advanced approach. This stance towards architectrue was further exploited the following decades, especially in the technologinal boom of the 90's; a trend which is usually referred to as 'Media Architecture'.

e. Contemporary References

In the developed world, from the last decade of the 20th century to the present day a post-capitalist society has emerged, where traditional structures are being redefined. The appli-

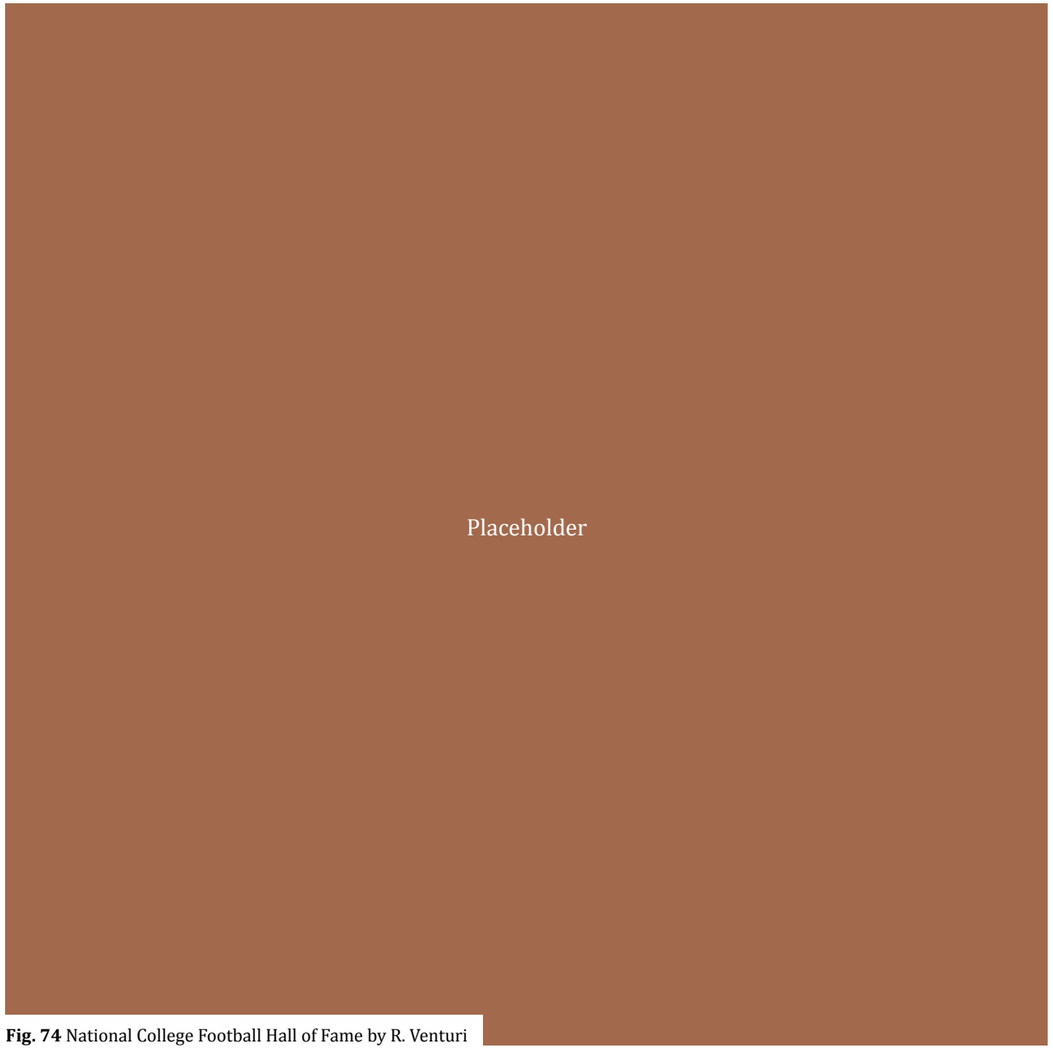


Fig. 74 National College Football Hall of Fame by R. Venturi

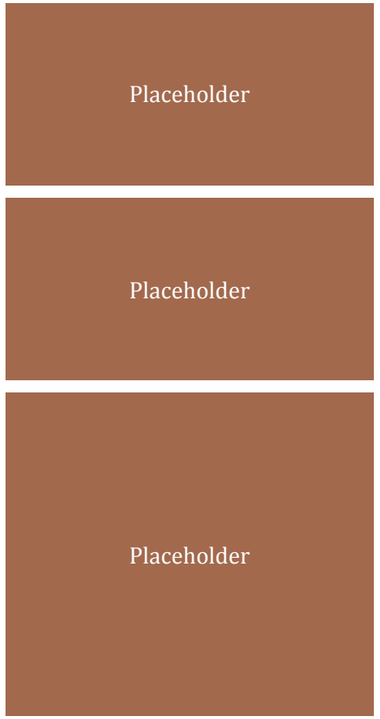


Fig. 75 ESISAR by Lipsky and Rollet

cations of disciplines which were formerly separate are increasingly being integrated in order that current and emerging issues may be resolved. During this period the first forms of interdisciplinary practice have started appearing. Due to the development of computer-aided design and manufacturing technologies (CAD/CAM), the results are frequently so hybridized that disciplinary boundaries become difficult to distinguish. As Canadian graphic designer Bruce Mau suggests, in his book *Life Style* (2000), 'attempting to declare the discrete boundary of any practice, where one ends and another begins, has become arbitrary and artificial'.[88]

These conditions encourage an even closer relationship between architecture and typography. This relationship may be regarded as reciprocal. The work of current architectural practices is translated into sophisticated pieces of graphic design, such as books and websites. These do not merely offer knowledge and development in the architectural field, as was usual previously, but their projects also become objects involving promotional strategies. The earliest, and maybe the most prominent, example of this is Dutch architect Rem Koolhaas' book *S, M, L, XL* (1995)[89] created in collaboration with Bruce Mau. On the other hand, typographic and other graphic elements are incorporated more frequently into architectural designs. Contemporary typotects, using current advanced digital technologies, either seek to develop theories that were first introduced during earlier periods in design, or they explore new territory. The result is a wide range of approaches. The following examples of contemporary typotecture illustrate this diversity.[90]

88. Bruce Mau, *Life Style* (London: Phaidon, 2000), p. 41
89. Rem Koolhaas and Bruce Mau, *S, M ,L, XL* (New York: Monacelli, 1995)
90. Projects described as 'designed' have never been realised, while those described as 'completed' have been built.

The Ecole Supérieure de l'Ingenieur en Systèmes Industriels Avancés Rhône-Alpes (ESISAR) (completed in 1997) [**Fig. 75a-c**] in Valence, France was designed by the French architectural practice Lipsky and Rollet in such a way that it addresses the identificational and functional requirements for an educational building. The architects needed to indicate the existence of this technical college of advanced industrial systems to passers-by, and especially to drivers on the adjacent highway. At the same time, it was crucial for the building to resist the strong winds of the area, and all the interior spaces needed to be protected from traffic noise, sunlight and the high temperatures. For this reason a special multilayered glass was used, on the outer surface of which combinations of the binary digits '0' and '1' were silkscreened. These were of various sizes and strokes, and constituted indirect references to the function of the building. This material was used on the front elevation of the building, next to the highway, to form a vertical glass element and at the back elevation to create a suspended glass surface. Both elements function as 'shields' for the building, for ensuring ambient conditions in the interior and, simultaneously, to serve identificational purposes.

The Textualized Landscape (completed 1997) [**Fig. 76a-c**] is part of a master plan for a 167-acre park surrounding the North Carolina Museum of Art, Raleigh, USA, by the New York-based architects Henry Smith-Miller and Laurie Hawkinson (SMH+ practice), in collaboration with the American landscape architect Nicholas Quennell and the American artist Barbara Kruger. It includes an amphitheatre for performances and a huge screen for projections, as well as spaces

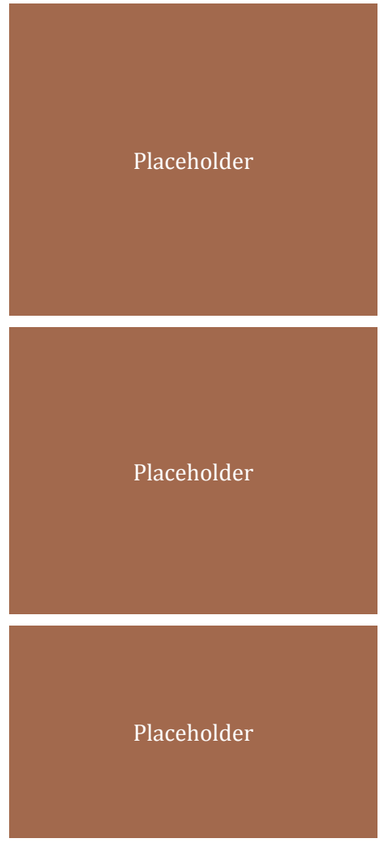


Fig. 76 Textualized Landscape by SMH+

Placeholder

Fig. 77 Veenman Drukkers Headquarters by Neuteling Riedijk

for museum-related activities. The architects' main intention was to challenge museum visitors to go outside the building and investigate the rich natural landscape a short distance from the museum. Thus on the sloping ground between the museum and the landscape they placed outsized capital letters spelling the phrase 'PICTURE THIS'. All the outdoor spaces were designed above the letters of this phrase. Although the letters are of uniform size, each of them is constructed from different local materials, with different colours and textures. Some of them are extruded, becoming walls, such as the letters 'P' and 'T', or even buildings, like the letter 'T' of the word 'THIS', to house storage spaces and toilet facilities. The letter 'H' is split, with one part of the letterform accommodating circulation paths and the other being depicted on the roof of the amphitheatre. Each letter, by the use of different materials, texts, illustrations and construction techniques, transmits its own message, and the space as a whole investigates the singular relationship between text and texture, word and image, language and construction, proximity and distance.

The Dutch architectural practice Neutelings Riedijk has experimented with typotecture in three of their projects, the first being the headquarters of the printing firm Veenman Drukkers (Veenman Printers) at Ede, Netherlands (completed 1997) [**Fig. 77a-c**]. This development houses all the production areas for Veenman's print activity, along with storage facilities for raw materials and office accommodation. A continuous semi-transparent layer wraps around all these spaces, offering the passer-by the opportunity to make visual contact with each of them. This layer consists of a metal net on which small, semi-transparent tiles are fixed. A letter is serigraphed on each tile, making up the text of a poem by the Dutch poet K. Schippers. The roof of the building is in the form of a huge 'V', and, complementary to this, a three-dimensional version of the company's logotype, 'Vd', acts as a column indicating the main entrance of the building. The final result is an interpretation of the small-scale typographic outputs of the firm and is also intended to promote the products. Neutelings Riedijk also used letterforms in the design of the Minnaert Building at the De Uithof campus of Utrecht University, Netherlands (also completed in 1997) [**Fig. 78a-b**]. On the main facade of the building the name of the institution is spelled out in metal columns that take the form of capital sans-serif letters creating a boundary for the production of a semi-public space, which is also used as a bicycle park. The third example is Neutelings Riedijk's 1999 design for the World of Sports Hall for the Adidas headquarters in Herzogenaurach, Germany [**Fig. 79a-b**]. The architects used three-dimensional interpretations of the Adidas logotype with the three stripes translated to an enormous scale in order to create the tower's four facades. The building was intended to serve as a sports centre for the staff and external visitors of Adidas, as well as being used for major sporting events and the marketing activities of the brand. Due to its importance, the building should be designed as an icon that marks the centre of the Adidas corporate world, and typotecture was a way of addressing this intention.

The Villa Gucci project (designed 1999) [**Fig. 80**] is a

Placeholder

Fig. 78 Minnaert Building by Neutelings Riedijk

Placeholder

Placeholder

Fig. 79 Adidas World of Sports Hall by Neutelings Riedijk

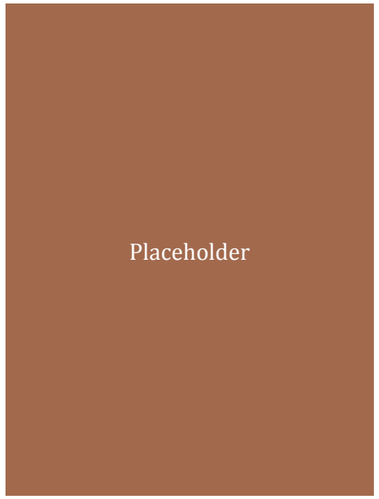


Fig. 80 Villa Gucci by Ora-Ïto

design for a luxurious residential building by the French designer Ora-Ïto. The building is an emblematic folded space in the shape of the letter “G”, indicating the brand logotype. Everything inside the house, from the furniture to the smaller objects, carries the same logotype and is positioned according to Feng-Shui principles. All the windows of the house are bulletproof and light-sensitive, the temperature of each interior space is voice-controlled and the ventilation system emanates Gucci fragrances on a regular basis. On the roof there is a heliport and a swimming pool made of synthetic crystal. Ora-Ïto designed this virtual house-logotype in order to comment ironically on a contemporary lifestyle that results in a dependence on the over-consumption of branded products.

The Parque de los Colores (Park of Colors) (completed in 2001) [**Fig. 81a-b**] by the Spanish practice Enric Miralles Benedetta Tagliabue (EMBT) was designed for a vast space between the residential areas of Santa Rosa and Plana Pledo in the suburb of Mollet del Vallès, Barcelona, Spain. The absence of character in the area meant that its redefinition was required. The architects created a new urban identity in order to change the area from being a marginal space into a vibrant urban spot. The final outcome is an artificial landscape that consists of curved colour planes on different levels, ramps, green and watery zones, and open spaces for cultural events and sporting activities, as well as vertical elements of various forms that create interior pathways. These pathways are also created by invented three-dimensional perforated graphic elements made of concrete mounted on balusters, the form of which is inspired by the graffiti in the surrounding area. The

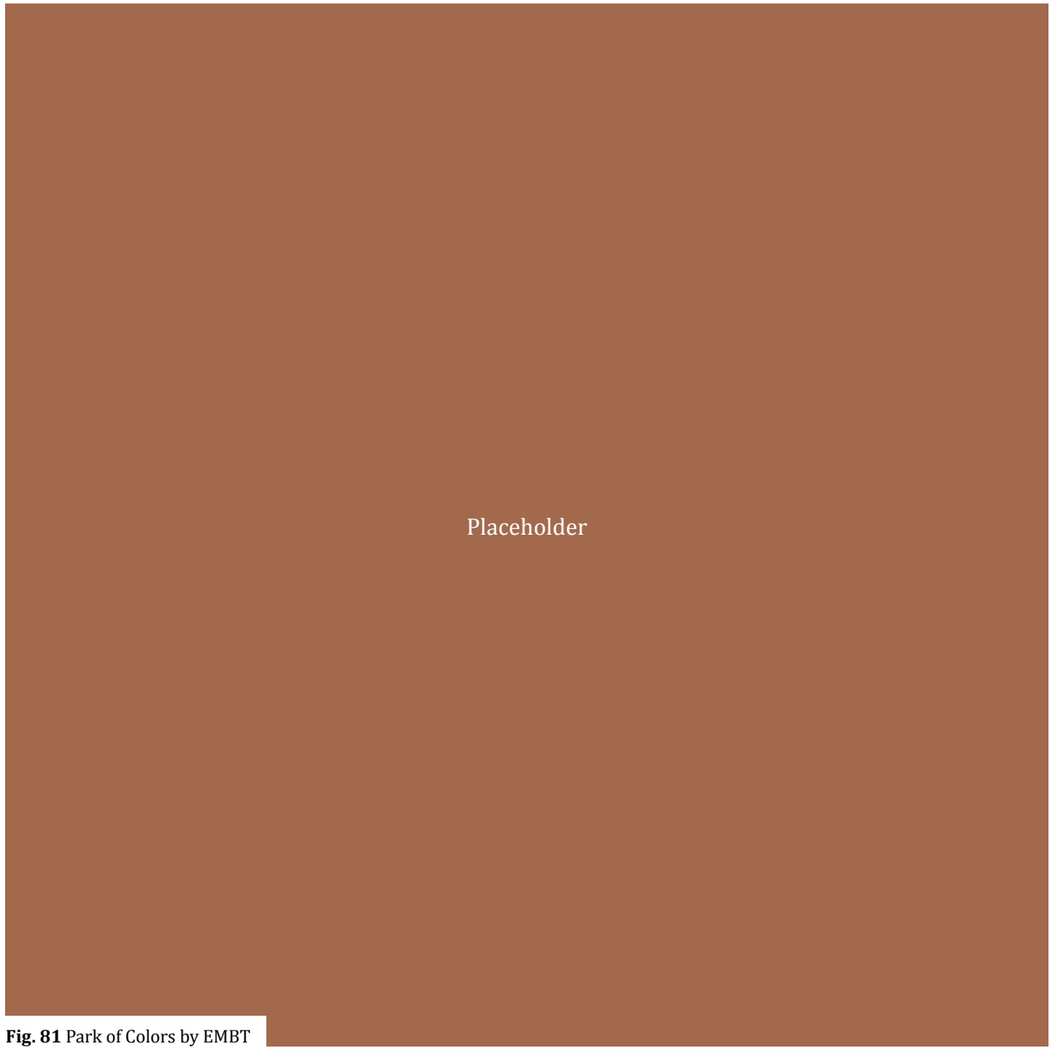


Fig. 81 Park of Colors by EMBT

letters look like the remains of a weathered wall. The light penetrates between them, creating different bright and dark zones and redefining activity zones according to the time of the day. The three-dimensional graffiti, in conjunction with the other elements that create the character of the Parque de los Colores, was one of the results of the architects' intention to represent the social topography of the area.

The Marion Cultural Centre project (completed in 2001) [**Fig. 82a-h**] is a cultural building with a library, exhibition spaces and theatre, designed by the Ashton, Raggat, McDougall (ARM) practice for Marion, a suburb of Adelaide, Australia. The basic concept behind this undertaking was the production of an easily recognizable building that underlines its role in the local community, an architectural entity that functions as a landmark, something that the area was lacking. For this reason the architects were inspired by the name of the suburb, and designed a building using its six letters ('M-A-R-I-O-N') in order to produce an expressive, communicative architectural approach. The letters 'M' and 'A' form the main facade and extend into the interior to form library spaces with sloping walls and other unconventional spatial solutions. The letter 'R' was extended further, ending in a form of a folded space, to create a pathway. The letter 'I' is represented by a twin vertical eight-metre metal sculpture; the 'O' is formed by rocks placed on grass and the 'N' is a vertical metal net structure that enables plants to grow over it, next to the main entrance. The Marion Cultural Center constitutes a building-cum-sign which is legible to the moving viewer. The passer-by, in their attempt to compose the separate letters into the

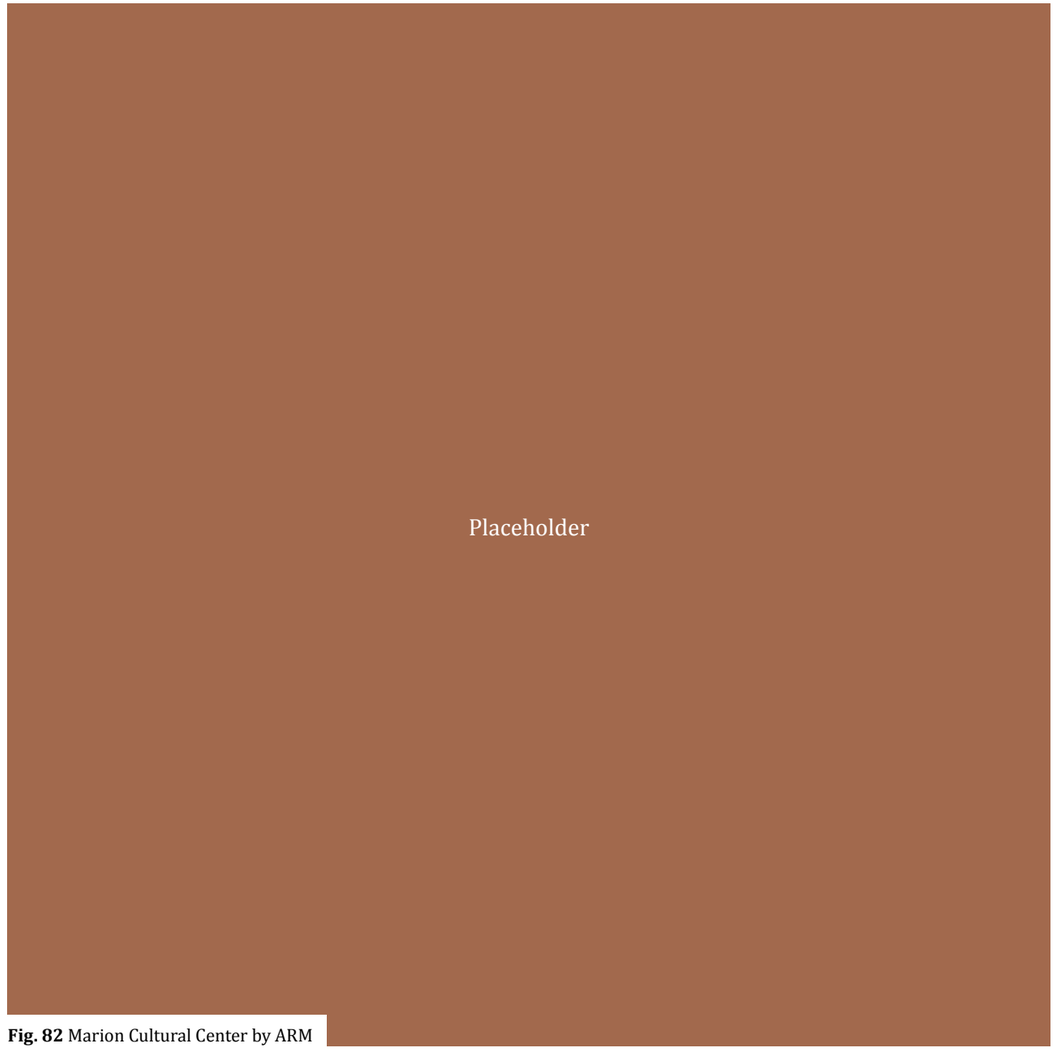


Fig. 82 Marion Cultural Center by ARM

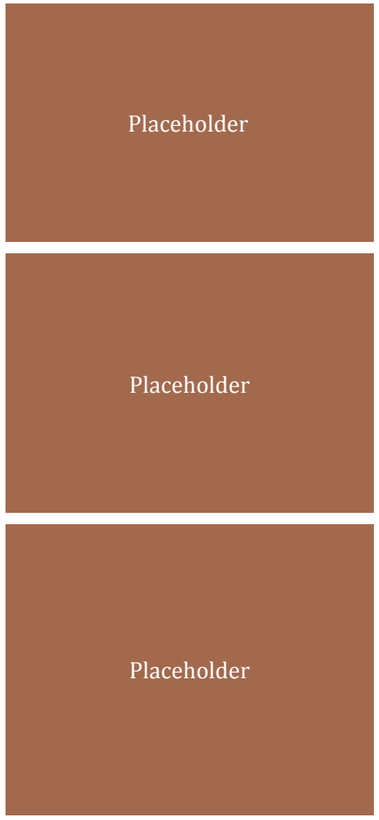


Fig. 83 Zedzbeton 3.0 by MUA

sign 'MARION', 'reads' and memorizes the structure of the building.

The Zedzbeton 3.0 project (designed in 2002) [**Fig. 83a-c**] was created by the Dutch practice Maurer United Architects (MUA), in collaboration with the graffiti artist Zedz, for the outdoor space in front of the Eindhoven University of Technology, the Netherlands. The central idea for the process followed in this project was the transformation of the flat graffiti on the facade of the building into spatial forms, taking into consideration the importance of shadow and light. The two-dimensional forms of the letters of the artist's signature, "ZEDZ", were transformed into three dimensions, and from each of these another three-dimensional version of the same letter was developed. The final proposal is a group of four letter-shaped buildings made of concrete, each 5m x 15m x 4.5m. This scale gives them the capacity to function as both images and furniture in the urban environment. They offer students and staff the opportunity to sit inside them and engage in various university-related activities.

The Wales Millennium Center (completed in 2004) [**Fig. 84a-d**] in Cardiff, Wales, by Percy Thomas Partnership (now Capita Architecture), is a cultural centre located in the bay area of the city. The building is a conventional composition of rectangular elements. However, the largest of these, which accommodates an opera house and is visible from the main facade, has a more fluid shape, resembling a dome. Inscribed on the front of the dome, above the main entrance, are two lines of poetry, one in Welsh and the other in English, written by Welsh poet Gwyneth Lewis. The Welsh verse line reads

'Creu gwir fel gwydr o ffwrnais awen' which means 'Creating truth like glass from the furnace of inspiration'. The English one reads 'In these stones horizons sing'. The text is in uppercase letters, each two metres high and made of stained glass set in reinforced gypsum. The backs of these letters form openings as windows in the interior bar-restaurant, offering an amenity to visitors. The lights of the bar-restaurant illuminate the words on the exterior, allowing the text to be visible from far away at night. Typotecture here reflects the location of the building, as well as its cultural ambition. Each language communicates a different message. The Welsh language reflects the heritage and inspiration of Wales, and the English reflects Cardiff's history and the music which can be heard from within.

The contemporary Dutch architectural practice MVDRV has experimented extensively with typotecture. This is evident in three projects illustrated in their monograph *KM3: Excursions on Capacities* (2005).[91] In their master plan for the Romanina suburban centre (designed in 2004) [**Fig. 85a-b**] in Rome, Italy, amongst other interventions an outline version of the word 'Romanina', in a script-based typeface, is used to create the main thoroughfare of the area. Due to the calligraphic nature of the typeface, the Via Romanina, as it is known, leads to a series of intimate curved pedestrianized streets with piazzas, corners, niches, turning points and alleys. In this instance, typography helps to consolidate history and create a strong identity for the whole area. MVDRV's Parco Lombardo housing project, in Milan, Italy (designed in 2005) [**Fig. 85c-d**] is an attempt to redevelop an existing

Fig. 84 Wales Millennium Center by Percy Thomas Partnership

91. MVRDV, *KM3: Excursions on Capacities* (Barcelona: Actar, 2005)

hidden green area alongside a river. The architects did not extend the park to the road because it would be too intrusive, nor did they increase the paths leading to the park, because this urban vocabulary would translate the park into a piazza. Their solution was to translate the word 'PARC' into three dimensions, following the height restrictions of the area into the entrance of the park. This architectural element creates housing units with outdoor spaces in the enclosed areas of the letters and, at the same time, offers an advertisement for the park. Its positioning means it can literally be read from a significant distance. From the park side the reverse message, 'CRAP', can be understood as an introduction to the attractions of the surrounding environment. The third example is MVDRV's urban plan for Hoek van Holland, near Rotterdam, the Netherlands (designed in 2005) [**Fig. 85e-f**]. Apart from partial landscape interventions in this resort area, the architects proposed a three-unit seaside hotel a small distance from the beach, allowing the dunes to be free of development and publicly accessible. The three units, housing a lounge, conference rooms, a restaurant and private rooms, with a wellness centre at the top, are formed of giant extruded letters (H, V and H). Transportation to and from the beach is organised from underneath the second 'H'. The hotel becomes a landmark which is legible from a distance as 'HVH', a welcoming signpost to the resort.

Danish architects BIG (Bjarke Ingels Group) is another practice currently experimenting with typotecture. They acknowledged this direction for experimentation in their recent monograph *Yes is More* (2009) as 'Urban Typography'.[92] Their

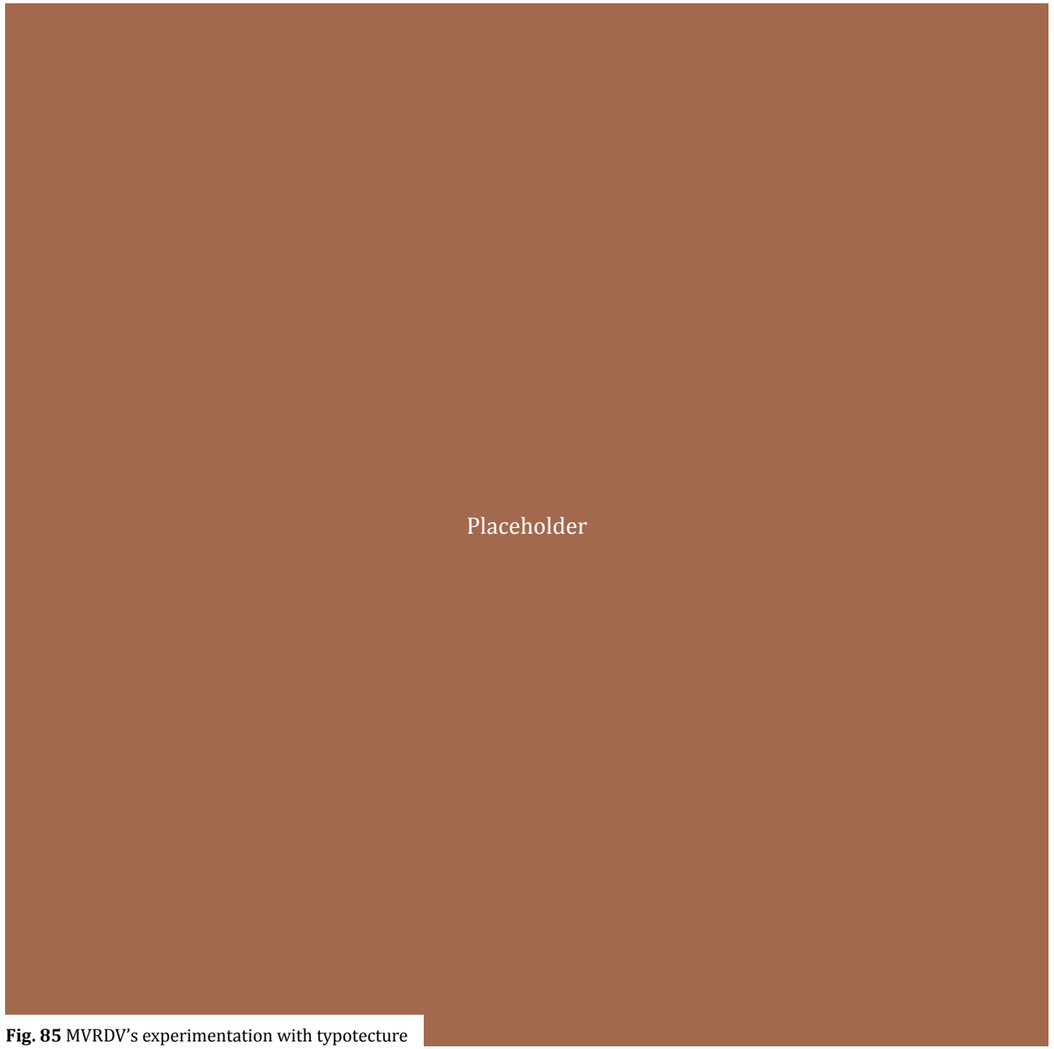


Fig. 85 MVRDV's experimentation with typotecture

first undertaking in this direction was the Vejle Harbour master plan (designed in 2005) [**Fig. 86a-b**], in Vejle, near Copenhagen, Denmark. In similar fashion to MVRDV's urban plan for Hoek van Holland, the architects used each letter of the name of the area (V-E-J-L-E) to create a housing unit. The final housing block, which was placed on the tip of a harbour, acts as a giant signpost, welcoming people arriving by sea. In the proposal by BIG for the People's Building in Shanghai, China (designed in 2005) [**Fig. 86c-d**], an extruded version of the Chinese symbol for the word 'people' is translated into a tower to house a hotel and sports and conference centres. The building, acquiring the attributes of the symbol, is conceived as two buildings merging into one. The first, emerging from the water, is devoted to the body, and houses the sports and aquaculture centre. The second, emerging from the ground, is devoted to the spirit, and houses the conference centre and meeting rooms. At the point where the two buildings meet they form a hotel. Underneath the tower an arch is created, offering a sheltered space for gatherings and outdoor activities. The overall design recalls elements of the country's history and culture, such as Chinese calligraphy, in a city where globalisation has almost eliminated any sign of cultural heritage. At the same time, the message inherently projected in the building enables it to become a monument to the People's Republic of China (PRC). The Walter Towers (designed in 2008) [**Fig. 86e-f**], in Prague, Czech Republic, is a third example of BIG's typotectural work, in which an outsize extruded and twisted 'W', taken from the name of the neighbourhood, Walter, creates a cluster of towers. What appears

92. Bjarke Ingels Group, *Yes is More: An Archicomic on Architectural Evolution* (Cologne: Taschen, 2009), p. 49

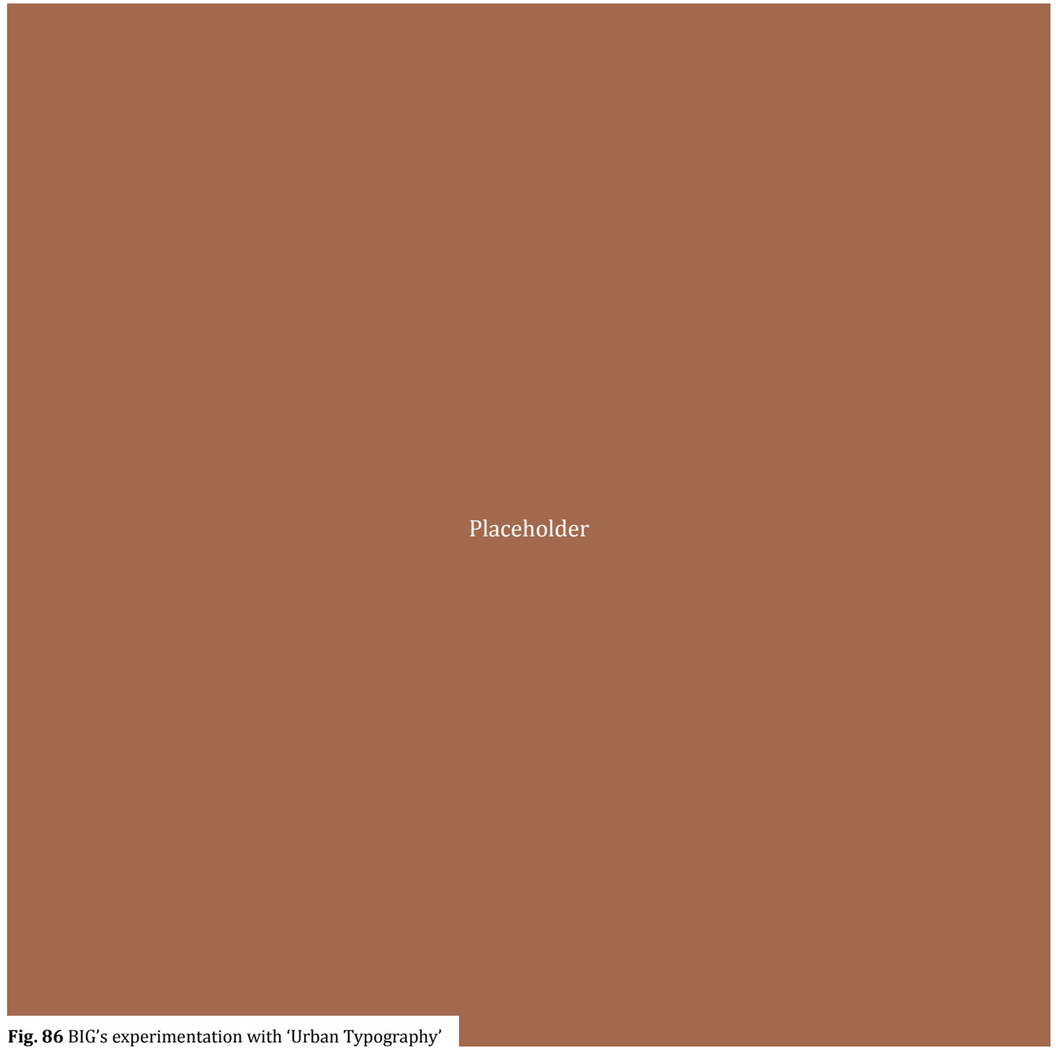


Fig. 86 BIG's experimentation with 'Urban Typography'

as four different towers is actually one continuous building, which is sliced up and pulled apart to maximize the amount of surface and facade area and offer space for retail stores, offices, and apartments. The final outcome resembles the well-known spires of the Prague skyline, simultaneously acting as a giant identifying landmark for the area.

The project Business Center and Hotel (designed in 2009) [**Fig. 87a-e**] in Yerevan, Armenia, by Federico Soriano Associates is a recent case of typotectural design. On a hill overlooking Mount Ararat, the architects proposed an amalgamation of three-dimensional letterforms to generate a 'rambling' monument in the city. This spatial sign does not represent what is inside, but it is a contemporary ambiguous built statement consisting of the distinctive elements of the Armenian alphabet. Though the sign presents components which are easily legible to Armenian-speaking people, its semantic dimension as a whole is not explicit; visitors are not able to read a fixed message, but they can speculate on a range of connotative meanings while they experience the space in a similar way to that in which they would interpret an image. In architectural terms, the volume is narrow and porous, allowing all aspects to face Mount Ararat on the background. The porous nature of the building also generates a unique interplay between the indoor and outdoor areas, quite functional for a hotel. In the interiors the shape of each letterform dictates the qualities of the individual spaces. The main bodies of the letterforms become large-scale public utilities, such as meeting rooms and leisure facilities, while thin border areas accommodate smaller-scale private uses, such as hotel rooms. Although the

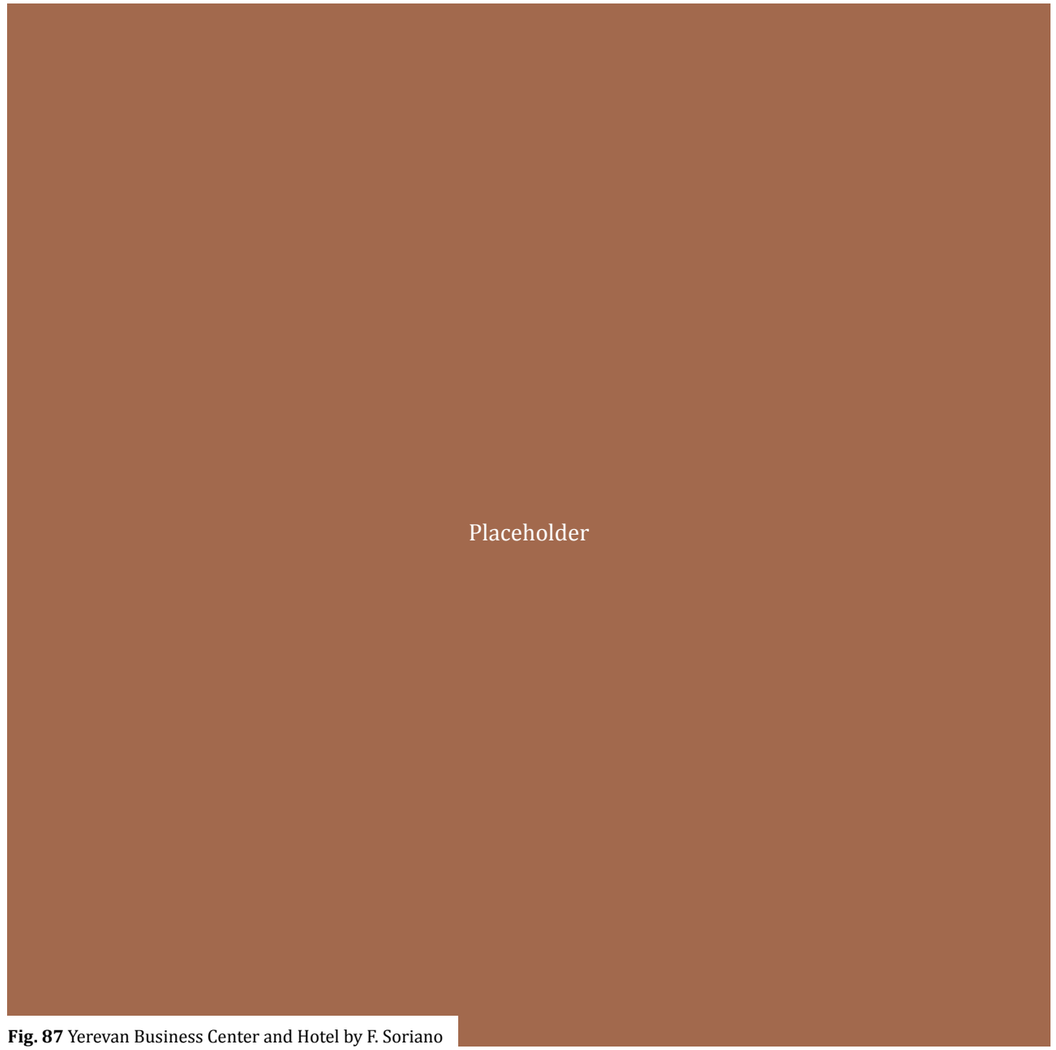


Fig. 87 Yerevan Business Center and Hotel by F. Soriano

Placeholder

Placeholder

Placeholder

Fig. 88 Republic of Korea Pavilion in Sanghai (2010) by Mass Studies

communication strategies mobilized resemble those of Post-modern architects, this project shows a different treatment of typographic elements. They are now three-dimensional, and more importantly, the structural features of each letter-form are considered meticulously and used appropriately for the generation of functional architectural spaces.

The latest project exploiting the possibilities of typotecture is the Republic of Korea Pavilion at the World Expo 2010 (completed in 2010) [**Fig. 88a-c**] in Shanghai, China by the Seoul-based architectural firm Mass Studies. The pavilion is a reciprocal blurring of space and signage. Signs become spaces and, at the same time, spaces become signs. For the 'Sign as Space' section, the architects collected large-scale three-dimensional glyphs of the Korean alphabet (han-geul) to create the overall form and, simultaneously, smaller-scale two-dimensional tiles ('hang-geul pixels') of the same glyphs in four different sizes to form the texture of the peripheral facade. The rest of the surfaces were covered in tiles (aluminium 'art pixels') by the Korean artist Ik-Joong Kang. For the 'Space as Sign' area, they created an abstract 1:300 scale three-dimensional map[93] of the country's capital, Seoul, and its surrounding environment (mountains, rivers, and so on) as a ground-level semi-open space. The rest of the building, including the main exhibition space, was suspended seven metres higher. The 'Sign as Space' element of the final result is a type of architectonics that inherently communicates an aspect of Korean culture to the rest of the world for identificational and promotional purposes. It is possibly the most accomplished undertaking of the examples discussed here, as it exploits the possibilities of typotecture in a number of ways and involves communication mechanisms on multiple scales. However, although the general building configuration, being unreadable, becomes the subject of various interpretations (similar to the aforementioned project by Federico Soriano Associates), the vast amount of randomly placed two-dimensional typographic tiles could be seen as 'garrulous'. A more sophisticated usage of 'hang-geul pixels' could further enhance the communication process on this scale and reveal, explicitly or implicitly, further information about the national culture.

In considering these contemporary examples of typotecture, it is clear that it is a flourishing cross-disciplinary practice. Current developments in design tools and techniques, in conjunction with the interest of a new generation of architects and graphic designers in forming collaborative design teams, augurs well for the approach. This is the first time that typography and architecture have appeared to lose their autonomy and embark on creating a new hybrid form of tectonics. Some of the results are already very promising, indicating, or even revealing, the ways in which typotecture could develop in the immediate future.

93. The map is understood as a type of a sign depicting space.

3

Theories of Typotecture

The purpose of this chapter is to identify and analyse a number of key attributes of typotecture. For this purpose, an in-depth classification of the previous chapter's typotectural precedents has first been carried out. This is followed by an investigation of current digital tools and the ways in which these can create the potential for the further development of typotecture. The theoretical approaches of this section are supported by the author's initial practical experimentation. These procedures are intended to establish the link between existing typotectural outputs and those that are proposed in this study.

a. Learning from the Past

Looking at the history of the development of typotecture, it becomes clear that the range of possibilities of using typographic elements during the architectural design process is bewilderingly wide. Designers have been employing typotecture in various contexts within the built environment (context), implementing their concepts by using various spatial solutions (form) and offering information that ranges from the implicit to the explicit depending on the function it serves (content) ('Taxonomy of Precedents') **[Fig. 89]**. Each of these three attributes of typotectural production is studied separately, in order that a concrete evaluation of past experimentation may be formed, contributing to a better-focused prac-

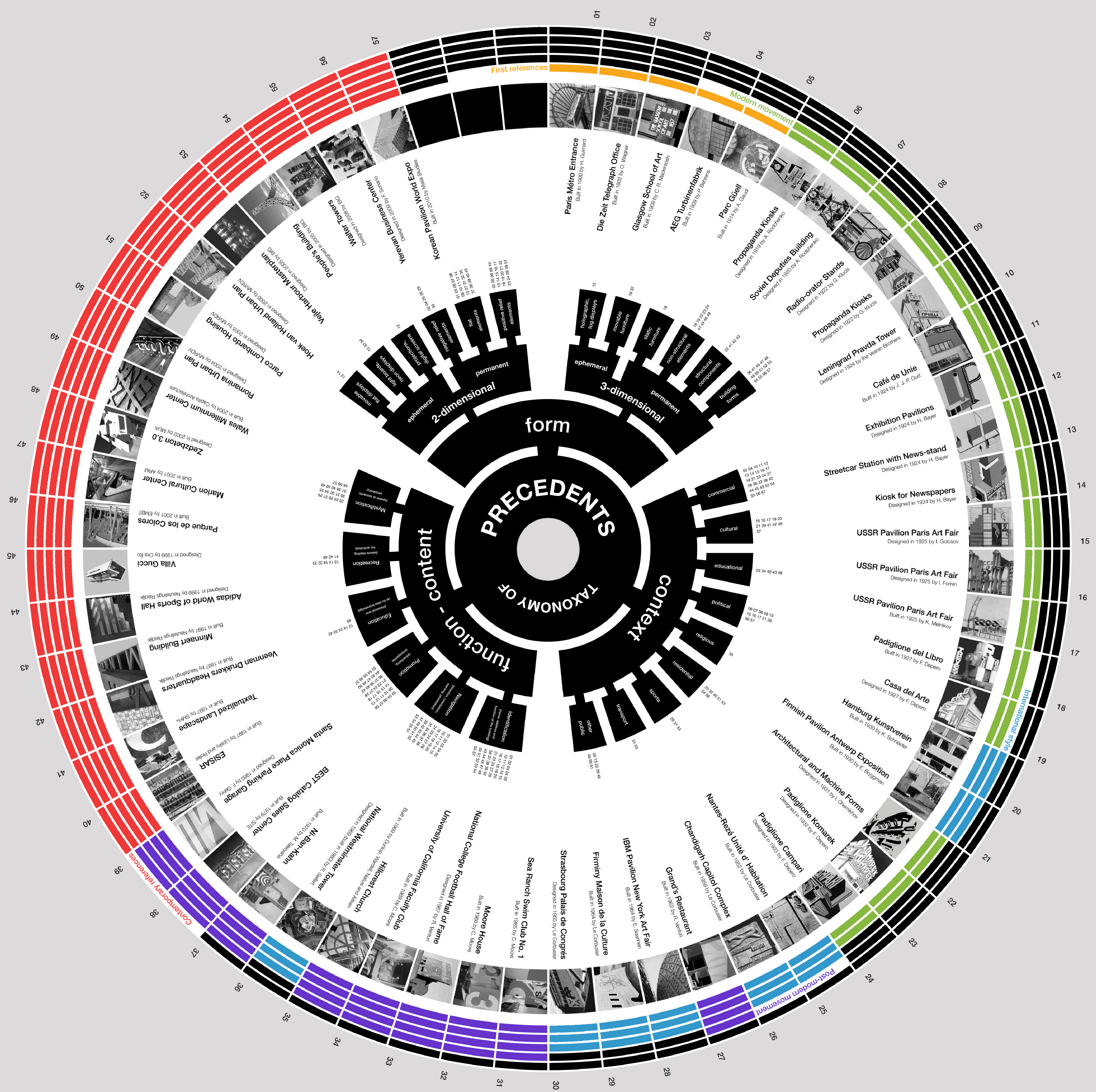

PRECEDENTS
TAXONOMY OF
form
2-dimensional
3-dimensional
ephemeral
permanent
movable flat displays
light boards, neon displays
projections, digital screens
negative relief elements
flat elements
positive relief elements
holographic, fog displays
movable furniture
static furniture
non-structural elements
structural components
building forms
context
commercial
cultural
educational
political
religious
residential
sports
transport
other public
function - content
Identification
Navigation
Promotion
Education
Recreation
Mystification
First references
Modern movement
International style
Post-modern movement
Contemporary references
Paris Métro Entrance
Built in 1900 by H. Guimard
Die Zeit Telegraph Office
Built in 1902 by O. Wagner
Glasgow School of Art
Built in 1909 by C. R. Mackintosh
AEG Turbinenfabrik
Built in 1909 by P. Behrens
Parc Güell
Built in 1914 by A. Gaudí
Propaganda Kiosks
Designed in 1919 by A. Rodchenko
Soviet Deputies Building
Designed in 1920 by A. Rodchenko
Radio-orator Stands
Designed in 1922 by G. Klucis
Propaganda Kiosks
Designed in 1922 by G. Klucis
Leningrad Pravda Tower
Designed in 1924 by the Vesnin Brothers
Café de Unie
Built in 1924 by J. J. P. Oud
Exhibition Pavilions
Designed in 1924 by H. Bayer
Streetcar Station with News-stand
Designed in 1924 by H. Bayer
Kiosk for Newspapers
Designed in 1924 by H. Bayer
USSR Pavilion Paris Art Fair
Designed in 1925 by I. Golosov
USSR Pavilion Paris Art Fair
Designed in 1925 by I. Fomin
USSR Pavilion Paris Art Fair
Built in 1925 by K. Melnikov
Padiglione del Libro
Built in 1927 by F. Depero
Casa del Arte
Designed in 1927 by F. Depero
Hamburg Kunstverein
Built in 1930 by K. Schneider
Finnish Pavilion Antwerp Exposition
Built in 1930 by E. Bryggman
Architectural and Machine Forms
Designed in 1931 by I. Chernikhov
Padiglione Komarek
Designed in 1932 by F. Depero
Padiglione Campari
Designed in 1933 by F. Depero
Nantes-Rezé Unité d' Habitation
Built in 1952 by Le Corbusier
Chandigarh Capitol Complex
Built in 1959 by Le Corbusier
Grand's Restaurant
Built in 1962 by R. Venturi
IBM Pavilion New York Art Fair
Built in 1964 by E. Saarinen
Firminy Maison de la Culture
Built in 1964 by Le Corbusier
Strasbourg Palais de Congrés
Designed in 1965 by Le Corbusier
Sea Ranch Swim Club No. 1
Built in 1965 by C. Moore
Moore House
Built in 1966 by C. Moore
National College Football Hall of Fame
Designed in 1967 by R. Venturi
University of California Faculty Club
Built in 1968 by C. Moore
Hillcrest Church
Built in 1969 by Dunlop, Wardell, Matsui and Aitken
National Westminster Tower
Designed in 1969 (built in 1980) by R. Seifert
Ni-Ban-Kahn
Built in 1970 by M. Takeyama
BEST Catalog Sales Center
Built in 1979 by SITE
Santa Monica Place Parking Garage
Designed in 1980 by F. Gehry
ESISAR
Built in 1997 by Lipsky and Rollet
Textualized Landscape
Built in 1997 by SMH+
Veenman Drukkers Headquarters
Built in 1997 by Neutelings Riedijk
Minnaert Building
Built in 1997 by Neutelings Riedijk
Adidas World of Sports Hall
Designed in 1999 by Neutelings Riedijk
Villa Gucci
Designed in 1999 by Ora-Ito
Parque de los Colores
Built in 2001 by EMBT
Marion Cultural Center
Built in 2001 by ARM
Zezbeton 3.0
Designed in 2002 by MUA
Wales Millennium Center
Built in 2004 by Capita Architecture
Romania Urban Plan
Designed in 2004 by MVRDV
Parco Lombardo Housing
Designed in 2005 by MVRDV
Hoek van Holland Urban Plan
Designed in 2005 by MVRDV
Vejle Harbour Masterplan
Designed in 2005 by BIG
People's Building
Designed in 2005 by BIG
Walter Towers
Designed in 2005 by BIG
Yerevan Business Center
Designed in 2009 by F. Serrano
Korean Pavilion World Expo
Built in 2010 by Mass Studies

Fig. 89

tical approach for the future development of typotecture.

i. Context

Typotecture has not been randomly applied in every possible situation within the built environment by virtue of just offering new spatial conditions, and as such it is not an architectural trend. On the contrary, it constitutes a timeless tool which becomes appropriate where communication processes are involved. During the first stages in the evolution of typotecture, its application was limited and mostly related to a small range of architectural programmes. During the course of the twentieth century, however, its use was expanded to encompass further built typologies, as visual communication became more crucial in a wider range of urban activities.

From the earliest references to the International Style, the design and integration of typographic elements was mostly implemented within architectural entities of a commercial nature, such as factories, company headquarters and retail stores and, most significantly, trade fair pavilions. During this period, when economies were in an early stage of industrialization, advertising constituted a radical and powerful vehicle for informing consumers about the existence of a range of new inventions and convincing them that their life would be improved if they bought and used these products. Although advertisements within the urban context (in the form of small posters, and later billboards) began by promoting a product, they gradually started creating an image around a specific brand name. As American writer Naomi Klein convincingly

observes, 'the old paradigm had it that all marketing was selling a product. In the new model, however, the product always takes a back seat to the real product, the brand, and the selling of the brand acquired an extra component that can only be described as spiritual'.[94] Corporations now had to communicate consistent messages about the 'personality' of their brand in every physical manifestation. Typographic elements, in the form of unique logotypes or mottos, offered this semantic dimension better than any other means. Many designers did not simply attach them to the various buildings associated with these corporations, but used them as design components for the generation of their 'temples'. These were most often their international exhibition pavilions, such as the Padiglione del Libro and the IBM Pavilion. Taking advantage of their temporary nature, typotects were able to integrate typographic information to these in a more adventurous way, without having to consider the practicalities of potential changes in the arrangement and use of space. These were built environments where consumption, education and amusement coexisted in a coherent extravaganza of visual identity, the experience of which would ultimately seduce the user. In a similar way, during periods when global socio-economic conditions were highly unstable typotecture was frequently applied to built environments where there was a political aspect, such as national pavilions (see, for instance, the 1925 proposals for the USSR Pavilion in Paris). Country identification and propagandist slogans were integrated into these buildings to transmit powerful messages to the viewer, who would experience them spatially.

94. Naomi Klein, *No Logo* (London: Harper Perennial, 2005), p. 21

From the Postmodernist period until today, typotecture has increasingly been incorporated into a wider range of architectural typologies, and with greater frequency. It has moved away from being used purely in commercial and political areas, and there are now typotectural forms in cultural, educational, religious, transport, sports and even residential buildings. To put it another way, designers are now testing the enduring value of typotectural forms, as these typologies require more permanent and solid structures in comparison with the mostly ephemeral and lightweight pavilions which were earlier used for commercial and political functions. They either embed constantly changing typographic elements using new media so that the resulting forms can be adaptable to new conditions, or they focus on the fact that static graphics can function as an immutable part of the urban texture, providing visual and historical richness. But the cause for this broadening of the applicability of typotecture, the reasons why visual communication is now often required in built environments in which historically it was not, should be examined.

Nowadays, after the blurring of traditional divides that Postmodern capitalist theories engendered, many institutions, including museums and universities, are looking for a clear image, similar to the corporate identity discussed above, in order to achieve global recognition and financial benefit. However, this obsession with branding means an inevitable incursion into public space. As French philosopher Jean Baudrillard noted in his essay *The Ecstasy of Communication*, as early as the 1980s,

> advertising invades everything (the street, the monument, the market, the stage, language). It determines architecture and the creation of super-objects such as Beaubourg, Les Halles or La Villette – which are literally advertising monuments (or anti-monuments) – not so much because they are centered on consumption, but because from the outset these monuments were meant to be a demonstration of the operation of culture, of the cultural operation of commodity and that of the masses in movement. Today our only architecture is just that: huge screens upon which moving atoms, particles and molecules are refracted. The public stage, the public place have been replaced by a gigantic circulation, ventilation, and ephemeral connecting spaces.[95]

This transformation of traditional public space into inter-related, commercially-orientated bodies has inevitably become a proliferating phenomenon, and typotecture seems to have become part of this process as a dynamic advertising medium accompanying the design of every possible architectural typology (for example, the Minnaert Building and the Marion Cultural Center).

In addition, it seems that in recent years the velocity of the urban lifestyle has become the rule rather than the exception. People's daily schedules are overloaded, and transportation has become ever faster to address the growing requirements of today's vast and over-populated metropolises. As the speed of the contemporary urban species increases,

95. Jean Baudrillard, *The Ecstasy of Communication* (New York: Semiotext(e), 1988), pp. 19-20

Fig. 90 The evolution of public building signage in terms of size

any kind of public building signage wanting to attract interest needs to be correspondingly larger in order for its messages to be effectively conveyed [**Fig. 90**]. Signage is beginning to compete with architecture in terms of scale, and this new analogy encourages the blurring of boundaries by designers. The transformation of enormous typographic elements into buildings achieves the quick transmission of necessary information and at the same time provides a similarly essential spatial functionality. The resulting typotectural forms act as inherently 'speaking' landmarks which, apart from communicating the original semiotic intention, also offer navigational assistance for the chaotic urban fabric (as seen, for example, the Parco Lombardo Housing, the Hoek van Holland Urban Plan, or the Vejle Harbour Masterplan).

Last but not least, experimentation is an essential part of the design process, and designers are always in search of a new architectural vocabulary which adequately reflects current cultural phenomena. The evolution of the aesthetics of typefaces and graphic design in general due to the digital revolution, typographic expression observed within the urban fabric (e.g. modern graffiti) and examples of this which appear in the recently emerging virtual world (e.g. complex information graphics, internet-based applications) will obviously attract their attention. As these new graphic applications are not limited to commercial or political content, and do not function as traditional public signage of general interest either, typotecture now is seen in a wider range of typologies, even when visual communication is not a requirement. These can provide a cultural richness to an otherwise hypo-

signified form, or merely influence the perception of space; consequently, they can be applied in diverse public typologies, such as the Parque de los Colores, or even in the extreme case of residential typologies (Moore House, for instance).

ii. Form

Architecture is concerned with design in three dimensions and materiality, unlike typography. Typotectural forms, as outputs of an interaction between the two disciplines, acquire all the properties of an architectural production and can range from featuring as purely architectural details to constituting whole buildings. Regardless of their size, in looking at the evolution of typotecture it becomes obvious that the resulting typotectural forms can be divided into two main categories, the two-dimensional[96] (or surficial) and the three-dimensional (or spatial).

Two-dimensional typotectural forms are applied to the surfaces of buildings and usually produce colours and textures. Some of them are flat (these include the USSR Pavilion by Ilia Govosov, the Café de Unie, the Hamburg Kunstverein, and ESISAR), generated by techniques such as painting, stencilling, metal plates, etc. They can also have either a positive relief (the Casa del Arte, or the IBM Pavilion) through concrete casting, plasterwork, etc., or a negative relief, such as seen in the AEG Turbinenfabrik, or the Firminy Maison de la Culture et de la Jeunesse, achieved by carving or other techniques. Surficial typotecture is normally applied to the external surface of the building skin, as messages need to be

96. The term 'two-dimensional' is normally used for typographic outputs where there is a lack of materiality. Although in the case of typotecture all the outputs have a three-dimensional nature, the term is used here for want of a better one to distinguish micro-depth elements from the rest.

transmitted to the wider public, but of course there are cases where they are seen internally, the most notable being examples from the Postmodern Movement, where the main intention was not necessarily the communication of any semantic information but the generation of a unique atmosphere in a tectonically common interior space (instances of this include Grand's Restaurant, the Sea Ranch Swim and Tennis Club No. 1, and Hillcrest Church). In all of the above examples the typotectural elements are permanent and stable. There are, however, examples where they are ephemeral, constantly reconfiguring the façade and communicating different messages. This can be achieved with movable flat displays (Herbert Bayer's 1924 Kiosk for Newspapers design, for example), light boards and neon displays (the National College Football Hall of Fame, or the University of California Faculty Club), and projections and digital screens (Bayer's Exhibition Pavilions).

The three-dimensional category includes typotectural forms in which the letters supersede their two-dimensional nature and acquire an active role in the formation of structure and space. These forms can also be either permanent or ephemeral. Permanent spatial forms can be either non-structural elements, such as balustrades, canopies, cladding, etc. (examples are the Padiglione del Libro, Ivan Fomin's USSR Pavilion, Parque de los Colores) or structural elements, such as beams, columns, etc. (the Veenman Drukkers Headquarters, and the Minnaert Building) or even entire structures, meaning that the whole organization of the building is focused on producing the resulting expression (examples of this include the Villa Gucci, the Marion Cultural Centre, Zedzbeton 3.0, People's Building, Walter Towers, Republic of Korea Pavilion at the World Expo). In all of these categories the anatomy of the letterforms, in conjunction with their design treatment to transform them into three-dimensional entities, becomes crucial. These two aspects define the aesthetics and effectiveness of the forms generated. In non-structural elements and structural components the section of letterforms is usually solid. On the contrary, for whole building configurations the outline version of letterforms is more common. The letterform contours become load-bearing walls and the internal void acquires a spatial functionality. Finally, three-dimensional typotectural forms can take on a temporary nature in the form of movable furniture (seen in the Padiglione del Libro) or holographic water and fog displays (Herbert Bayer's 1924 Exhibition Pavilions).

It should be noted here that in surficial typotectural examples the boundaries between typography and architecture are fairly definite. Each of the design disciplines serves its own central ideas, but both of them together, under a total design practice, contribute to the generation of a unified outcome. Typographic elements, in a way, become both signifieds and signifiers without integrating architecture into the communication process, as the building remains a 'box' canvas. Following Canadian philosopher Marshall McLuhan's expression 'the medium is the message',[97] in these cases it is typography, not architecture, which is the medium. On the contrary, in spatial typotecture the boundaries between typography and architecture are blurred, resulting in the generation of hybrid forms that serve the intentions of both

97. 'The medium is the message' is a phrase coined by Marshall McLuhan, to indicate that the form of a medium embeds itself in the message, creating a symbiotic relationship by which the medium influences how the message is perceived.

disciplines at the same time. The signifiers transform into tectonics that communicate signifieds. Typography, along with architecture, becomes the medium.

The history of the practice of surficial typotecture is fairly long in comparison with that of spatial typotecture. Design and construction limitations forced early designers to focus more on the epidermal features of architecture. Thus letterforms constituted part of an elevation composition and great attention was shown to shape, colour and textural relationships. The human mind is capable of conceiving and working effectively with such aspects, but this is not always the case with the spatial. Recent technological advances have liberated designers from this restriction, and three-dimensional typotecture has started flourishing. However, a frequent limitation of previous spatial typotectural examples is that they are still two-dimensional in conception. Very often, in fact, they are taken straight out of the typeface directory with the third dimension added by mere linear extrusion. When building forms are involved, in particular, the question of architectural section arises. Subsequent sections in the main direction always reveal an identical spatial message, while their perpendiculars, despite their unevenness, fail to communicate anything. When visible, rear elevations are also non-communicative, unless the mirroring of the main message also constitutes a message in itself. Such results therefore lack visual and spatial intricacy, limiting the possibilities of three-dimensional typotecture.

iii. Function - Content

Typotecture is almost always designed for a utilitarian purpose or, as in many cases, purposes. There is a considerable range of functions that it is able to serve and, although some appear more common than others, all have an equal importance for a public built environment. In all of these functions one could easily imagine that legibility and readability[98] constitute the ultimate goal, otherwise there would be no apparent reason for the deliberate use of typographic elements. However, typographic communication though typotecture is not always a matter of legible letterforms or readable words and sentences. There are examples where partial or even a total lack of legibility and readability also work functionally.

As with every other visual phenomenon, typotecture involves the six commonly identified stages of human perception, as follows: (a) reception of a stimulus by the eye, (b) transduction of the stimulus into neural impulses, (c) transmission of the neural impulses from the eye to the brain, (d) selection of information according to perceptual features (such as lines, shapes, colors), (e) organization of information in a sensible manner, (f) interpretation of information for the creation of meaning.[99] All typotects, according to the way they attempt to influence the receiver, choose to control the speed at which these stages of visual perception occur. However, they only actually have any control over the final two stages (the organization and interpretation of information), as the others are spontaneous reactions of the human eye and brain. It is evident that most pre-modern and mod-

98. Although the two terms are often confused, they express different meanings. 'Legibility' refers to the ability of individual characters to be unambiguous and distinguishable from each other, while 'readability' refers to the presentation of textual material in order to communicate meaning as unambiguously as possible. As the English typographer and writer Walter Tracy observes, 'legibility refers to perception and readability refers to comprehension'. Walter Tracy, *Letters of Credit: A View of Type Design* (Boston: David R. Godine, 1986), p. 31

99. Roger Edwards, *Oxford VCE Psychology Units 1 & 2* (Melbourne: Oxford University Press, 2010), pp. 112-113

ern typotects regarded legibility and readability as key components of functionality, focused on the smooth succession of these two stages in order to facilitate message memorization. On the contrary, many Postmodernists, playing with different levels of legibility, chose to delay and fragment this sequence in order to offer time for emotive response and space for intellectual reflection. Going beyond a historical approach, the speed that perception of visual information occurs depends mainly on the exact function which the typotectural form intends to serve; the content it seeks to communicate.

One of the most frequent functions of typotecture is the transmission of messages that help the observer to identify a location or distinguish the fundamental characteristics of a building, such as its name, address and function (examples being the Paris Métro Entrance, the Café de Unie, the Padiglione Campari, the Ni-Ban-Kahn, the Marion Cultural Center). Information conveyed for identificational purposes usually needs to be straightforward and easily legible. However, just by labelling a building the typotect does not automatically give it character. The uniqueness of the chosen typeface, in combination with its masterful manipulation to create functional dimensionality, is an important feature for the successful differentiation of one place from another. With this strategy the possibility of identifying the building itself as a distinct image is much greater. As British typographer Jock Kinneir points out, ‘even in a village street words form a series of focal points because they speak while doors and windows remain mute’,[100] not to mention the contemporary development of unprecedentedly complex urban contexts.

100. Kinneir, p. 8

The semantic and structural individuality of places achieved through typotecture also suggests a simultaneous utility. Typotectural forms constitute navigational tools that inherently provide directional and orientational clues within the urban fabric (this is seen in the Santa Monica Place Parking Garage, Vejle Harbour Masterplan, and the Hoek van Holland Urban Plan). They can easily be compared to the traditional ‘welcome to’ traffic signs; they are not always the final destination, but they assist the traveller in locating himself. In the case of typotecture, however, these signs depart from the two-dimensional information environment and generate the three-dimensional world they represent. This navigational function can also work on a micro scale, when a user moves around or inside a building. Firstly, the formal diversity detected in a building-scale typotectural output offers differentiated exterior and interior areas (such as in the Marion Cultural Center). Additionally, smaller-scale identificational information (e.g. room names and uses), as well as navigational symbols embedded in a building, can further enhance and facilitate local circulation (the Kiosk for Newspapers, Sea Ranch Swim and Tennis Club No. 1).

Typotecture also contributes to the transmission of messages with a promotional character. As already stated, this function of typotecture is evident not only in environments with a traditionally commercial character (Herbert Bayer’s Exhibition Pavilions, the Padiglione Campari, the IBM Pavilion, Veenman Drukkers Headquarters, or Adidas World of Sports Hall) or a political aspect (the Propaganda Kiosks by Alexander Rodchenko and Gustav Klucis), but also in any

branded space affected by global capitalism (ESISAR, Marion Cultural Center, Minnaert Building). Typotectural forms in this case advertise identities that are associated with certain ideologies, products, services or experiences. At the outset of the development of typotecture its promotional messages were fairly direct and clear, with the intention of offering a conscious memorization. Nevertheless, recent research into more dynamic advertising gave the impetus to new sets of techniques that focus and defocus the viewer's attention and awareness. In typotecture, a common technique for this is the delay of the communication process by using various levels of legibility in order for the final form to seemingly play with the emotional and intellectual perception of the receiver but actually to transfer the original messages subliminally (as seen in the BEST Catalogue Sales Center).

The education and recreation of the user is another utility of typotecture. It can integrate enduring information, such as construction date or architect, through permanent typotectural forms (the Padiglione Campari), but most importantly provide up-to-date information. With the possibility of reconfiguring optical messages through ephemeral surficial or spatial elements (such as screens, projections, and holographs), the user is informed about current affairs, and as such be educated and entertained (as in the National College Football Hall of Fame). In these cases, information ought to be explicit. In addition, an alternative approach to typotectural forms can create the possibility of interaction, such as leisure activities, between the building and its users. The legibility of the form here becomes secondary, as the main intention is not the transmission of any particular message but the generation of playful spatial conditions (the Zedzbeton 3.0).

Last, but equally important, is the function of mystification. Although early typotects (as evident in Herbert Bayer's Exhibition Pavilions) identified this function, it was the Postmodern architects who engaged with it on a more systematic level (Grand's Restaurant, Sea Ranch Swim and Tennis Club No 1, Hillcrest Church). Mystification can be part of a subliminal advertising strategy, but it is not always the primary technique. The purpose of mystification is the creation of spatial conditions that expand the ways a user conceptualizes and experiences a place. This is a somewhat phenomenological approach to architecture, in which 'place' is not as simple as merely the locality, but consists of concrete things which have material substance, shape, texture and colour, which merge together to form the unique character or atmosphere of the environment. The syntactic nature of a sign here becomes the working tool to influence the viewer psychologically, leaving content open to personal interpretation. Legibility and readability, therefore, in these cases is not of great concern. Mystified typotectural forms usually produce optical illusions, distort visual perspectives, adjust scales, etc.

Based on the notion that architecture's sole purpose is the generation of universal spatially operating forms, a rather modernistic approach, one could easily regard the function of typotecture as merely ornamental. One could argue that this cross-disciplinary practice as a whole is problematic or, following the extreme view of early Modernist Austrian architect Adolf Loos,[101] a crime. But even if we accept the

101. In 1908 Adolf Loos stated that while ornament had been used in traditional societies as a medium of differentiation, at that time modern society did not need to emphasize individuality; thus various forms of ornamentation had lost their function, and had become a 'crime'. Adolf Loos, 'Ornament and Crime', in *Crime and Ornament: The Arts and Popular Culture in the Shadow of Adolf Loos*, ed. by Bernie Miller and Melony Ward (Toronto: YYZ, 2002), pp. 29-36

definition of typotecture as an ornamental tool, according to Italian philosopher Umberto Eco, 'styling can be seen as the superimposition of new secondary functions on unchanged primary functions, or as the employment of new rhetorical forms in reiterating conventional messages'.[102] Typotecture can therefore only add to or renegotiate the main purpose of a building (spatial functionality), without dismissing it. In the case, particularly, of recent three-dimensional typotectural forms where letterforms have an inbuilt sense of order, as contemporary practitioner Farshid Mussavi notes,

> ornament is the figure that emerges from the material substrate, the expression of embedded forces through processes of construction, assembly and growth. It is through ornament that material transmits affects. Ornament is therefore necessary and inseparable from the object.[103]

b. Acknowledging Current Opportunities

Let us now move from evaluating previously completed typotectural outputs by classifying them according to different attributes towards a more private side of typotecture, the typotectural design process. This approach helps to illuminate a number of diachronically common design principles between architecture and typography that support typotecture, but more importantly assist an observation of the way that new digital technologies affect them both individually and as a whole.

102. Umberto Eco, 'Function and Sign: The Semiotics of Architecture', in *Signs, Symbols and Architecture*, ed. by Geoffrey Broadbent and Richard Bunt and Charles Jencks (New York, Wiley, 1980), p. 44
103. Farshid Moussavi and Michael Kubo, *The Function of Ornament* (Barcelona: Actar, 2006), p. 8

Before the development of digital media, typotects had to engage with a constant interplay between two separate activities: architectural design and typographic design. These activities can be naturally translated into drawing and writing, respectively. Although at first glance the drawing of buildings seems quite different to the writing of letters, in reality they share common formal and semiotic features. They both involve the design of lines, whether straight or sinuous. Although there is wide scholarly research in the fields of both drawing and writing, Nicolete Gray was one of the first to dismiss the belief that these disciplines deal with quite distinct kinds of activity, each of which requires separate study, and she tried to link them. In her book *Lettering as Drawing* (1970), Gray acknowledges that there can be no definite boundary, as the medium of both is the line. As she rightly observes, 'the same sort of line which writes also draws'.[104] Contemporary British typographer and handwriting specialist Rosemary Sassoon adds that 'the form and line of a letter is as sensitive and expressive as the line quality in a drawing, and as individual as the interpretation of colour and light and shade are to a painter'[105] – or the architect, in our case. In architectural design, these lines need to have the right measurements and proportions so that the resulting two-dimensional forms and spaces constitute a message (a building). The same is again true in typographic design. Lines must generate specific relationships between solids and voids in order that the final outcome is perceived as a message (a text). Consequently, every architectural and typographic design produced acquires a dual existence. It is an

104. Gray, *Lettering as Drawing* (London: Oxford University Press, 1970), p. 1
105. Rosemary Sassoon, *The Art and Science of Handwriting* (London: Intellect, 1993), p. 12

Fig. 91 Look logotype (2009) by Z. Zayan

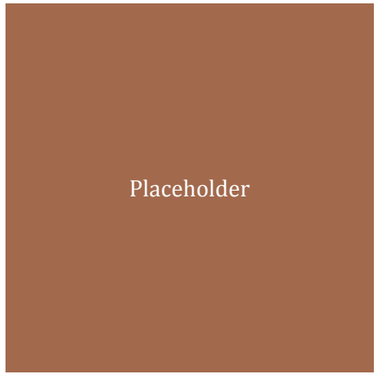


Fig. 92 Plan of Apple Campus 2 (2011) by Foster and Partners

optical phenomenon (the signifier) and it is also a communicative signal that functions by itself or with other signals to form a message (the signified).

However, as British social anthropologist Tim Ingold notes in his book *Lines: A Brief History* (2007), 'writing is still drawing, but it is the special case of drawing in which what is drawn comprises the elements of a notation'.[106] In other words, typographic design is based on established, but, according to Saussure, random associations between form and meaning. For example, an isolated circle is always the letter 'O' (or the number zero, '0') even if a more adventurous use of it could connote another meaning (eg. the human eye) [**Fig. 91**]. But this is not always the case with architectural design. Forms in architectural design communicate more ambiguous information. An isolated circle could denote a pipe or a building or several other in-between elements regardless of any possible further connotations [**Fig. 92**]. Consequently, based on the principal Peircian categorisation of signs, the architectural sign tends to be more iconic and indexical than the typographic sign (or the linguistic sign in general), which is relatively more symbolic [**Fig. 93**].[107]

During the typotectural design process, the symbolic nature of the typographic sign becomes the second aspect of the architectural. It does not substitute any indexical or iconic denotations (or connotations) that the architectural drawing signifies, but it definitely amalgamates with them. Using again the example of the circle, it becomes the letter 'O' and possibly a window at the same time. Although the common structural features of the two design practices support this

106. Tim Ingold, *Lines: A Brief History* (London: Routledge, 2007), p. 122
107. A symbol has an arbitrary relationship between the signifier and the thing signified. An icon resembles the thing it represents. An index has a factual or causal connection that points towards its object. Philip Megg, *Type and Image: The Language of Graphic Design* (New York: Van Nostrand Reinhold, 1989), p. 8

integration, the traditionally different environments for the design of architectural and typographic outputs have not favoured it. Recent developments in digital media have significantly altered the practices of both architecture and typography in the same direction, enabling the proper establishment of the typotectural sign.

By the mid-1990s, and particularly at the start of the new millennium, computer technology was having a significant impact on the discipline of architecture. In the early period, computer software was used purely as a tool to accelerate the drawing process and assist the creation of more realistic representations of planned architectural projects though three-dimensional design environments, examples of this being AutoCAD, 3D Studio Max, Maya, and Rhinoceros. However, architects gradually started taking advantage of the extraordinary capabilities of the computer, and used programming languages, such as Visual Basic, for the generation of new advanced geometries. These intricate forms would now be able to parallel an equally complex contemporary society. As Reiser and Umemoto state,

> the advent of new models for organisation changed conceptions of geometry and geometry's relation to matter, and new conceptions of universal space, a thoroughgoing re-evaluation of the modernist models for structuring space and the execution and delivery of such systems is possible. Non-repetitive tiling, fractal geometries, branching systems and unstructured grids are among the new geometries available

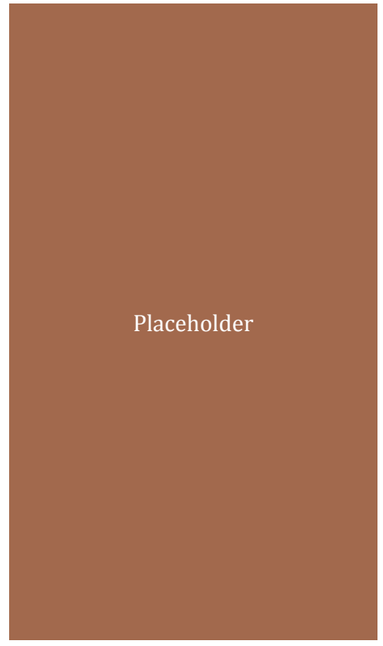


Fig. 93 A symbol, icon, and index signifying a bird

for use.[108]

A similar evolutionary process has been observed in the visual communication disciplines. Graphic designers started using two-dimensional design environments (Photoshop, Illustrator, Quark Express, etc.) to speed up the development of their proposals, which also enhanced their potential. However, after a while these new capabilities reached their limit, and seemed to dictate the boundaries of the discipline's development, so programming again opened up new territory. Many new programming languages were exploited during the 1990s (C++, Java), new plug-ins were invented for existing software applications and new open-source programming languages devoted to the visual design community were constructed. Processing was the first and probably the most well-known of these, initiated in 2001 by Casey Reas and Benjamin Fry, both formerly of the Aesthetics and Computation Group at the MIT Media Lab.

This revolutionary approach to design, which actually transforms designers from draughtspeople into programmers, is known as parametrics. Parametrics, evident in every design discipline, is a method of associating dimensions and variables with a form in such a way that when the values change the overall configurations of this form changes as well. Parametric modifications can be accomplished using a spreadsheet or a script, or by manually changing the variables of the digital model. A parametric digital model can be morphogenetic or morphodynamic.[109] The morphogenetic model is one for which the designer designs one or more genetic components (such as lines, shapes or objects) and the rules by which they will evolve into a two-dimensional or three-dimensional output. Morphogenetic models can be deterministic, meaning that the designer predicts the attributes of the outcome because by inputting the same values he will always get the same result, or stochastic (non-deterministic), meaning that the outcome is based on randomness, and is not predictable. The morphodynamic is a model wholly designed by the architect, but it is still dynamic, and it can be modified by changing the parameters. The final model can be static, meaning that the designer only uses the dynamics during the design process, or kinetic, meaning that the dynamics appear in the final outcome.

German architectural theorist and practitioner Patrik Schumacher, one of the first followers of parametrics in architecture, argues that

> the contemporary architectural style that has achieved pervasive hegemony within the contemporary architectural avant-garde can be best understood as a research programme based on the parametric paradigm. We propose to call this style parametricism. Parametricism is the great new style after Modernism. Postmodernism and Deconstructivism have been transitional episodes that ushered in this new, long wave of research and innovation.[110]

Schumacher astutely detects a new age in architecture, defining it as a separate style which was imposed by the new design

108. Reiser + Umemoto, p. 132
109. It is, however, possible for a parametric digital model to be both morphogenetic and morphodynamic.

110. Patrik Schumacher, 'Parametricism as Style - Parametricist Manifesto', presented at the 11th Venice Architecture Biennale (2008). Patrik Schumacher <http://patrikschumacher.com> [accessed 17 March 2012]

processes, but it is not quite evident whether this constitutes a logical development from Postmodernism. Parametricism introduced a new field of investigation for architects and expanded the notion of form and space beyond Euclidean geometry, corresponding to contemporary concepts of multiple, non-hierarchical and non-linear relationships within society, which French philosophers Gilles Deleuze and Félix Guattari have notably identified as 'rhizomatic'.[111] However, the existing Parametric outcomes to date are usually forms for their own sake. They may demonstrate the necessary complex spatial and circulatory organisation, but as forms they lack any of the innate reference to meaning that the Postmodernists sought as the 'alter ego' of architecture. In a way, Parametricism resembles Modernism in the fact that it responds to social problems with universal functionality, albeit with intricacy, and could also be termed 'Parametric Modernism'. A logical next stage in architecture, possibly called Post-Parametricism or Parametric Postmodernism, would be the fusion of the missing semiotic dimension to these forms. Current architectural knowledge and practice lead in this direction by encompassing an array of relevant external parameters along with the architectural techniques of geometry and organization. Typotecture as an architectural practice that embraces typography, an external powerful semiotic tool, can contribute to this formula by giving intricate yet pure forms the forgotten element of humanity.

But how this could be done in practice? It is true that the new three-dimensional design environments along with relevant programming tools allow typographic elements to

111. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (Minneapolis: University of Minnesota Press, 1987), p. 21

be imported, be transformed from strokes into drawing lines and thus constitute dynamic components; which are available for manual or automated manipulation, along with other abstract forms. The actual letterforms can now be extruded, twisted, disassembled, remorphed, or interpolated with lines, shapes and objects. While maintaining their semantic dimension, they can now acquire unique structural attributes in space. As Nicolete Gray suggests,

> the identity of a letter must therefore not consist in its shape but in the idea of it in our mind, which is made up, not of one shape for each letter, but of several, and also of its sound, usage and historical association. Letters have continuity, but the relation of sound to shape is conventional, not absolute, and capable of change.[112]

Following Gray's observation, and considering the variations in the wide range of letters and other graphic symbols in existence amongst different typefaces, the resulting structures, as well as the interiors and surrounding areas,[113] can present a great diversity. Bars can be translated into slabs, arms and legs into staircases, bowls into tunnels, serifs into seating areas, etc [**Fig. 94**].[114] A composition of letterforms (words and phrases) can multiply these structural and spatial possibilities. The kerning, tracking and leading of a text can now shift into circulatory paths. Other abstract metric or parametric tectonics can enrich the result even further. This great capacity to integrate linguistic and non-linguistic material from the

112. Gray, *Lettering on Buildings*, p. 66
113. Surrounding areas include the enclosed 'white' areas in letterforms such as A, B, D, e, o, p, etc. In typography this kind of space is called a counter.
114. Bars, arms, legs, bowls are typographic terms referring to the anatomy of a letterform

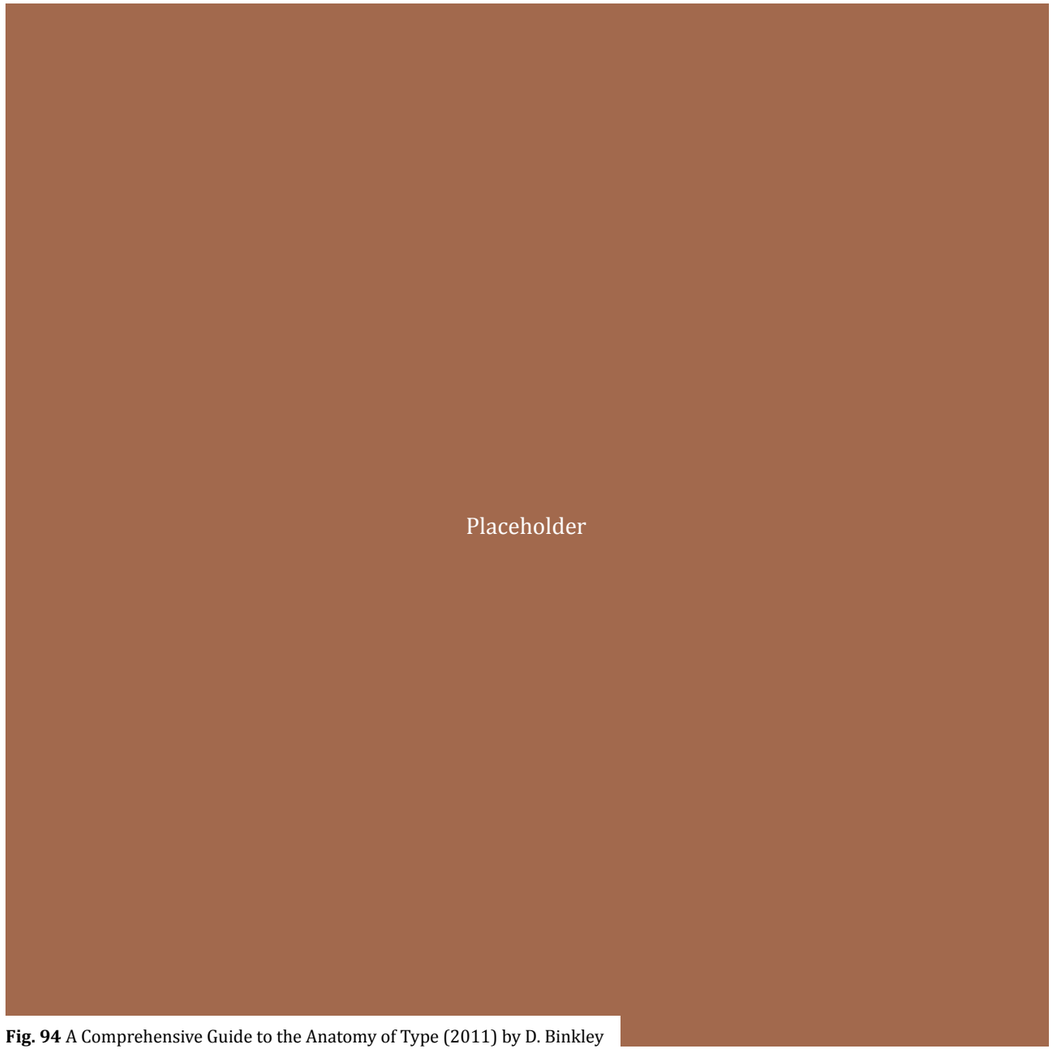


Fig. 94 A Comprehensive Guide to the Anatomy of Type (2011) by D. Binkley

same device, the keyboard and mouse, opens up new possibilities and this freshly-conceived design universe becomes increasingly fluid, with no hierarchy between the various inputs. Once digitised, everything can literally melt or morph into everything else.

c. Experimenting with New Technologies

Although a number of existing contemporary examples of typotecture reveal the dynamic involvement of digital tools during the design process, they lack the structural and spatial intricacy that contemporary (non-typotectural) digital or parametric architectural forms present. Consequently they do not constitute convincing evidence that new digital means can be critical to the future development of typotecture. By experimentation, however, it is possibleto prove the opposite to be the case. For this reason an in-depth practical investigation of the possibilities that emerge from the transformation of typographic elements into three-dimensional objects using new digital design software was conducted. It is worth noting at this point that the ultimate goal of these experiments was the development of three-dimensional typotecture (building forms, structural components such as columns, non-structural elements such as building skins and furniture); it is evident from the historical overview that the use of two-dimensional components (flat, positive or negative relief elements attached to building surfaces) is already quite widespread and advanced in terms of design approaches and implementation techniques.

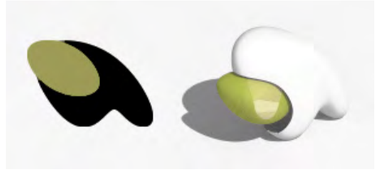


Fig. 95 The Letter: The A Experiment

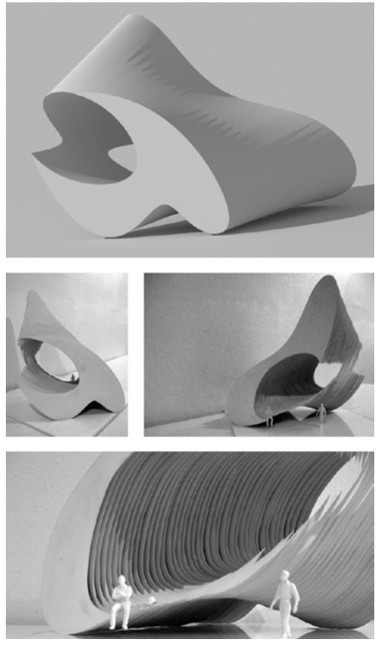


Fig. 96 The Letter: The A-B Experiment

The series of experiments involved techniques that are usually utilized in the design of contemporary architecture. However, instead of starting with random lines that form triangles, squares, rectangles, circles or other more abstract shapes, the initial components were two-dimensional letterform outlines. During this process no limitation, such as programme or site, was imposed. The main intention at this point was simply the building up of a morphogenetic "machine", capable of producing three-dimensional typographic forms with random meanings on three different structural scales: the letter, the word and the phrase.

THE LETTER. The first series of experiments focused on the smallest semantically distinguishing element in a written language, the letter. A number of two-dimensional glyphs were either imported or originally shaped in the software, and later, by using a number of morphogenetic parametric operations, these were transformed into spatial components. The objective of this first series was to test the possibility of generating complex sculptural objects that are able to constitute architectural parts or wholes, but which retain at the same time the semantic dimension of the glyph.

Throughout these experiments it became evident that when we try to generate a spatial version of a letter, the operation involved is always that of extrusion. However, a simple straight extrusion, as we have seen in many historical typotectural examples, does not favour the result in terms of originality and complexity. A way to avoid this design cliché is to parametrically define a certain set of additional opera-

Fig. 97 The Letter: The B-E Experiment

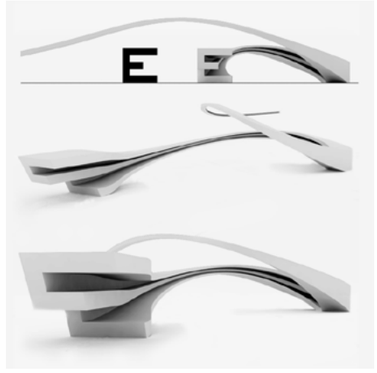


Fig. 98 The Letter: The E Experiment

Fig. 99 The Word: The AGFA Experiment

tions, such as curving, scaling, twisting, or combinations of these, while performing the extrusion **[Fig. 98]**. We can even transform a letterform into an abstract shape or into another letterform **[Fig. 96-97]**, or manually morph a three-dimensional version of a letterform, using its outline as a reference **[Fig. 95]**. In this way we retain the letterform's legibility, but at the same time we reach a structural complexity that in turn defines the unique spatial conditions. During this process, the part-features of the anatomy of the typeface selected (bars, arms, legs, bowls,etc) can also play a crucial role in the formation of functional interior and exterior spaces.

However, one of the most profound disadvantages of making letterforms into three-dimensional forms is the fact that they are by default two-dimensional and mono-semantic in nature. By placing a character in a three-dimensional environment, the designer thus needs to deal with its rear, 'wrong' side, which is a mirror version of the original and does not clearly communicate meaning. This is not always the case, as many characters, such as 'o' or 'w', offer structural symmetry; others become different letters once they are mirrored, such as the lower case 'b', 'd', 'p' and 'q'. In 'The AD Experiment' **[Fig. 96]**, the character 'a' transforms gradually into 'b'. However, when the viewer sees the rear view of the object, he reads it as 'd'. He/she can thus finally interpret the whole structure as the word 'ad'. These are exceptional cases; the result depends on whether the designer intends to invent creative ways of dealing with the 'wrong' side of the letterform. A final observation is the fact that the side views of three-dimensional letters (particularly in cases where the

Fig. 100 The Word: The PAUL Experiment

typeface

abcdefghijklmnopqrstuvwxyz

1st level of operations generating components

path of extrusion	curving of extrusion	scaling of extrusion 20%
displacement in x axis 1m	center of circle in x axis 0m	twisting of extrusion 0°
displacement in y axis 0m	center of circle in y axis 0m	
displacement in z axis 1m	center of circle in z axis 0m	style of extrusion solid

word

cross

2nd level of operations aggregating components

type of operation arraying / waving

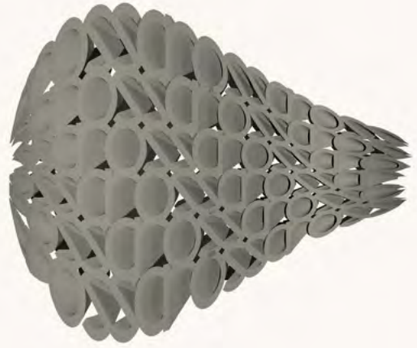


Fig. 101 The Word: The CROSS Experiment

typeface

abcdefghijklmnopqrstuvwxyz

1st level of operations generating components

path of extrusion	curving of extrusion	scaling of extrusion 100%
displacement in x axis 0m	center of circle in x axis 0m	twisting of extrusion 0°
displacement in y axis 0m	center of circle in y axis 0m	
displacement in z axis 3m	center of circle in z axis 0m	style of extrusion pixelated

word

home

2nd level of operations aggregating components

type of operation no operation

Fig. 102 The Word: The HOME Experiment

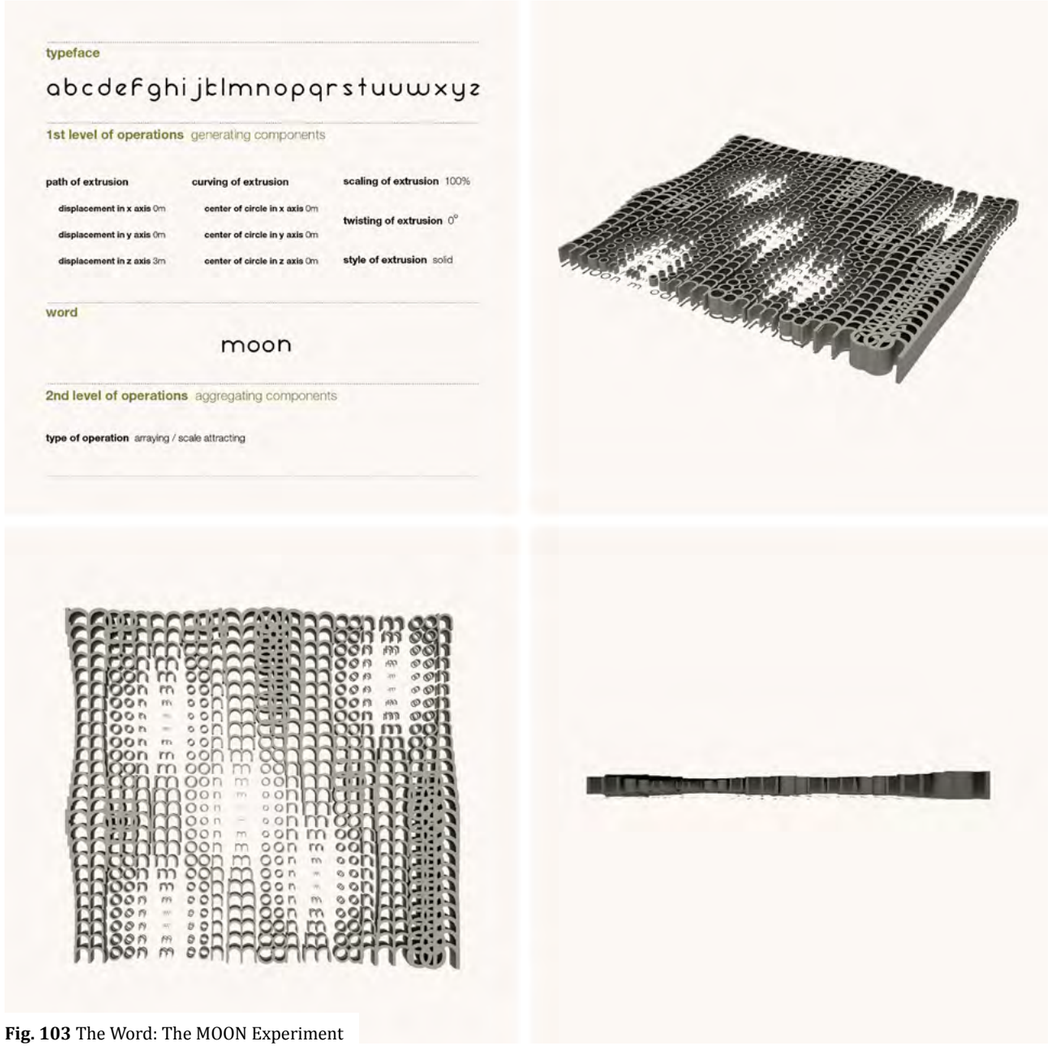


Fig. 103 The Word: The MOON Experiment

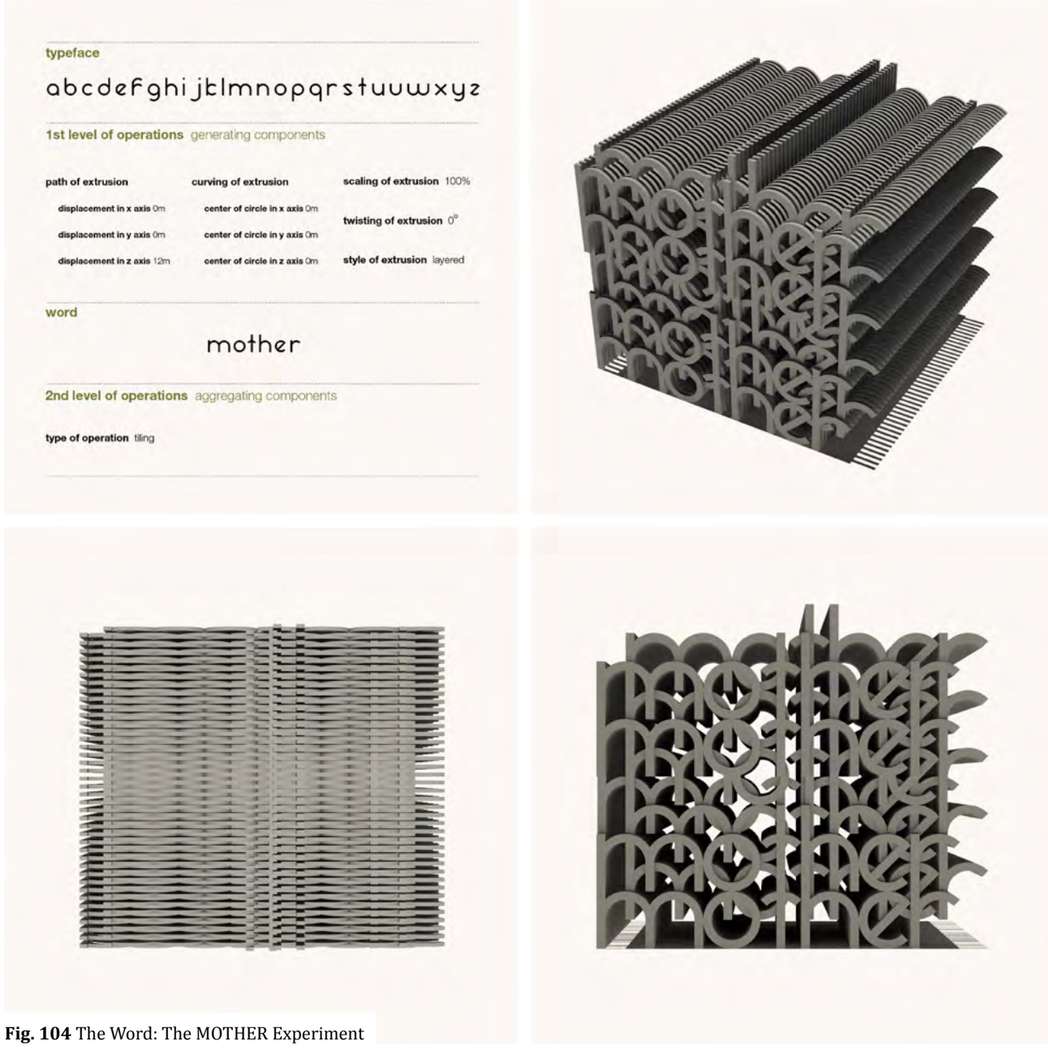


Fig. 104 The Word: The MOTHER Experiment

typeface

abcdefghijklmnopqrstuvwxyz

1st level of operations generating components

path of extrusion	**curving of extrusion**	**scaling of extrusion** 30%
displacement in x axis 5.1m	**center of circle in x axis** 3m	**twisting of extrusion** 135°
displacement in y axis 0m	**center of circle in y axis** 0m	
displacement in z axis -2.1m	**center of circle in z axis** 0m	**style of extrusion** outlined

word

car

2nd level of operations aggregating components

type of operation spiralling

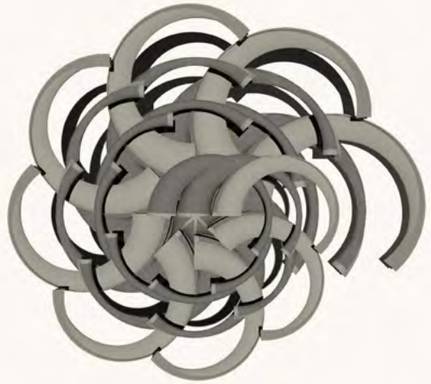


Fig. 105 The Word: The CAR Experiment

typeface

abcdefghijklmnopqrstuvwxyz

1st level of operations generating components

path of extrusion	**curving of extrusion**	**scaling of extrusion** 50%
displacement in x axis 0m	**center of circle in x axis** 0m	**twisting of extrusion** 90°
displacement in y axis 0m	**center of circle in y axis** 0m	
displacement in z axis 2m	**center of circle in z axis** 0m	**style of extrusion** solid

word

game

2nd level of operations aggregating components

type of operation branching

Fig. 106 The Word: The GAME Experiment

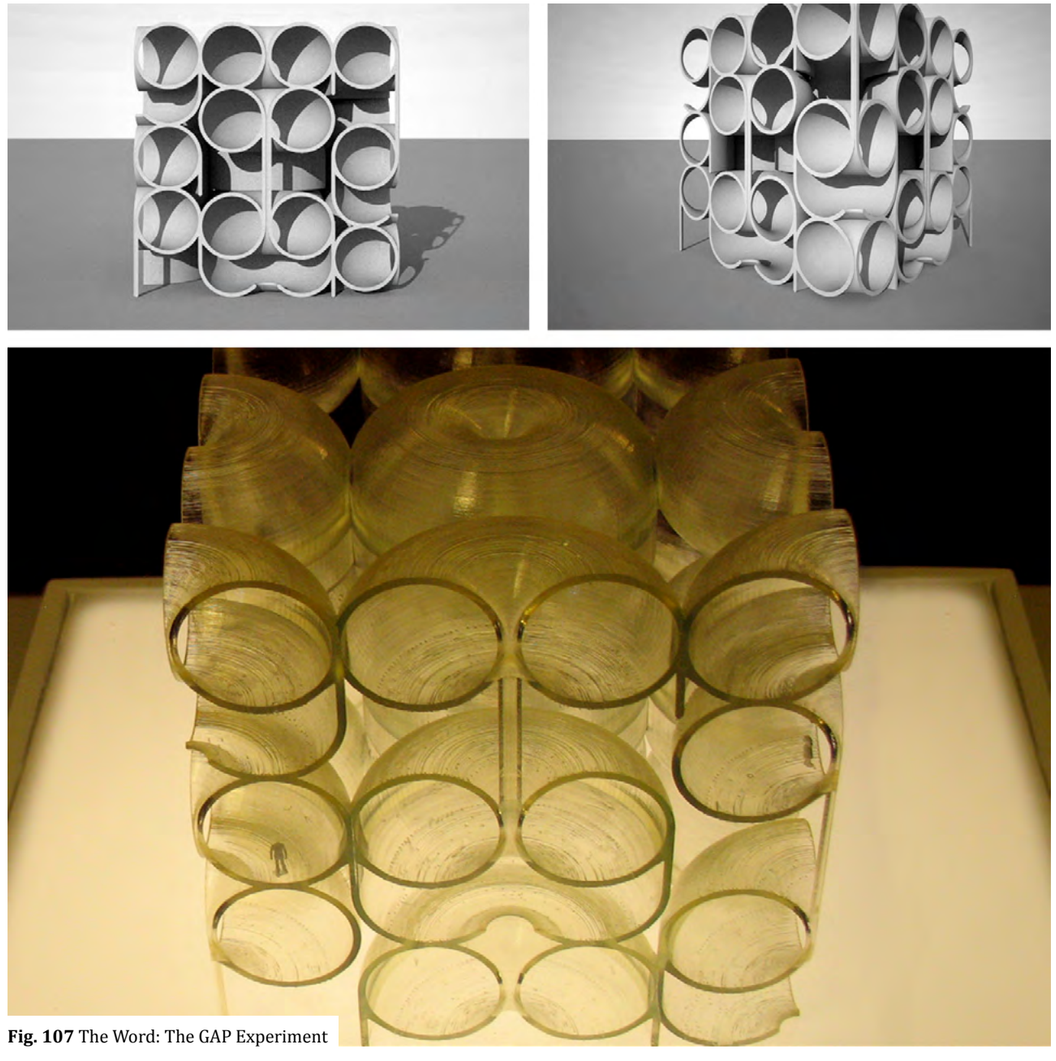


Fig. 107 The Word: The GAP Experiment

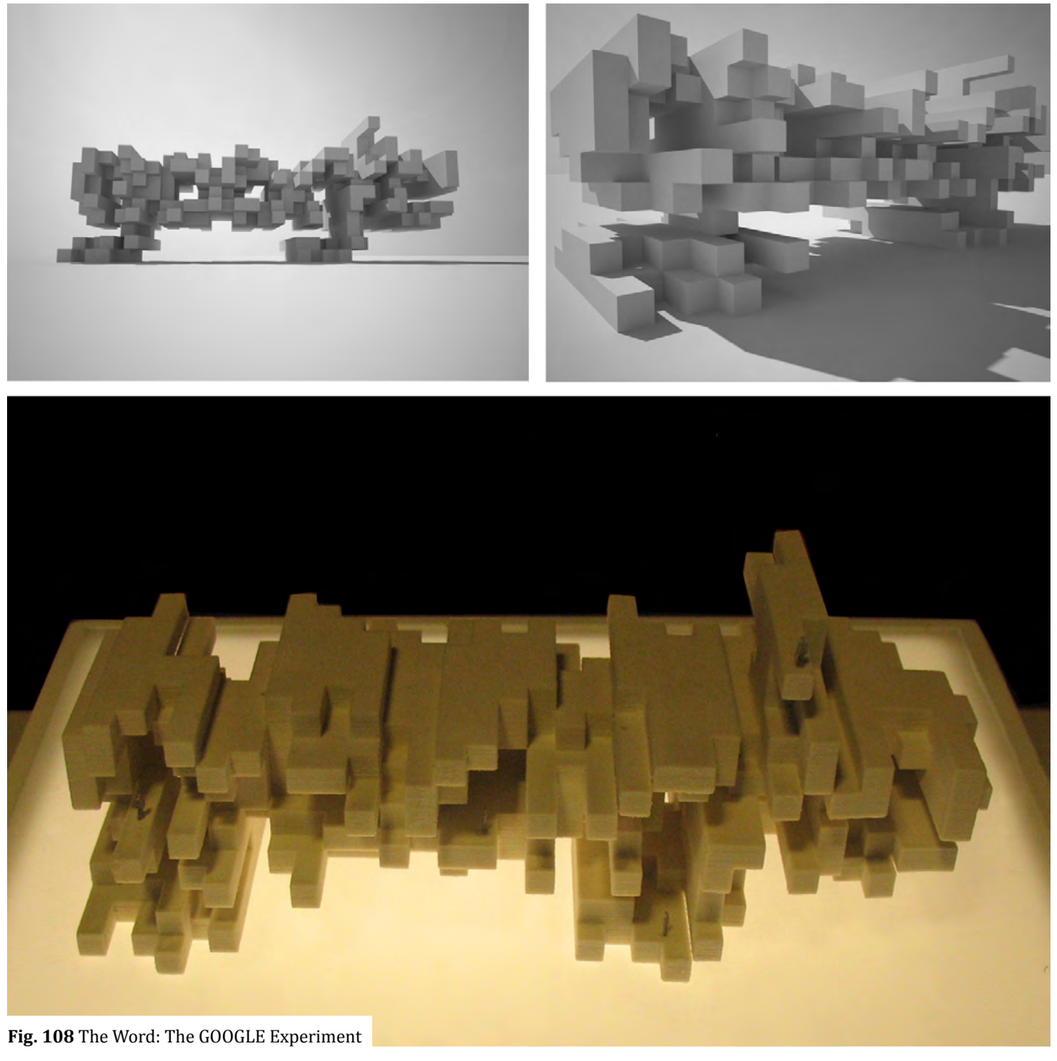


Fig. 108 The Word: The GOOGLE Experiment

Fig. 109 The Phrase: The BISMALLAH 1 Experiment

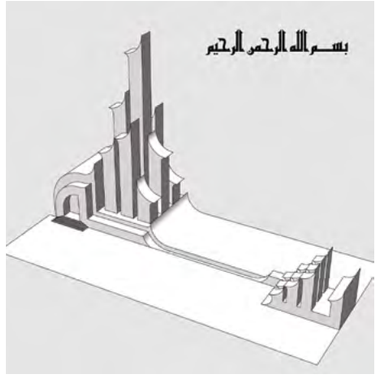


Fig. 110 The Phrase: The BISMALAH 2 Experiment

extrusion is long) do not normally communicate meaning. They are abstract surfaces that reduce the communicative power of the two-dimensional letterforms.

THE WORD. A three-dimensional word can be approached in two ways. Either the word can be treated as an entity (a logogram) and manipulated as a whole **[Fig. 101-106, 108]**. Or, alternatively, each glyph can be manipulated separately and all the three-dimensional components that have been generatedare aggregated, following a second level of manipulation **[Fig. 100, 107]**.

The advantage of the first approach is that the content of the object generated is easily readable, and thus more direct. This type of output could be used in cases where typotecture functions as a means of identification, navigation or education. Like the letter scale, the disadvantage of these outputs is the fact that the semantic dimension of the word, the message, is only properly legible from one side of the building. The rear viewis not functionally legible, and the side views do not present any semantic content.

The advantage of the second approach is that it allows the designer to deconstruct the word instead of treating it as a unit, and to extrude each glyph in a different direction in space. In this way, the viewer, in any position in relation to the object, can read the letters and start gradually structuring the message.The designer generates intricate spatial environments, allowing letterforms to play a substantial rolein both the plans and the sections of various directions, and offers a playful involvement for the viewer in the decoding of the message. In these cases Peirce's pragmatic dimension of the sign is of great importance. Factors of familiarity, age and the neuro-intellectual ability of the viewer influence the level of comprehension and the interpretation of the message.

THE PHRASE. The generation of three-dimensional phrases is probably the most challenging stage of experimentation. Any attempt to manipulate a phrase as an entity is very restrictive, and usually leads to lengthy structures that lack intricacy **[Fig. 112]**.

A reasonable way of approaching the phrase is to work independently with each word and then reassemble them in a creative way **[Fig. 110]**, or even to deconstruct all the words and work on a letter scale. However, an extreme or random three-dimensional displacement of words or letters **[Fig. 113, 114]** can lead to semantically poor outcomes: a structural extravaganza for its own sake that discourages the viewer from engaging in any process of communication.

On the other hand, phrases seem to work well when their structural elements (words or letters) present shallow extrusion and are treated as components of a skin (non-structural elements) **[Fig. 109, 111]**. A codified placement of elements can generate unexpected non-repetitive lighting conditions, as well as a visual jigsaw that encourages the viewer to decode it and extract meaning.

The three series of experiments generated a range of outputs that were finally mapped in the 'Taxonomy of Experiments' **[Fig. 115]**. The design operations used for the gen-

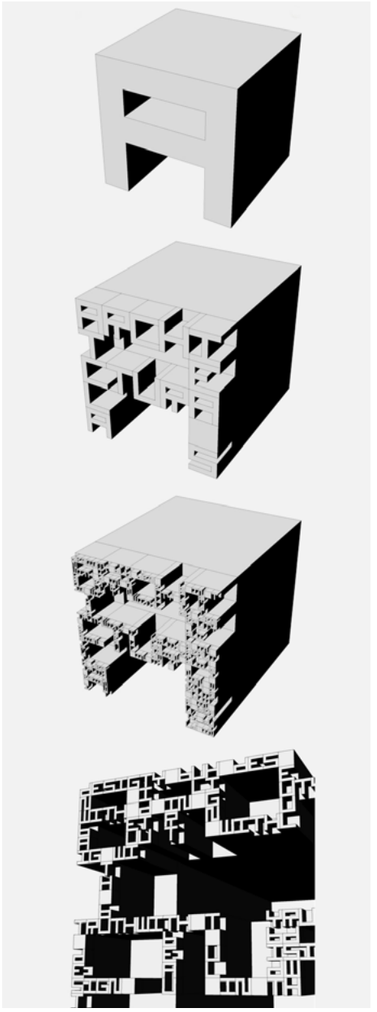


Fig. 111 The Phrase: The AA Experiment

Fig. 112 The Phrase: The EUSTON 1 Experiment

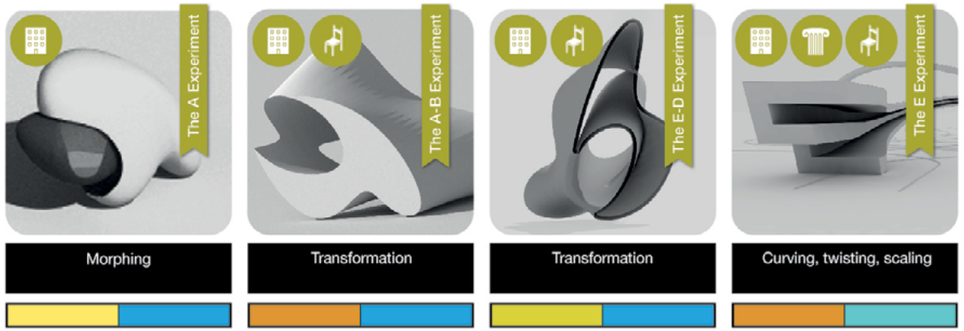
eration of each output were outlined. The results were also assessed in terms of constructability, legibility/readability and complexity/originality. Constructability refers to whether the output could be reasonably translated into a building form (a 'thick' object whose interior space can be accommodated), structural elements ('thin' objects that define spaces), non-structural elements (almost two-dimensional objects that work mostly as cladding or skin on a building), or pieces of furniture; there are also non-constructable entities. Legibility/readability refers to the capacity of outputs firstly to be perceived as typographic elements and secondly to communicate a message. Complexity/originality refers to the level of the output's distinctive identity. This evaluation formed an appropriate design sensibility before the establishment of briefs for the newly proposed typotectonics. Some outputs were intended to become the subject of an iterative evolutionary process through the consideration of further crucial parameters such as project site, building programme, typeface aesthetics, message content, etc., for the design of fully developed typotectural forms.

Fig. 113 The Phrase: The EUSTON 2 Experiment

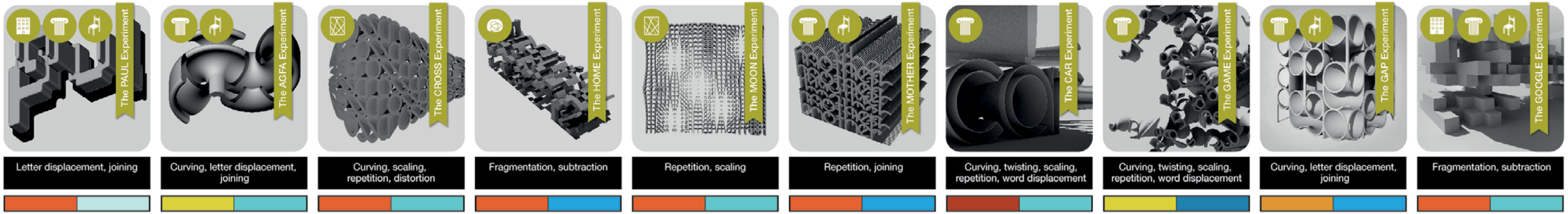
Fig. 114 The Phrase: The EUSTON 3 Experiment

Taxonomy of experiments

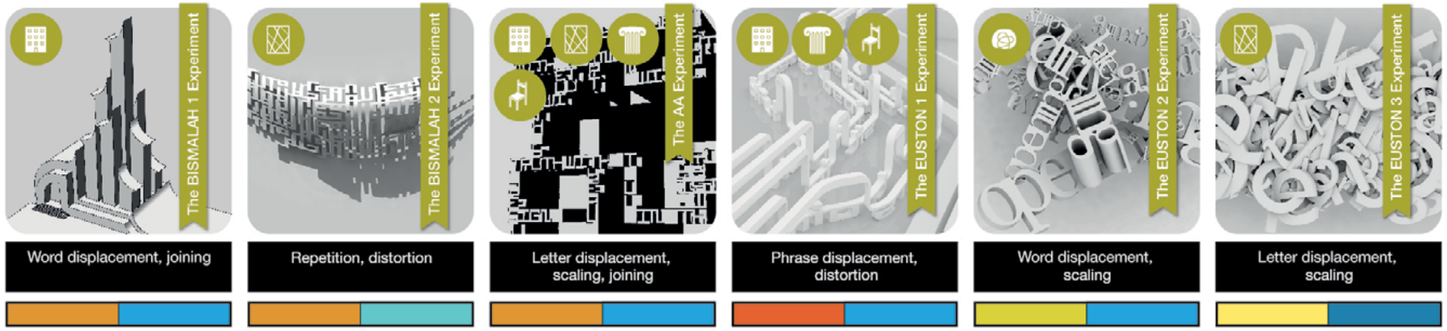
The Letter



The Word



The Phrase



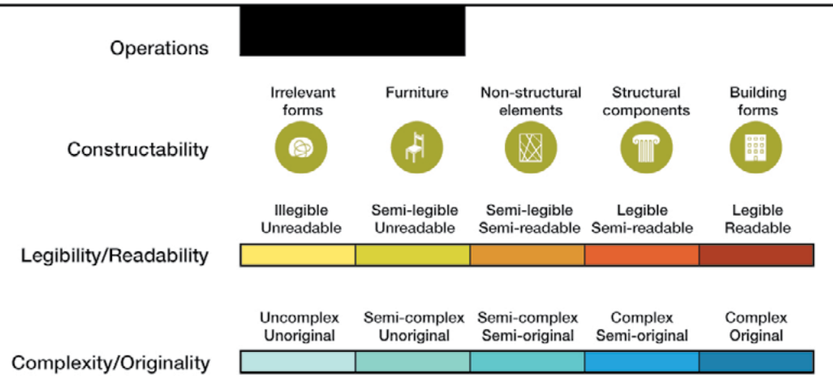


Fig. 115

4

Digital Futures of Typotecture

In order for the validity of typotecture in contemporary contexts to be finally evaluated, a range of proposals, using current digital tools, were carried out. For all of these final explorations a specific project brief was initially formulated. All the briefs were designed for the city of London, a contemporary urban environments where new social and technological forces are rapidly emerging and shaping a rich cultural heritage. Additionally, the Latin-based alphabet of the English language constituted a second parameter for these final typotectural experiments, except for the internationally recognized symbols, due to its relevance to the context and its global recognition, as well as the inability of the author to interpret writing systems unknown to him, such as Chinese or Arabic. Through a strategy involving firstly the influence of a specific typotectural precedent, secondly the definition of a concept and thirdly an evolutionary design process for each proposal, a final outcome was achieved and assessed **[Fig. 116]**.

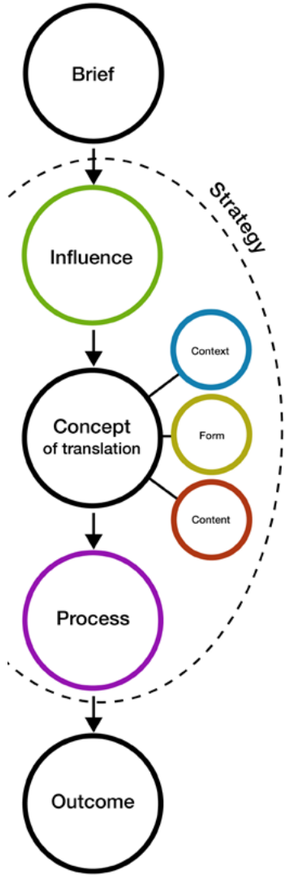


Fig. 116 Steps for the design of the new typotectural proposals

a. Bill(ding)board

The first area of interest for the application of new typotectonics is undeniably in commercial typologies. As already demonstrated, there has already been significant typotectural activity, though not always effective, for this type of environment since the emergence of the early industrial society.

Fig. 117 Chromebook, a laptop by Google in collaboration with Hewlett-Packard (HP)

Thus it would seem obvious to test a possible evolution of this approach considering the current commercial context, and using recently emerging technological innovations. For this reason, a contemporary influential brand of products, services or experiences needed to be selected. The main idea behind this experiment is to provide the space associated with this brand with its own visual identity, to create the brand's unique architectonics that have the inbuilt capacity to communicate relevant permanent and ephemeral messages.

i. Brief

In the current cyber-dominated culture, the notion of brand extends beyond the tactile world. New web-based virtual tools and environments acquire phenomenal power and, now number among the key corporations worldwide. Examples of these are the internet search engines which have become globally recognized super-brands. More and more people around the world depend daily on their services while surfing online to reach the information they need amongst the millions of bytes stored in cyber-space. Many of them, the most prominent example being Google, have not only successfully promoted other online tools but also recently started expanding to the real world (e.g. diversifying into the provision of smart phones, laptops, etc) **[Fig. 117]**. Thus a need for a physical space to accommodate, advertise and sell these products emerges. Google Temp Store is a proposal of the first trial physical exhibition and retail space for Google which reflects the organisation's recent ventures. Google Temp Store, as its name implies, needs be a temporary lightweight structure and the targeted area for its installation should be a busy commercial hub in central London.

ii. Strategy

INFLUENCE. A concept drawn from the history of typotecture, Robert Venturi's 'bill-ding-board' was the catalyst for the design process of the Google Temp Store. It has already been established in this research that from the 1960s, dismissing the simplification of architectural functions and forms that Modernism dictated, Venturi adopted a 'both-and'[115] attitude towards architecture. With this approach he acknowledged the power of new popular means of communication within the urban fabric. Venturi showed a particular interest in billboards, either painted, with static imagery **[Fig. 118]**, or electronic, with changing information **[Fig. 119]**. He cited several historical precedents in which architecture engaged with communication and which, he insisted, could help clarify the essential quality of architecture, among these being the billboard: 'And the American billboard as a commercial element ironically civic in its scale – why can't the modern billboard and the modern building be integrated?'[116] Thus for Venturithe billboard, by providing an urban function in itself, should become a dynamic tool for architects to help their buildings depart from hypo-significance and present complexity with new multivalent meanings. In relation to-electronic/digital billboards in architecture, Venturi's recent manifesto, *Learning from Tokyo*, which further articulates the

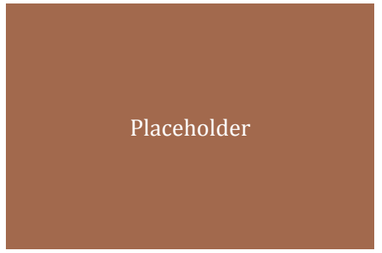


Fig. 118 A painted billboard from the 70's in Las Vegas, US

Fig. 119 Digital billboards from the 00's in Tokyo, Japan

115. Venturi says in detail: 'I prefer 'both-and' to 'either-or', black and white, and sometimes gray, to black or white. A valid architecture evokes many levels of meaning and combinations of focus: its space and its elements become readable and workable in several ways at once. Venturi, *Complexity and Contradiction in Architecture*, p. 16
116. Robert Venturi and Denise Scott Brown, *Architecture as Signs and Systems for A Mannerist Time* (Cambridge, MA: Harvard University Press, 2004), p. 25

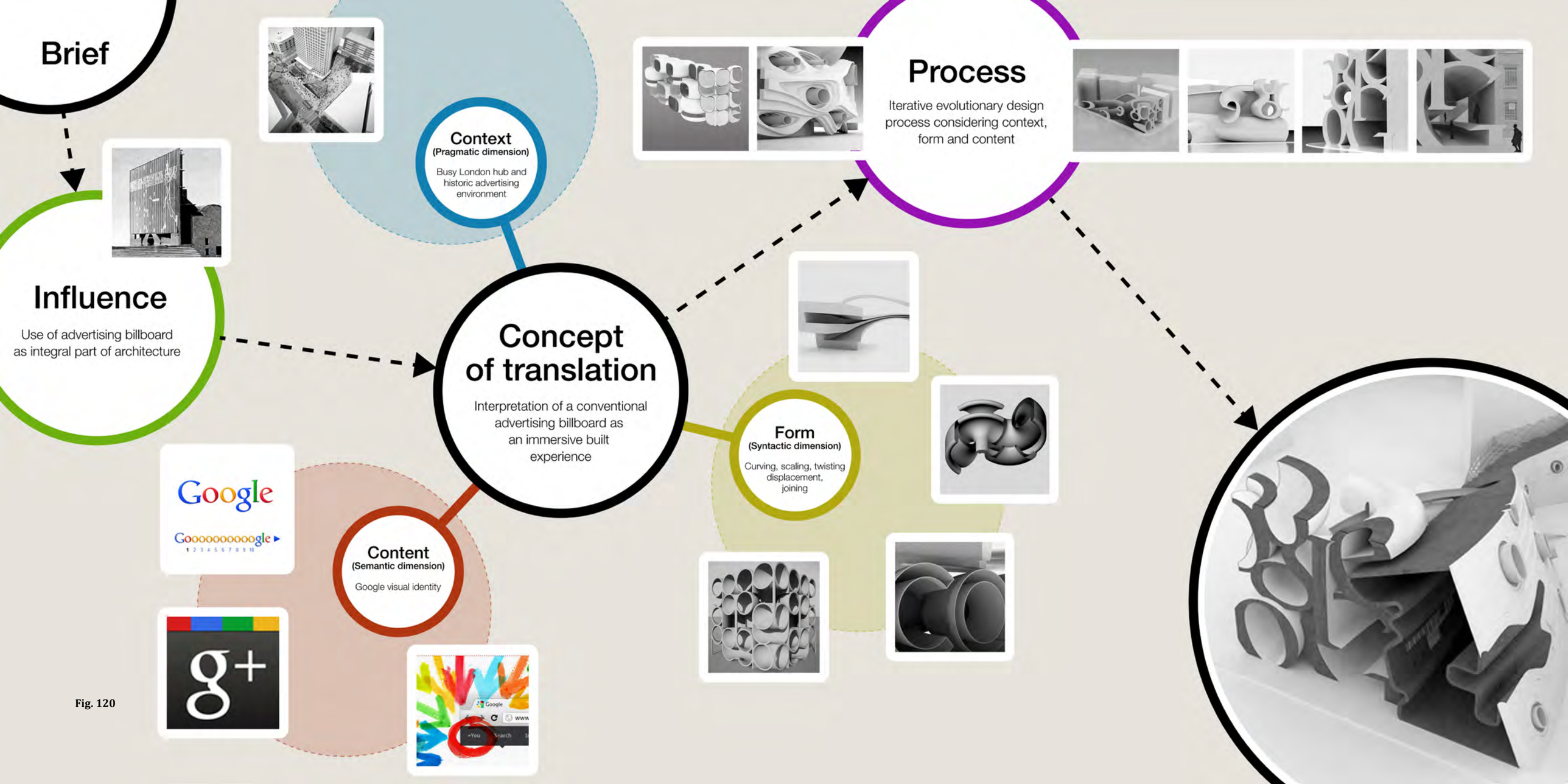

Brief
Influence
Use of advertising billboard as integral part of architecture
Context
(Pragmatic dimension)
Busy London hub and historic advertising environment
Concept of translation
Interpretation of a conventional advertising billboard as an immersive built experience
Process
Iterative evolutionary design process considering context, form and content
Form
(Syntactic dimension)
Curving, scaling, twisting displacement, joining
Content
(Semantic dimension)
Google visual identity
Google
Gooooooooooogle

Fig. 120

approach of his iconic *Learning from Las Vegas*, enthusiastically proclaims: 'Viva the facade as computer screen! Viva facades not reflecting light but emanating light – the building as a digital sparkling source of information, not as an abstract source of light'.[117]

As a result of this fascination, Venturi and Scott Brown experimented throughout their career with embracing the use of billboards as integral dynamic parts of architecture; this was first noticeably evident in their unbuilt competition entry for the National College Football Hall of Fame **[Fig. 119]**in 1967. Looking at this project in more detail, the proposal consisted of a plain vaulted 'box' building, or 'shed' as Venturi called it, with highly rich internal spaces attached to a gigantic LED panel.

> The front is made out of one of those flashing light board systems. And you enter in really sexy way - up ramps and through an entry door that is the shape of a football. Behind that is a long nave with chapels in ranks like a giant Italian villa. There is a hierarchy of the football saints; great projections and movies on the vaulting of the nave show the great football plays, and in the chapels are relics like those of saints. Here they would have the sweatshirt of Knute Rockne - the actual object that is reflected in the movies on the vaulting and on the front, the electric billboard.[118]

We see that the interior is a mystifying mix of movement and

117. Ibid, p. 94
118. Clyde Ray Smith, p. 290

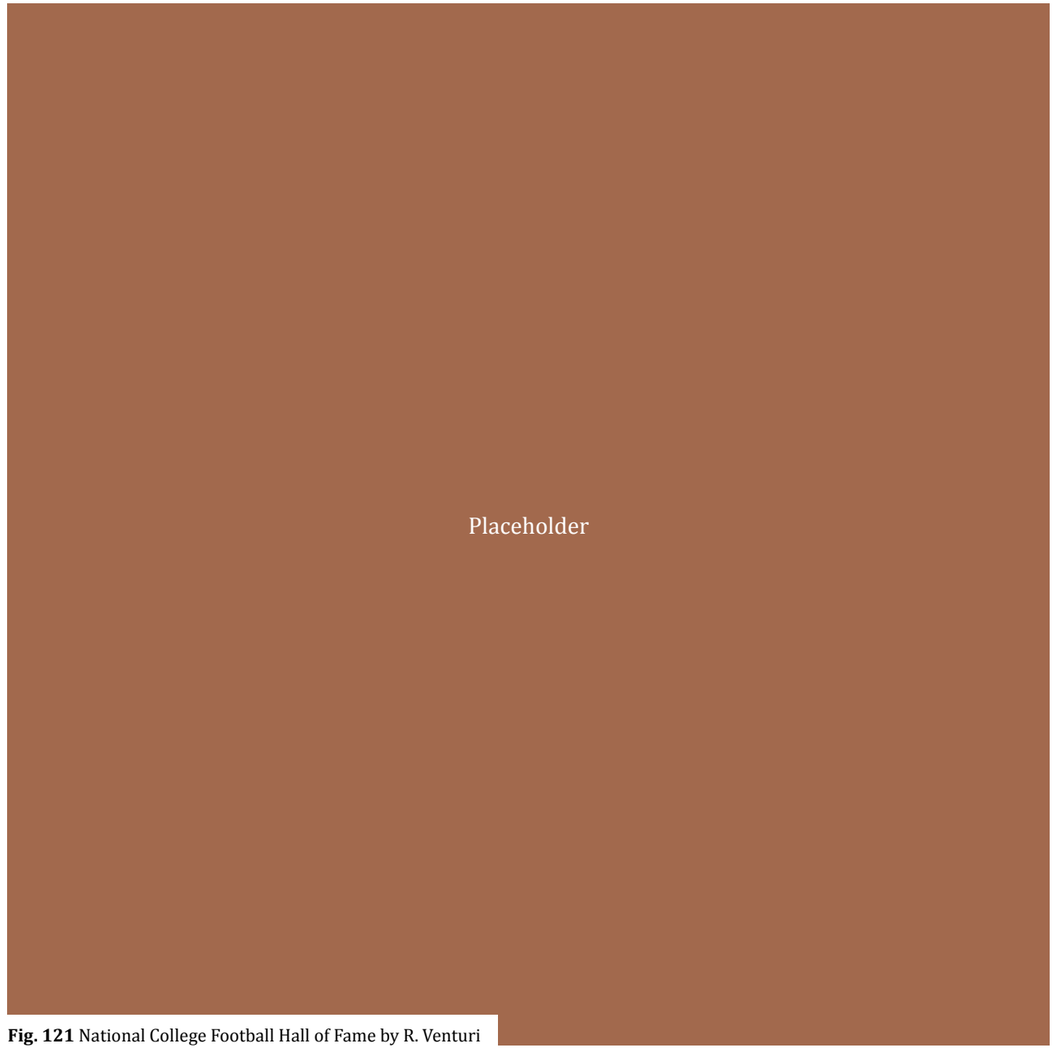


Fig. 121 National College Football Hall of Fame by R. Venturi

changing scale that helps the visitor to experience the excitement of the sport subliminally, and the exterior of the building is designed to create a mode of arrival that heightens the sense of anticipation.[119] Venturi called their attempt to hybridize a billboard with conventional architectural elements a 'bill-ding-board':

> Here is what we call a 'bill-ding-board' – an example of architecture as communication par excellence – the integration of sign and building, where from a parking lot on a Saturday afternoon you can sit in your car or have a picnic and watch moving imagery on a billboard as information and entertainment.[120]

What renders the National College Football Hall of Fame and Venturi's enduring fascination with billboards interesting is the fact that a commercial medium that emerged in America as a consequence of the trend for commercial advertising posters, and that quickly became a prominent feature in all post-modern urban environments, is being explored for the first time as a potentially crucial component of architecture. Here it is not considered as an extra, supplementary layer that covers an architectural wall, but instead becomes the wall itself. It translates into an important spatial feature that defines topological relations, but, at the same time, articulates vital semantic information in an urban environment. As Venturi says, this is 'an architecture that embraces the human dimension over those of abstract expression – that celebrates the beginning of an age of virtual universal literacy

119. 'National CollegeFootball Hall of Fame Competition', in VSB Venturi Scott Brown <http://www.venturiscottbrown.org> [accessed 31 January 2013]
120. Venturi, Scott Brown, *Architecture as Signs and Systems for a Mannerist Time*, p. 44

and embraces meaning over expression'.[121] This approach can be seen to be favoured and further exploited by a newer generation of architects during the 1990s, in an architectural trend that has been referred to as 'media architecture'. Media architecture took advantage of new digital technologies and sought, like Venturi, the intersections of physical and digital space through the generation offrequently interactive media 'wraps' around mostly 'shed'-type buildings **[Fig. 122]**.

It becomes evident that in National College Football Hall of Fame (and later examples of media architecture), the structure of the building (the syntactic dimension) becomes secondary, as the main theme is now the semantic attributes of the form. The building acquires the power to communicate messages explicitly, but it lacks sophistication in terms of structure. Also, although the billboard is used as an inclusive architectural feature, it remains a distinctive element. It is a paradoxical mediating wall that, despite its communicative impact, cuts off the dialogue between the exterior and the interior. Venturi rightly sought to extend the same communication process to the interior by filling it with comparatively static or kinetic typography and imagery, but this approach did not include the structure. Instead, he proposed the generation of a vaulted, church-like form behind the billboard, making the National College Football into a temple, which is a somewhat absurd juxtaposition. And here we should question Venturi's 'both-and' architectural approach. Should an architect design merely by imitating what exists elsewhere, or instead reinterpret ideas seen in historic or vernacular landscapes? Presumably further analysis of the history of

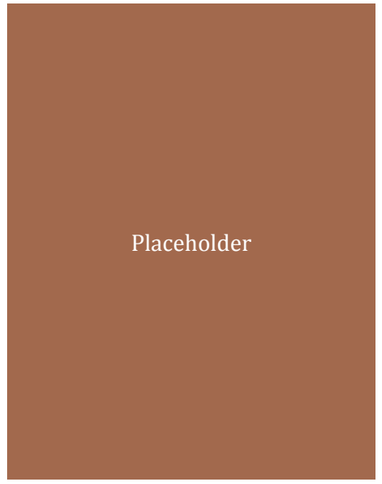


Fig. 122 Cover of a book about media facades published by the Media Architecture Institut in 2009

121. Robert Venturi, *Iconographies and Electronics upon a Generic Architecture* (Cambridge, MA: MIT Press, 1996), p. 5

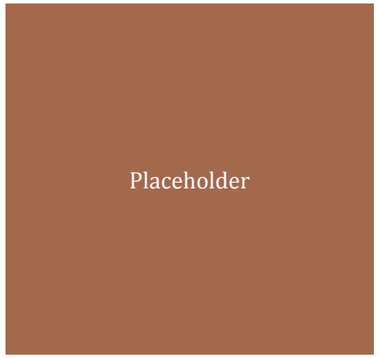


Fig. 123 I AM A MONUMENT drawing by R. Venturi, D. Scott Brown and S. Izenour

National College Football and the various visual codes of its cultural-commercial identity, similar to the ones depicted on the billboard, could have become a dynamic tool for the structural features of the building. Nowhere is it documented whether there was any such ambition for their 'bill-ding-board', and this was not undertaken in the National College Football Hall of Fame, probably due to limited design and construction capabilities. However, in order for this term to be fully articulated with their proposal, a possible integration of typographic (or even pictorial) structural elements should have been considered. The term itself reveals an intention to give dimensionality to a billboard (translating it into a building), which is not achieved in this specific project by Venturi.

CONCEPT OF TRANSLATION. The design purpose of Google Temp Store is to investigate further the concept of a 'bill-ding-board' through the use of contemporary digital tools, and ultimately reach a more successful hybridization of billboard and building. A crucial aspect of this project is the embedding of identifiable static or dynamic visual elements of a brand in two dimensions (similar to the National College Football Hall of Fame, or media architecture), but at the same time the achievement ofthe generation of three-dimensional elements that will expand the brand's identity in space. The signification process will not only work visually, but will turn into a multi-sensory experience. In order to illustrate better the intention of the project we can cite Venturi's diagram 'I AM A MONUMENT' **[Fig. 123]**. With this sketchy drawing Venturi suggests that a blinking sign on top of a public 'shed'-

type building can differentiate it from surroundings more effectively than any other architectural intervention.[122] What Venturi sought withthe National Football Hall of Fame was the translation of this sign into a wall **[Fig. 124]**. In the same way, media architecture attempted to translate it into a facade 'wrap' **[Fig. 125]**. But what Google Temp Store seeks to achieve is the partial embedding of the sign's content into the building's tectonics **[Fig. 126]**. However, as has already been identified in the second chapter, this embedding requires extreme caution in terms of semantics. Messages in such an approach become constant and permanent, and choices which have not been considered carefully can soon seem outdated and irrelevant, particularly in commercial settings. This is the main reason why the brief for this design case study was for a temporary structure. The ephemeral nature of the building enables the maximum exploration of the possibilities of a contemporary 'bill-ding-board'. A billboard is almost always temporary, as, probably, a 'bill-ding-board' should be, fundamentally. In any case, for the design of a 'bill-ding-board', three parameters needed to be considered: the context (the pragmatic dimension), the form (the syntactic dimension) and the content (the semantic dimension).

Context. In terms of pragmatics, the chosen context for Google Temp Store's installation was the intersection of two traditionally busy high streets in central London: New Oxford Street and Charing Cross Road. The proposed site is the areasouth of London's landmark Centre Point building, which used to operate with difficulty in terms of circulation

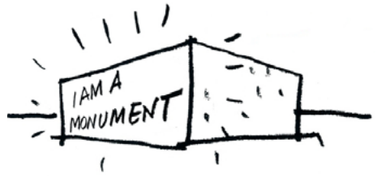


Fig. 124 Diagrammatic representation of the National College Football Hall of Fame

Fig. 125 Diagrammatic representation of contemporary media facades

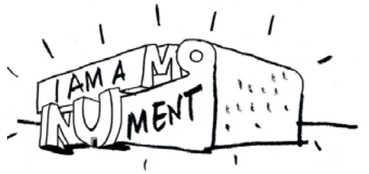


Fig. 126 Diagrammatic representation of the Google Temp Store

122. Venturi, Scott Brown, Izenour, *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form*, p. 149

Fig. 127 Proposed site for Google Temp Store

Fig. 128 Experiments studied for the form of Google Temp Store

Fig. 129 Proposed typographic content for Google Temp Store

and usage, but has recently undergone redevelopment and has been transformed into an open-plan piazza. However, one of the few dynamic features of the earlier configuration was a row of "blind" facade buildings that was used, probably in a limited way, as a surface for advertising billboards **[Fig. 127]**. To ensure that this important London hub retain its historical functionality and atmosphere and continue to be perceived and interpreted in the same way by visitors, Google Temp Store should function as a billboard for the brand; but in this case it should be one with spatial qualities that impart a "Googlesque" sculptural mood to the new empty open space and define distinct circulation patterns within it. Thus the notion of a 'bill-ding-board' makes perfect sense in this particular context.

Form. As a starting point for the store's structural configuration, a number of design exercises were selected to be studied further: 'The E Experiment', 'The AGFA Experiment', 'The CAR Experiment' and 'The GAP Experiment' **[Fig. 128]**. All of these involved extrusion based on curving, with or without twisting and scaling, while the latter two were further manipulated by repetition, letter or word displacement and joining. The advantage of these experiments was primarily the formation of a typographic façade which functions two-dimensionally (similar to a billboard) and transfers messages more explicitly, but at the same time it enabled the generation of a porous unit made of individual components, generating effective multi-directional circulatory paths for visitor navigation. In a spatial configuration such as this the

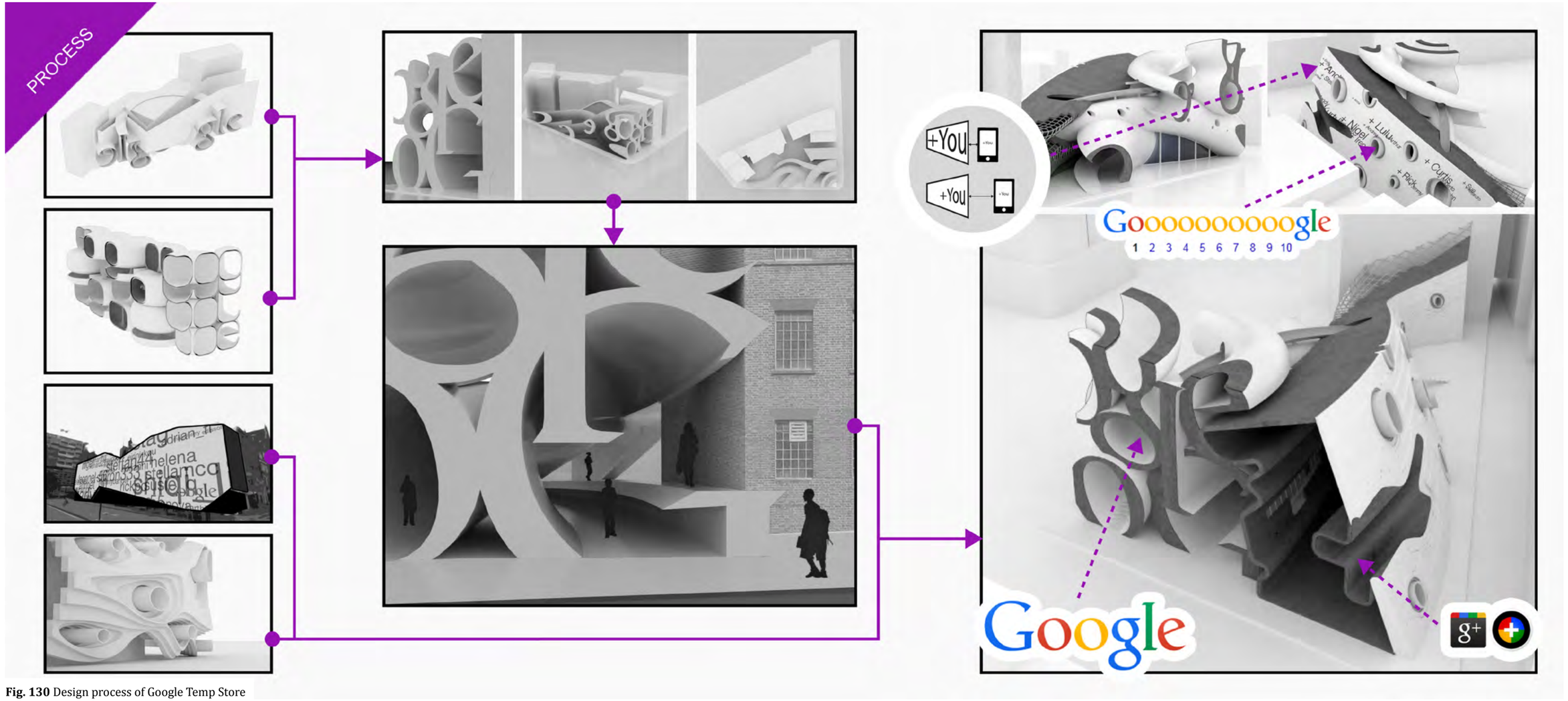


Fig. 130 Design process of Google Temp Store

recipient initially encounters a visual mode of large-scale two-dimensional graphics, which is familiar in terms of denoting the existence of an advertisement. But, afterwards, instead of playing with visual perception through unfamiliar or fragmented content (a common technique in advertising), the facade attempts to engage the attention of the visitor through new, unfamiliar visual-spatial codes. The paths invite the visitor to investigate further this new experience, and as such they become part of it.

Content. Although the semantic dimension (content) of this proposal becomes somewhat secondary, as the medium (signifier) is the dominant message, it still holds a critical role. The visual identity of the brand **[Fig. 129]**, the most important element being the iconic multicoloured 'Google' logo, needs to be explicit in order for the visitor to subliminally connect this unique spatial experience with the brand. Additional characteristic typographic features and tricks of visual identity can enhance this association further. A example of this would be the repetition of letter 'o', as seen on Google's search results web pages (the word 'Goooooooooogle' appears at the bottom of the page), which emphasizes the richness of information, and consequently knowledge, available via Google. Also, the recently developed 'Google+' platform on smartphones, where the user can access all the Google applications via one account, can generate a second level of messages through the interaction between mobile phone users and the building.

PROCESS. The next step was the development of the final output through an iterative evolutionary process (versioning) **[Fig. 130]**, by considering simultaneously all the parameters above. The outcome had to be capable of generating optimumexternal and internal circulation within the site but at the same time function as an advertising billboard (context). It had to be efficient in terms of constructability and take advantage of the peculiar anatomy of the logo's serif typeface, forming unique tectonic and spatial conditions (form). It had to be consistent with Google'svisual identity (content), so that the final experience is indelibly imprintedwith the values of the brand.

iii. Outcome

Google Temp Store is a lightweight metal structure consisting of three zones **[Fig. 131]**. The 'vertebra' constitutes an aggregation of fluid bone-like extrusions of the 'Google' logotype letters. Letters 'G' and 'o' work as public pathways for the surrounding context **[Fig. 133]**, while the rest either become structural elements or house private functions (for example the lower counter of the letter 'g' transforms into an exhibition space). The 'flesh' is a long open-plan space melting onto the 'vertebra' on one side and superimposed by the symbol (+) on the other, creating a reference to the 'Google+' online environment. This is the area where the brand's products are displayed, and also where they can be purchased. The 'epidermis' is the outer long side surface of the 'flesh' that functions as an urban-scale interactive screen. The whole building is an

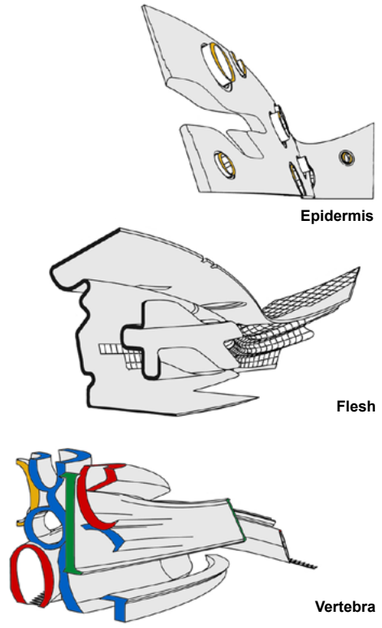


Fig. 131 The three zones of Google Temp Store

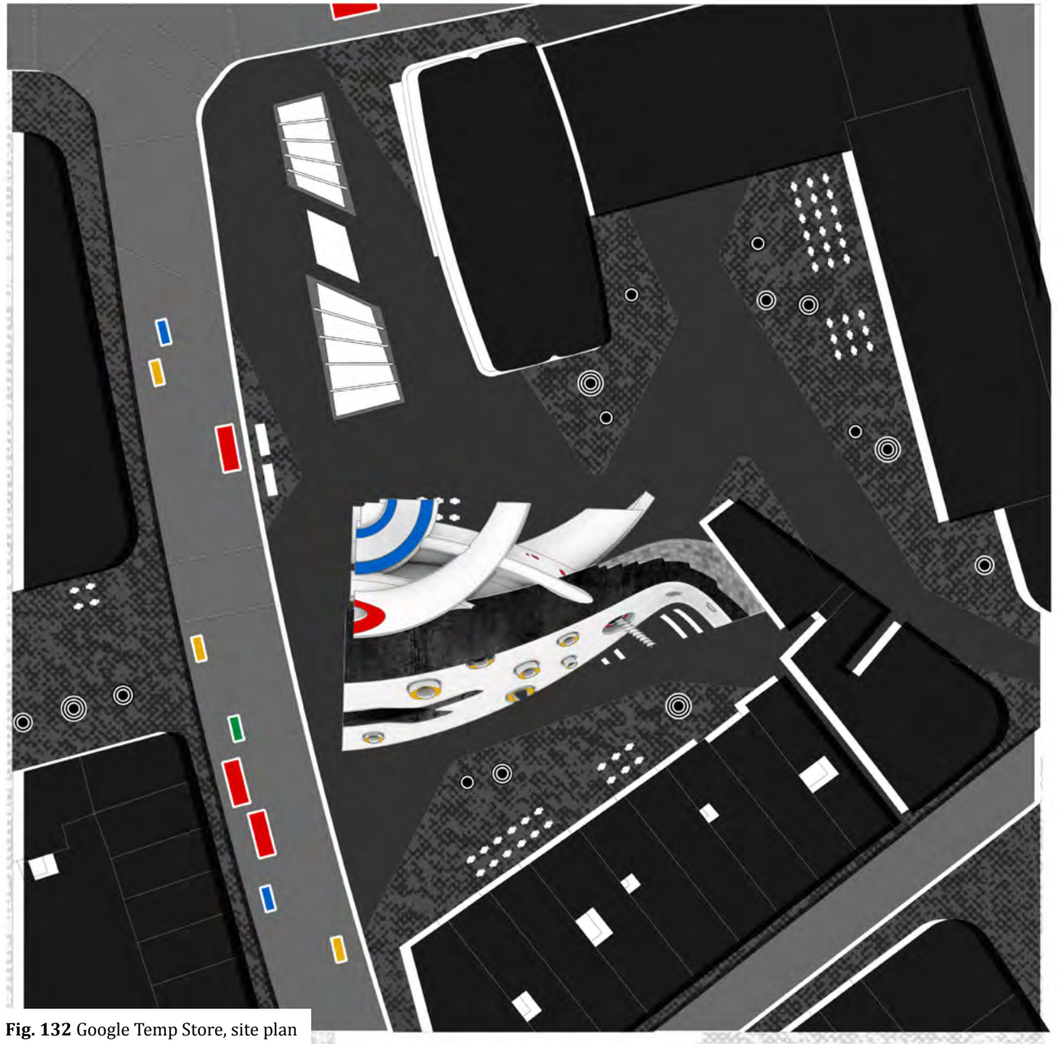


Fig. 132 Google Temp Store, site plan

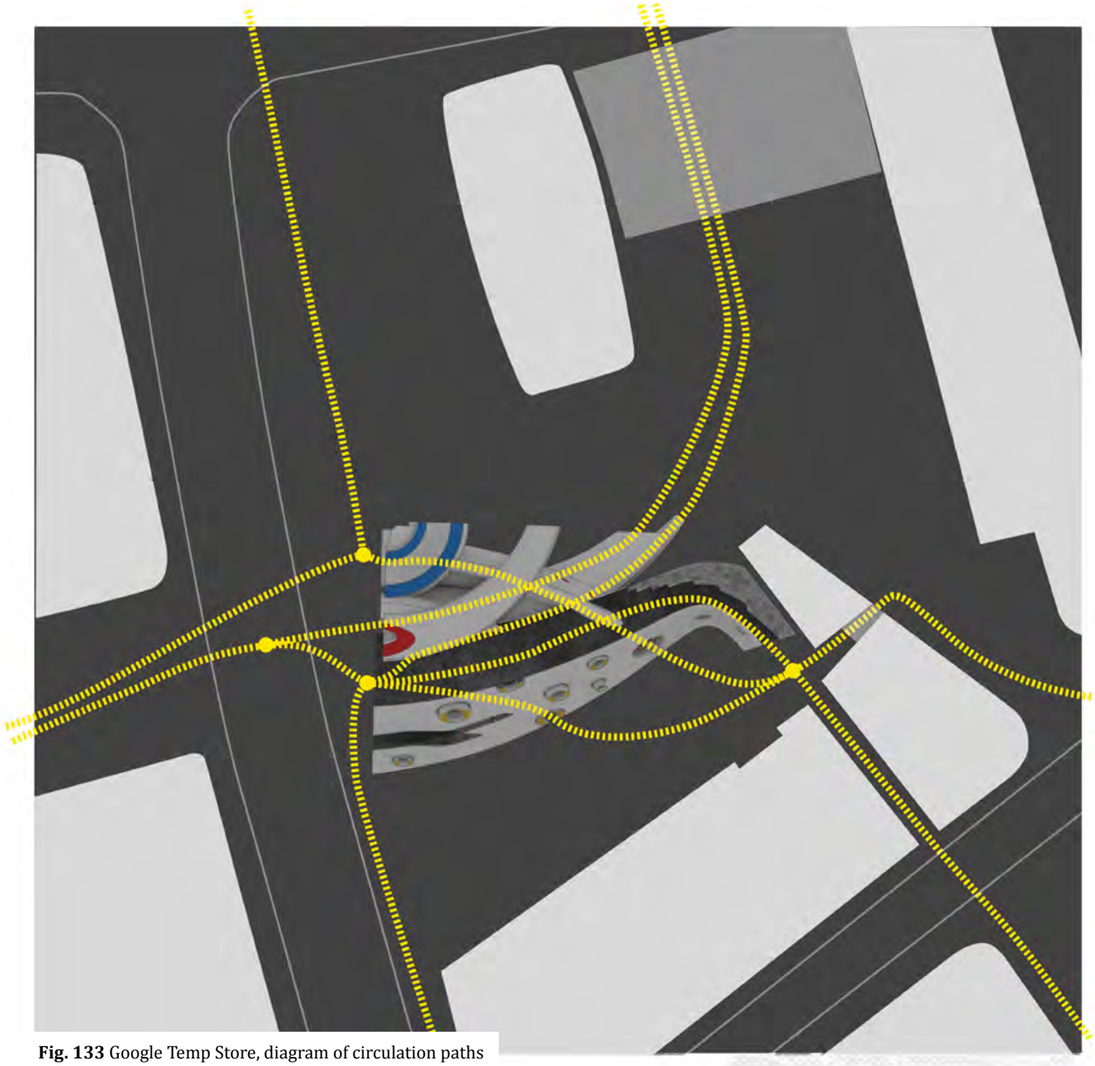


Fig. 133 Google Temp Store, diagram of circulation paths

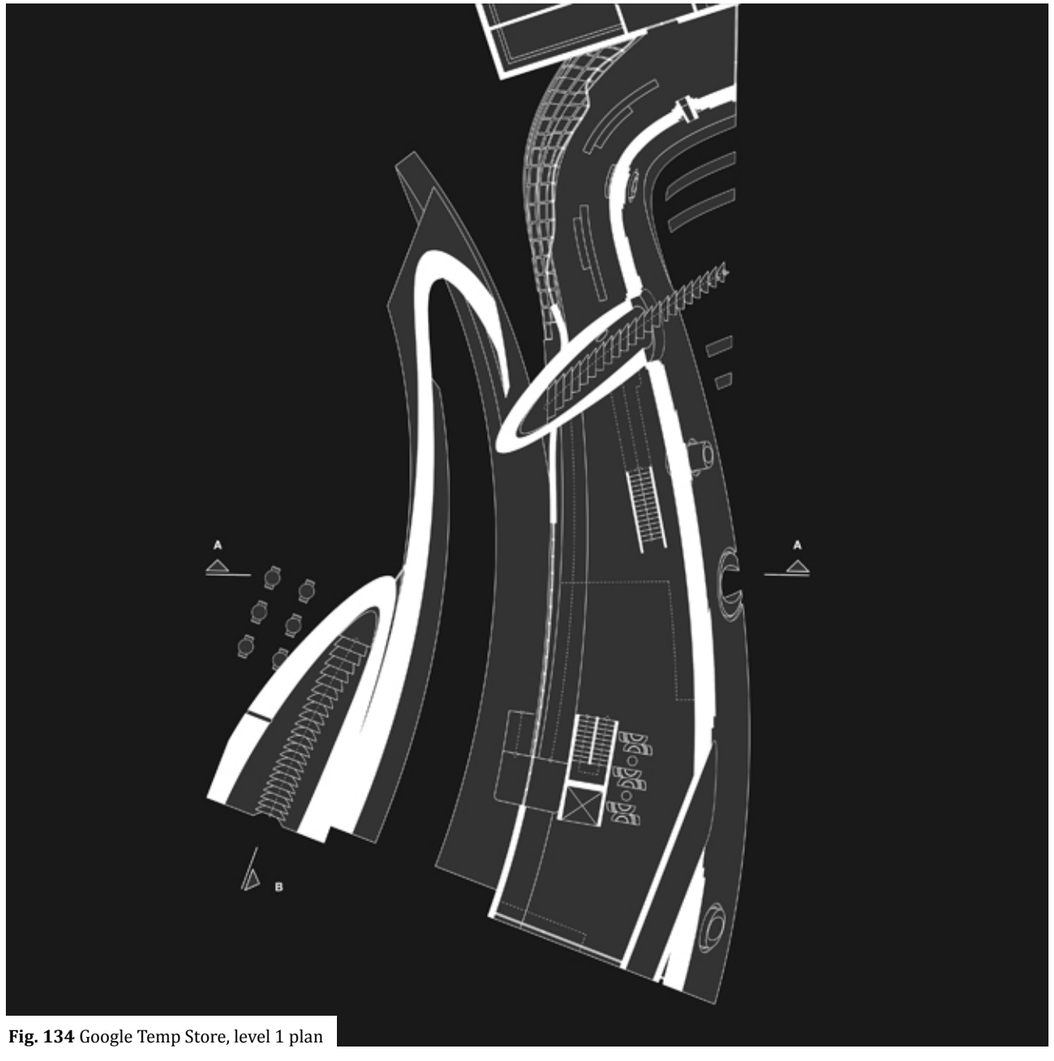


Fig. 134 Google Temp Store, level 1 plan

Fig. 135 Google Temp Store, level 2 plan

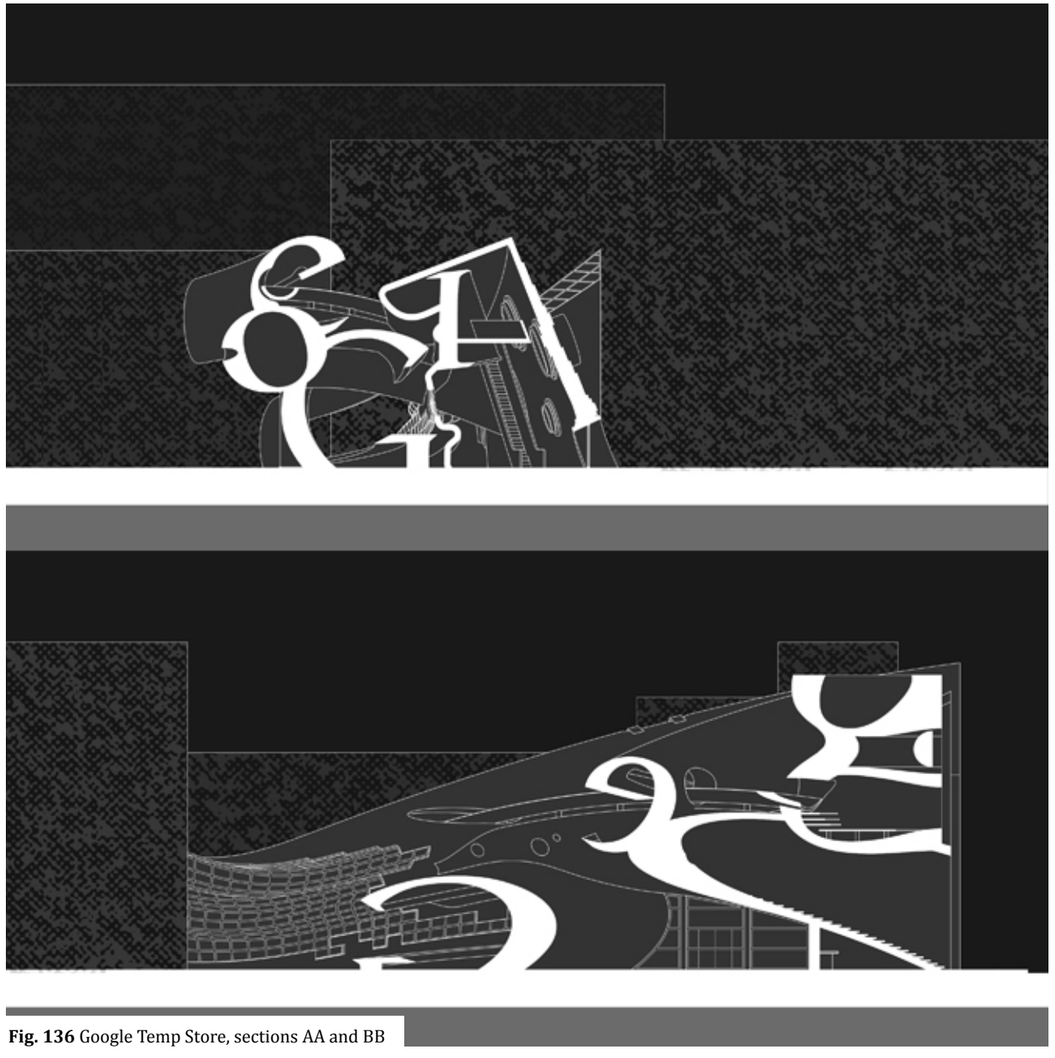


Fig. 136 Google Temp Store, sections AA and BB

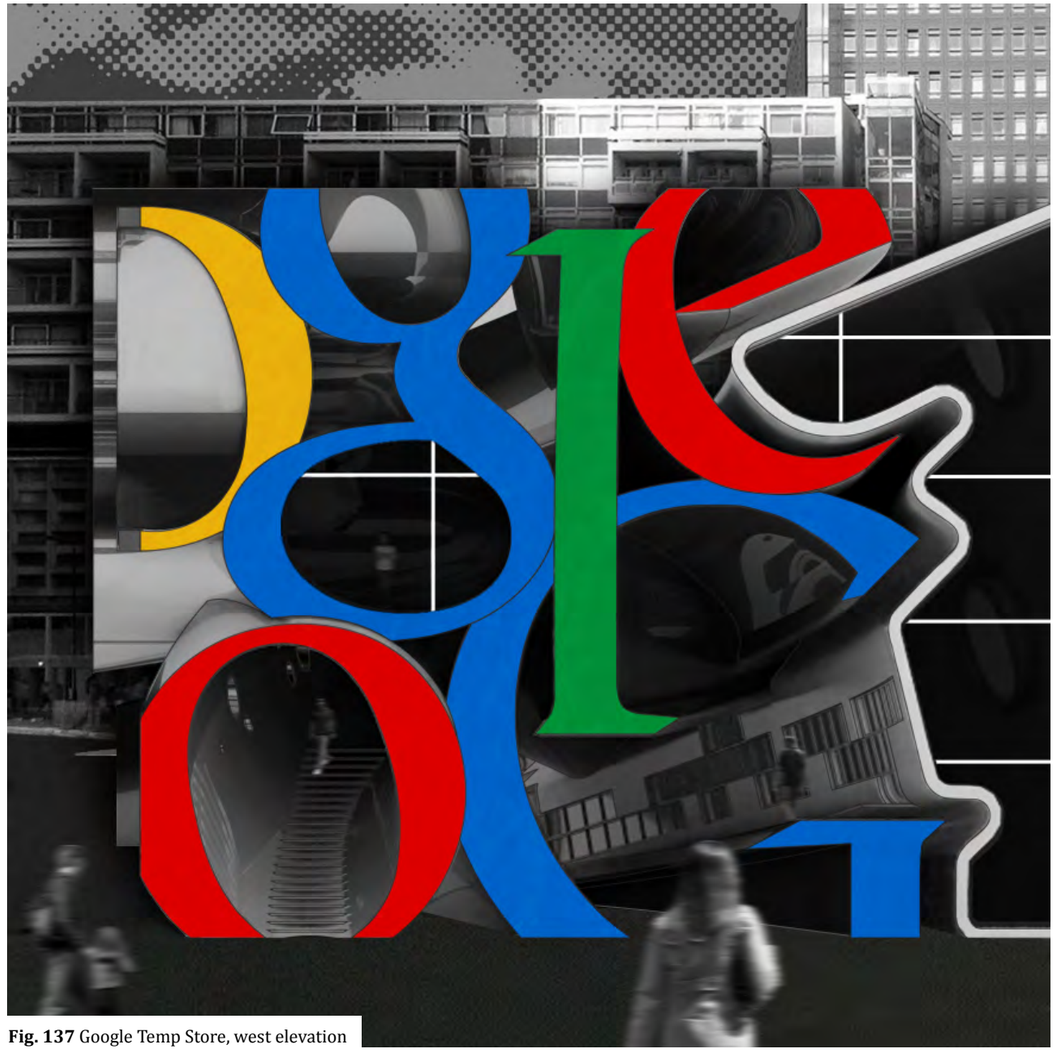


Fig. 137 Google Temp Store, west elevation

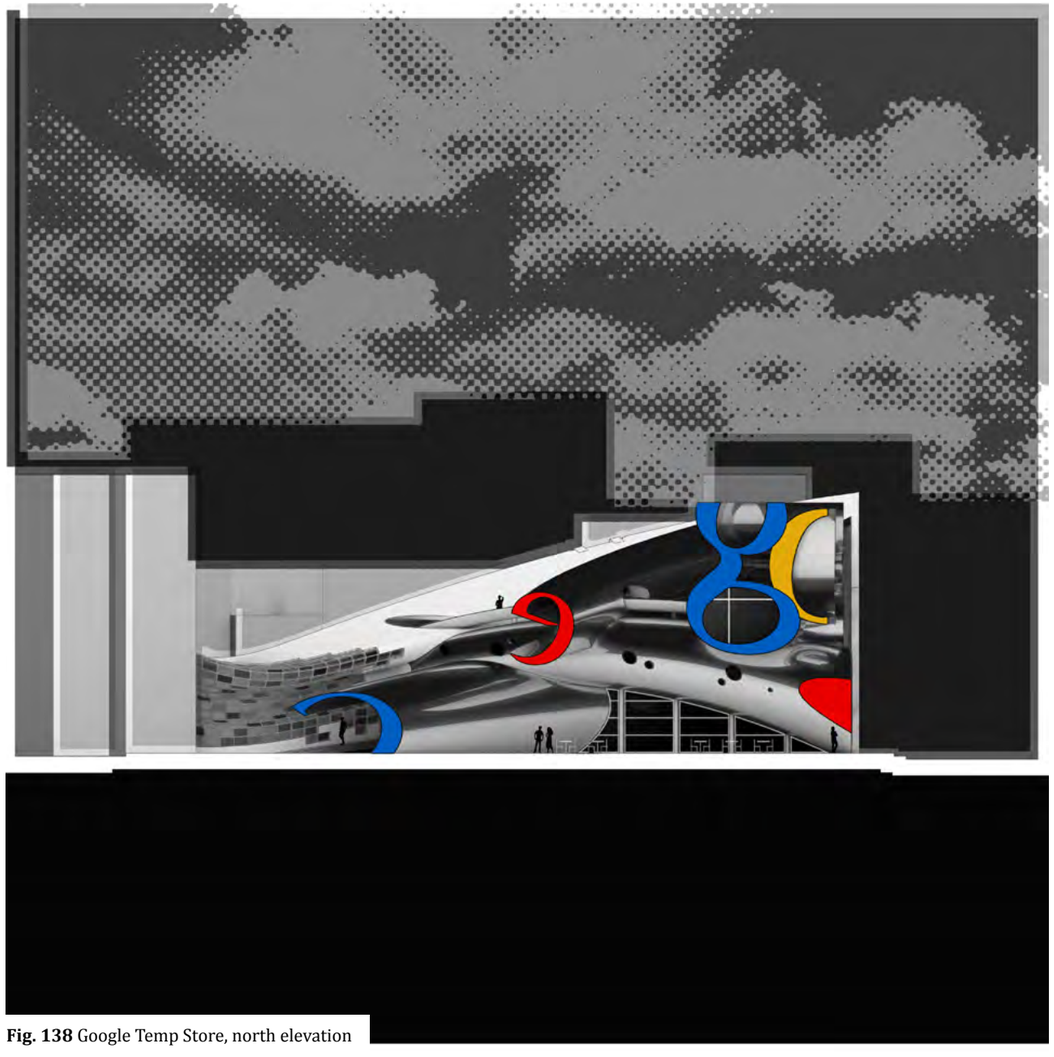


Fig. 138 Google Temp Store, north elevation

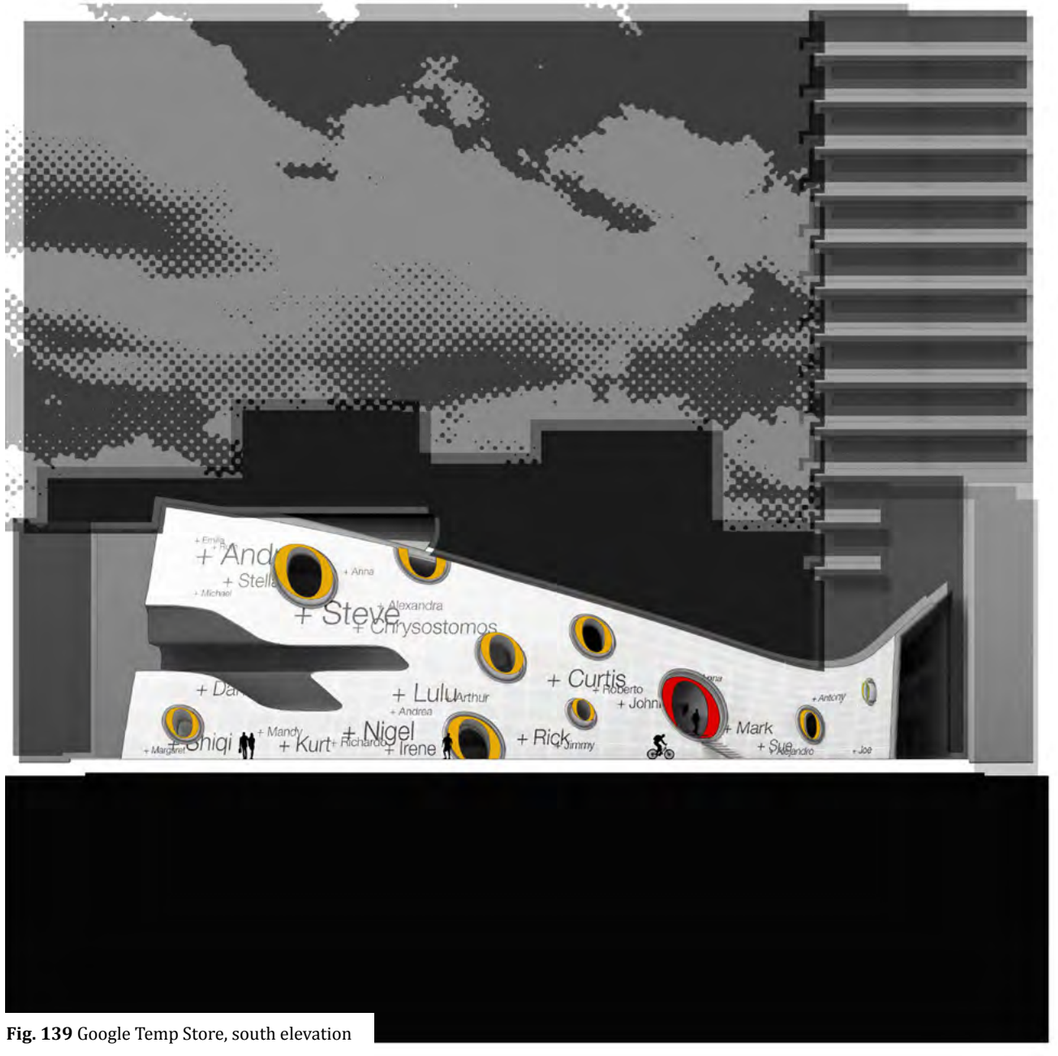


Fig. 139 Google Temp Store, south elevation

Fig. 140

active area which captures the movement of people who hold smartphones with activated Google+ accounts. It detects the exact position of each smartphone and projects the holder's first name onto the screen of the 'epidermis'. If the holder's full name is Andrew Dean, the message '+Andrew' will appear on the screen.[123] It will change position on the screen along with Andrew's movements, and will become larger or smaller when he goes further away or closer to the screen. Through these kinetic ephemeral typographic messages, a dynamic two-dimensional diagram on the facade is formed, representing three-dimensional human activity inside the building **[Fig. 139]**.

Through the use of typotecture, Google Temp Store upgrades the notion of a two-dimensional advertising billboard, where vision is the only sensory system involved, into an immersive spatial experience generated by the brand's visual identity. By spatially manipulating its popular visual corporate elements, such as the logotype and other trademarks, the store expresses a three-dimensional interpretation of 'Googleness'. Reflective materials applied to the skin welcome the image of the surrounding environment, in a similar way to that in which Google maps the cyberworld. Public spaces and paths with rich sculptural qualities become meeting points, inviting people to explore further the inner parts of the building. While they wander, become informed or shop through a playful succession of public and private areas, they become part of the brand's advertising process as their presence, location and movement influence the ephemeral typographic information on the integral screen of the building. Although

123. This is the way the users' name appears on screens of personal computers and smartphones when they log in to 'Google+'.

two-dimensional, this interactive screen reveals the inner life of the building and acquires a three-dimensional quality similar to the structural elements of the building. The building amalgamates with the visitors and together they form the message: Google is friendly, Google is universal, Google is you. The English brand guru Wally Olins states that in the contemporary visually sophisticated age, for brand environments to be successful 'design is the driving force. You can see the brands, feel them, touch them, clamber all over them, walk around them'.[124] Google TempStore affirms the power of design, but through typotecture it transcends inventive urban advertising processes that usually ornament the otherwise conventional brand environments, and instead inherently communicates an urban sign which is as unique as the brand's visual and behavioural identity.

b. Fac(ad)ebook

A second architectural typology where typotecture could make a positive impact is within learning environments. Education has always been directly linked to written language, and therefore to typography. Although there are some past typotectural examples (ESISAR, Minnaert Building) implemented for these types of buildings, they have a rigid nature, serving solely identificational or promotional purposes. What would be more challenging for such environments is the active role of the building during the educational process - a dynamic form that exploits current visual communication means to offer knowledge through a combination of perma-

124. Wally Olins, *On Brand* (London: Thames and Hudson, 2009), p. 181

Brief

Context
(Pragmatic dimension)

Large open area with children facilities next to a busy street

Influence

Use of print media texts as part of the skin of a newspaper kiosk

Concept of translation

Integration of online communication and learning media to the structure and skin of an educational building

Process

Iterative evolutionary design process considering context, form and content

Form
(Syntactic dimension)

Fragmentation, substract-ion, letter displacement, scaling, joining

Content
(Semantic dimension)

Logo, motto, Facebook status updates & friend posts

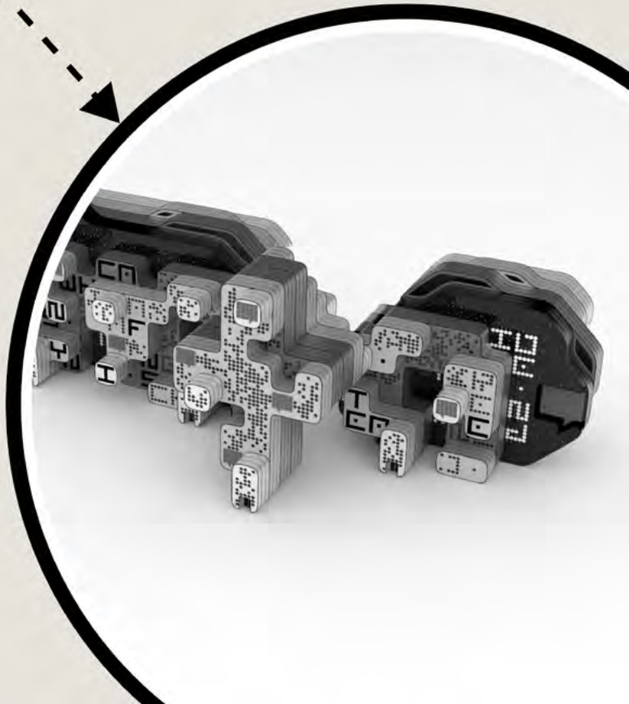


Fig. 141

nent and ever-changing information.

i. Brief

The advent of the internet has introduced new patterns of interpersonal interaction and knowledge transmission. This is particularly true amongst new generations who can absorb and easily use the interfaces which are involved. Social networking media such as Facebook now constitute an integral part of young people's daily life, even during their school routine. Metropolitan Academy[125] is a proposal for a new educational space where the established ways of transferring knowledge, such as the traditional classroom, which is an essential element for the learning process, are integrated with new alternative features based on current internet-based means of visual communication in order to be more attractive to students. The new building intends to embody an online platform that supports a second-level dialogue amongst co-students, or between teachers and students, and also create the opportunity for new interaction between the school and the local community of a London borough.

ii. Strategy

INFLUENCE. While the enduring need for conventional signage and architectural lettering practices has been the driving force for the emergence of typotecture, the study of its precedents also revealed a pervasive interest in a range of print or audio-visual media texts,[126] that have appeared frequently

125. An academy in the education system of UK is a type of secondary school that is independent of local education authority control but is publicly funded, with someprivate sponsorship. This type of school was initiated in 2000 and known as a 'city academy' for the first few years, but the term was changed to 'academy' by an amendment in the Education Act 2002.

126. Media texts are aural, print, graphic, and electronic communications with a public audience. Such texts often involve numerous people in their construction and are usually shaped by the technology used in their production. Media texts include newspapers and magazines, television, video and film, radio, computer software, and the internet. Eve Walling-Wohlford, 'Media Arts Glossary' in Media Arts Standards (Columbia, SC: Alliance for Arts Education, 2010), p. 167. Also, David Probert defines them as 'any constructed media product or piece of communication, whether print or audiovisual, which can be analysed and deconstructed'. David Probert, Media Studies: Essential Word Dictionary (London: Hodder Education, 2005), p. 83

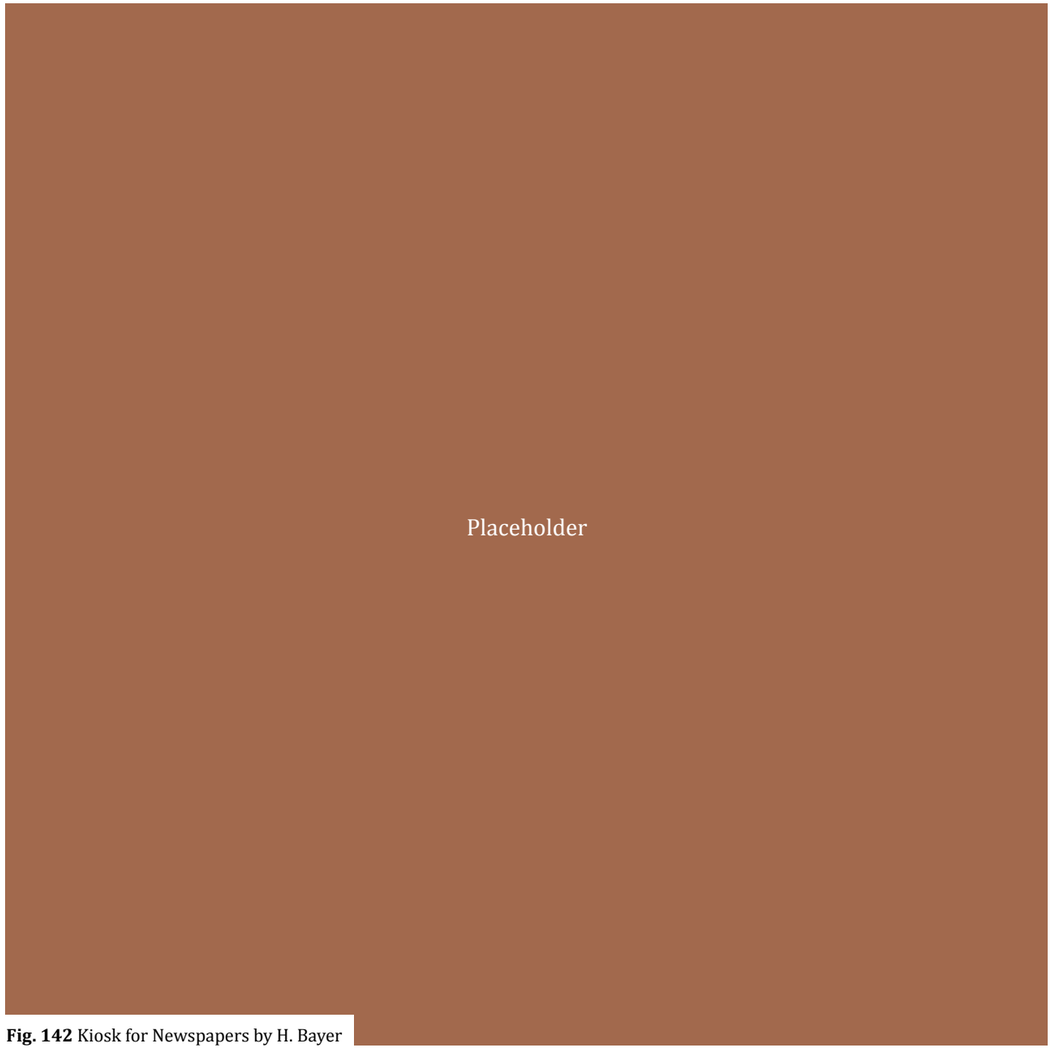


Fig. 142 Kiosk for Newspapers by H. Bayer

within the built environment through various technologies (posters, billboards, radio, film, etc). Designers in every period of history studied these technologies, radical for their time, and undertook a wide range of experiments that sought to amalgamate them with architecture. Most of these technologies were incorporated into building surfaces and the media texts involved addressed the requirements of advertising or propaganda. Venturi's preoccupation with billboards, analysed for the design of Google Temp Store, is a case in point. An earlier practitioner who was, like Venturi, absorbed by new media technologies was the Bauhaus student, and later teacher there, Herbert Bayer. He examined these potential intersections extensively because he believed strongly that, as long as they benefit society, there are no boundaries between art, design and technology, and, more importantly for our study, that 'typography is not an isolated discipline and technique, but is in context with the ever-widening visual experiences that the picture symbol, photo, film and television brought.'[127] It is undeniable that all of these have the potential, similarly, to become an element of architecture.

In practice, although most of Bayer's typotectural projects were, as expected, commercially-driven, a precedent that addressed slightly different needs and becomes critical for the development of the Metropolitan Academy is his unrealised Kiosk for Newspapers (1924) **[Fig. 142]**. The sources for the investigation of this project are unfortunately limited to just one perspective drawing, with no written documentation, so it is not clear whether it was intended to be built or whether it merely constituted an exercise. However, this

127. Herbert Bayer, 'On typography' in Cohen, p. 350. Essay first published in Magazine of Art (18), 1951

single representation sums up and communicates Bayer's design objectives well. Next to his habitual effective use of clear large-scale sans-serif alphabetical or non-alphabetical symbols that help the visitor to identify and navigate the structure, Bayer appends a collage of graphic information drawn from newspapers and magazines, such as headlines, body text and images, on the skin of the kiosk, generating a rich, multi-scaled visual stimulus. This project becomes distinctive in terms of semantics and functionality, as it reveals a particular interest in print media texts that focus on both current and permanent knowledge transmission. Newspapers and magazines may contribute indirectly to the culture of the urban spaces of consumption, through the abundance of consumer information and full-colour imagery, but their main function is to educate the reader and inform them about current affairs.

The project was an obvious area of investigation for Bayer due to the recent establishment of newspaper kiosks as urban structures in the first half of the twentieth century **[Fig.143]**.[128] This building typology, commonly known today as the newsstand, is probably the only physical interaction between periodical publications and the city. The small size of periodicals and newspapers sets up a one-to-one relationship between text and reader, and the signification process usually takes place in personal scale (similarly to book-reading). In this project, Bayer tests their exposure in the urban context in newsstands further by scaling up the function of print matter to an environmental level and juxtaposing it with built elements. He ultimately suggests that the skin of

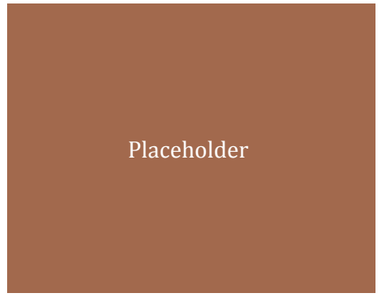


Fig. 143 Newsstand in New York, US, 1935

128. Jeremiah Moss, 'Newstands' in Jeremiah's Vanishing New York <http:// vanishing-newyork.blogspot.co.uk> [accessed 10 February 2014]

the building has turned into a dynamic surface capable of continually transmitting information of general interest. The building as a whole intensifies the communication of permanent and ephemeral types of information, while what is signified adopts a wide range of scales, and the visitor is only capable of deciphering new content from a range of distances. Writing about visual communication, Bayer states that

> the eye seldom focuses for long on one point in a design. It flits back and forth from one element to another in haphazard sequence, unless the design is skilfully arranged to force its orderly progress from one idea to the next. It is vital part of the designer's job to make sure that the eye sees first things first and that it is made to dwell as long as possible on areas of special importance.[129]

Kiosk for Newspapers successfully visualizes this suggested hierarchy of codes of communication, which is even more crucial when the transfer of accurate knowledge is involved.

On the other hand, an aspect of Bayer's proposal which could be critiqued is the unidirectional transmission of knowledge through his hybrid medium. This is definitely not due to the designer's unsophisticated position in his approach to the newsstand as an urban structure, but the problem goes deeper, relating to the basis on which newspapers and magazines function as media within society. The concept of social media, as journalist Tom Standage explains in his book *Writing on the Wall: Social Media – the First 2,000 Years*

129. Bayer, 'On typography' in Cohen, p. 351

(2013), dates back to the ancient world. Upper-class Romans, for instance, received their news on papyrus rolls or wax tablets, which then were copied by slaves and sent on to friends and acquaintances. The advent of the printing press in 1450 proliferated the dissemination process and, starting in Europe in the eighteenth and early nineteenth centuries, public spaces such as coffeehouses and salons appeared, where citizens could read and discuss matters freely in public. In the 1960s philosopher Jürgen Habermas referred to these as heralding the emergence of public sphere. These public spaces, although they were usually populated by the forward-looking elite classes, were in theory open to all and politically independent. But, as mass media emerged in the mid-nineteenth century in the form of mass-circulation newspapers and magazines and, later, television and radio, this fragile public sphere began to shatter.[130] Standage says that

> over the course of the nineteenth century the newspaper evolved from being a handmade, local publication into the product of a vast, powerful, and lucrative industry. In the process its capacity to act as a platform for discussion within a community was greatly diminished, and it became almost exclusively a one-way medium. Large media organizations, controlled by or operated in the interests of a small group, came to dominate the media landscape, providing their owners with a powerful means to influence public attitudes. In the process media became a product to be passively consumed, rather than an

130. Jurgen Habermas, The structural Transformation of the Public Sphere (Cambridge, MA: MIT Press, 1989), p. 14-26, 181-201 (Originally appeared in 1962 in German)

environment in which to actively participate.[131]

The recent emergence of the internet and contemporary digital social media such as Facebook and Twitter, which enable easy, wide-ranging communication "recovered" the "lost voice" of the mass, appearing to restore the temporary unilateral consumption-based transmission of knowledge that social media of the twentieth century dictated, and they offer a great opportunity for architecture, as an agent of social change, to embrace this new reality.

CONCEPT OF TRANSLATION. The Metropolitan Academy should revisit the notion of architecture as a generative source of knowledge by mobilizing, in this case, a contemporary digital means of visual communication. The project does not seek to comment on Bayer's info-board (as Google Temp Store did on Venturi's bill-ding-board), but instead it intends to build upon it and place it in a contemporary context. Through the use of more "democratic" contemporary technological advances, it attempts to reinforce the notion of the public sphere that Habermas referred to, and contribute towards a socially engaging built environment. A word that could neatly describe the underlying function of the proposed project is "fac-ad-ebook". The term suggests the translation of a prominent contemporary online social media network (Facebook) into an active ingredient of architecture (facade) that, besides its fundamental attributes, will also inherently transmit knowledge digitally. In addition, the building as a whole is intended to be an advertising landmark for

131. Tom Standage, Writing on the Wall: Social Media, the First 2,000 Years (London & New York: Bloomsbury, 2013), p. 188

knowledge, rather than consumerism. The associated digital typography is the channel for the articulation of this type of communication. Bayer wisely predicted that "new concepts will not grow on mere design variations of long-established forms such as the book",[132] or extend the possibilities of the newspaper and magazine. And he adds:

> The aesthetic restraint that limits the development of the book must finally be overcome, and new ideas must logically be deduced from the function of typography and its carriers. Although I realize now how deeply anchored in tradition and how petrified the subject of writing and spelling is, a new typography will be bound to an alphabet that corresponds to the demands of an age of science.[133]

The current digital reality is probably what Bayer was speculating about towards the end of his career, and this project seeks to explore the new digital carriers of typography and test their validity on an urban scale in a manner similar to the way that Bayer approached contemporary media in terms of architecture. His Kiosk for Newspapers, that could only influence people in an autocratic, one-way relationship, can now evolve into new urban learning environments where a multi-directional exchange of ideas is able to flourish. For the Metropolitan Academy, or any educational institution, this can work both internally and between the school and local community.

132. Bayer, 'On typography' in Cohen, p. 350
133. Ibid

Fig. 144 Proposed site for Metropolitan Academy

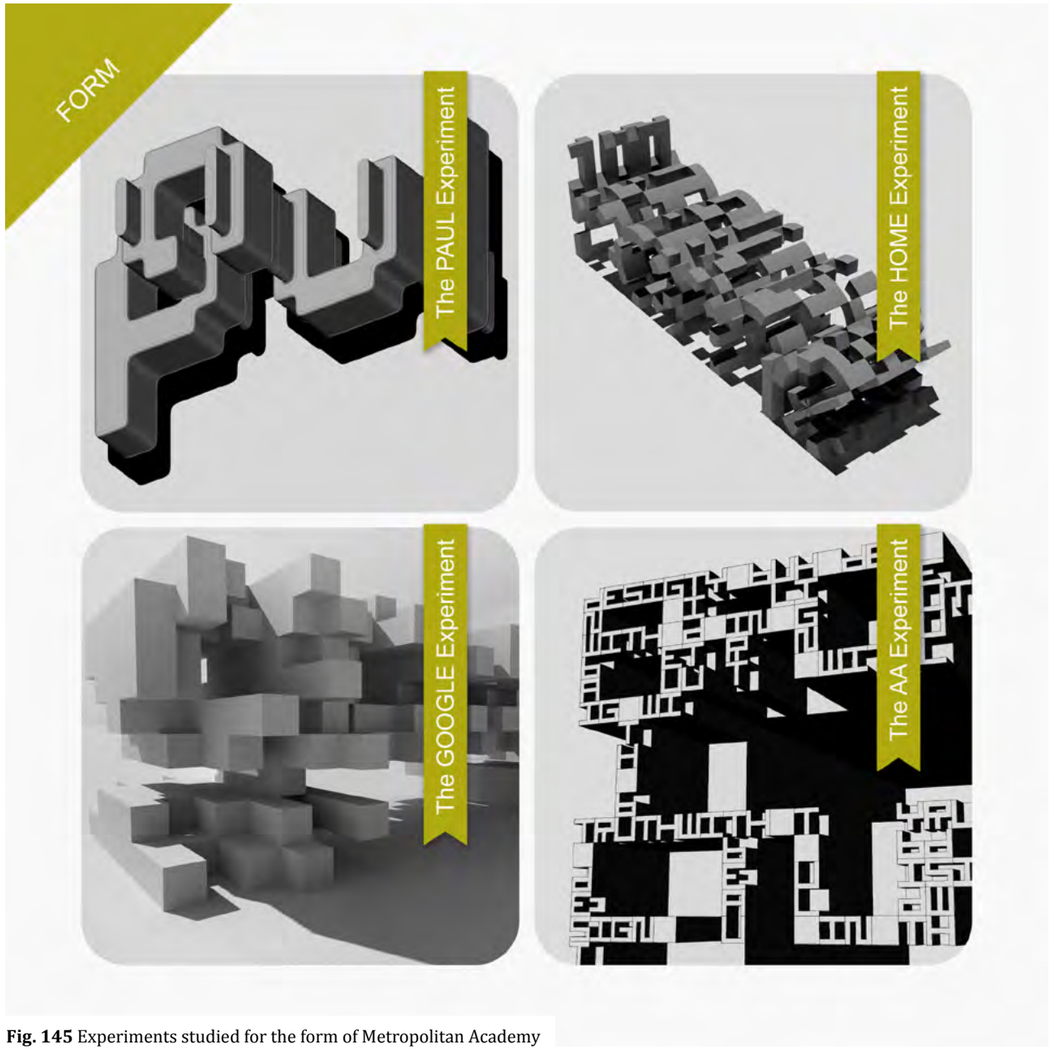


Fig. 145 Experiments studied for the form of Metropolitan Academy

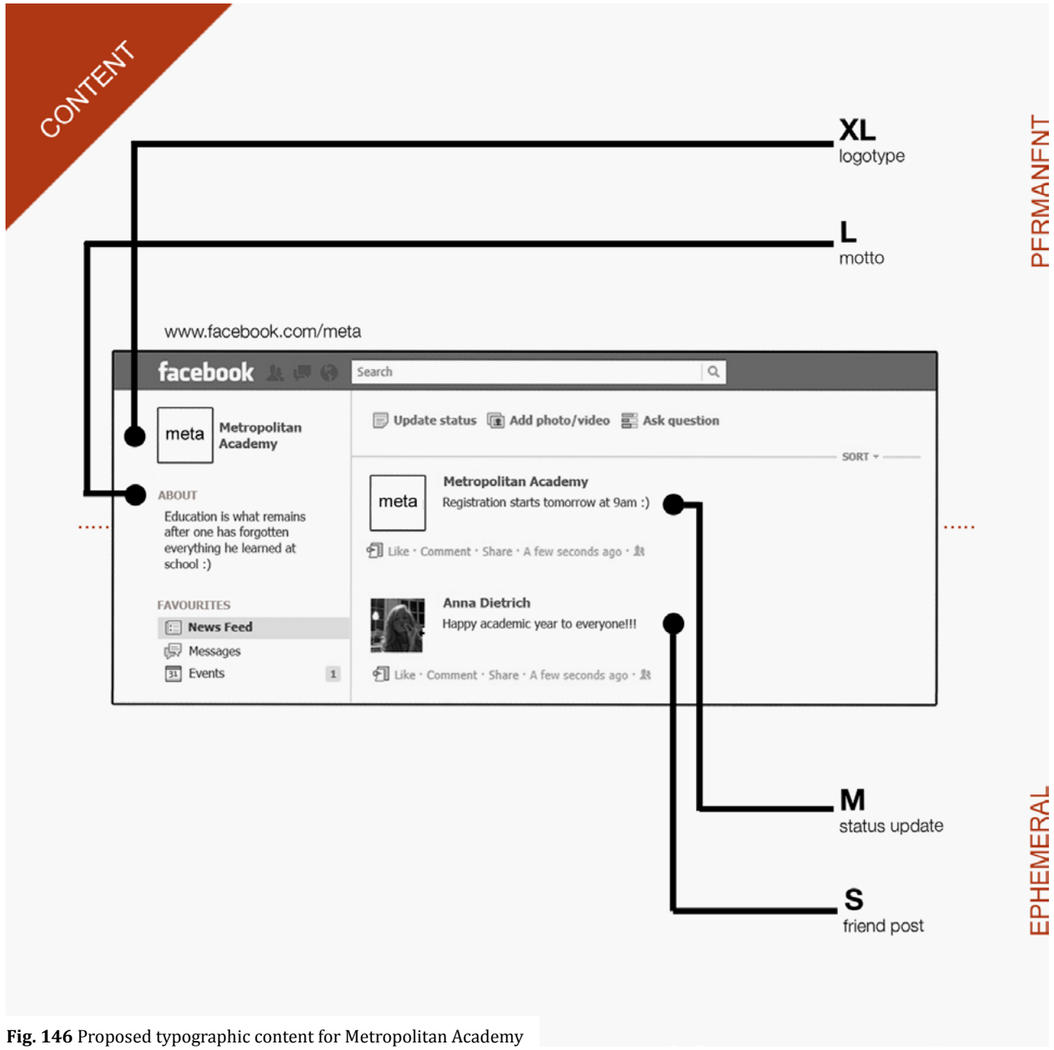


Fig. 146 Proposed typographic content for Metropolitan Academy

Context. The proposed area for the manifestation of the Metropolitan Academy is Bloomsbury, the southern neighbourhood of the London Borough of Camden **[Fig. 144]**. This part of the borough, while hosting a number of prestigious academic environments, lacks an educational institution at this level (a secondary school), and there are currently numerous campaigns by the local community for this deficiency to be addressed.[134] The proposed site for the project is Coram's Fields, an urban open space that occupies approximately 30,000 m^2. Coram's Fields currently offers four half-sized football pitches, a normal-sized pitch, a hockey field, a basketball court and a children's playground. The new school could use the existing facilities and at the same time become a safety 'wall' between them and the busy Guilford Street, running in front of the large open area. This necessarily long physical boundary against intense street activity is the ideal scenario in which the concept of a contemporary info-board can be fruitfully implemented.

Form. Regarding the structural aspect of the project, the design experiments that appeared to be appropriate for further manipulation are the ones that involved fragmentation, such as "The HOME Experiment" and "The GOOGLE Experiment" **[Fig. 145]**. The straight extrusion of a single word without any displacement of individual letters allows the form to act as a "wall". Additionally, the fragmentation of each letter in smaller three-dimensional "pixels" can generate individual spaces on smaller scales, such as classrooms, as well as distinct flat surfaces which can be used as a base

134. Further information can be found at The Holborn and St. Pancras Secondary School Campaign <http://whereismy-school.co.uk> [accessed 22 April 2011]

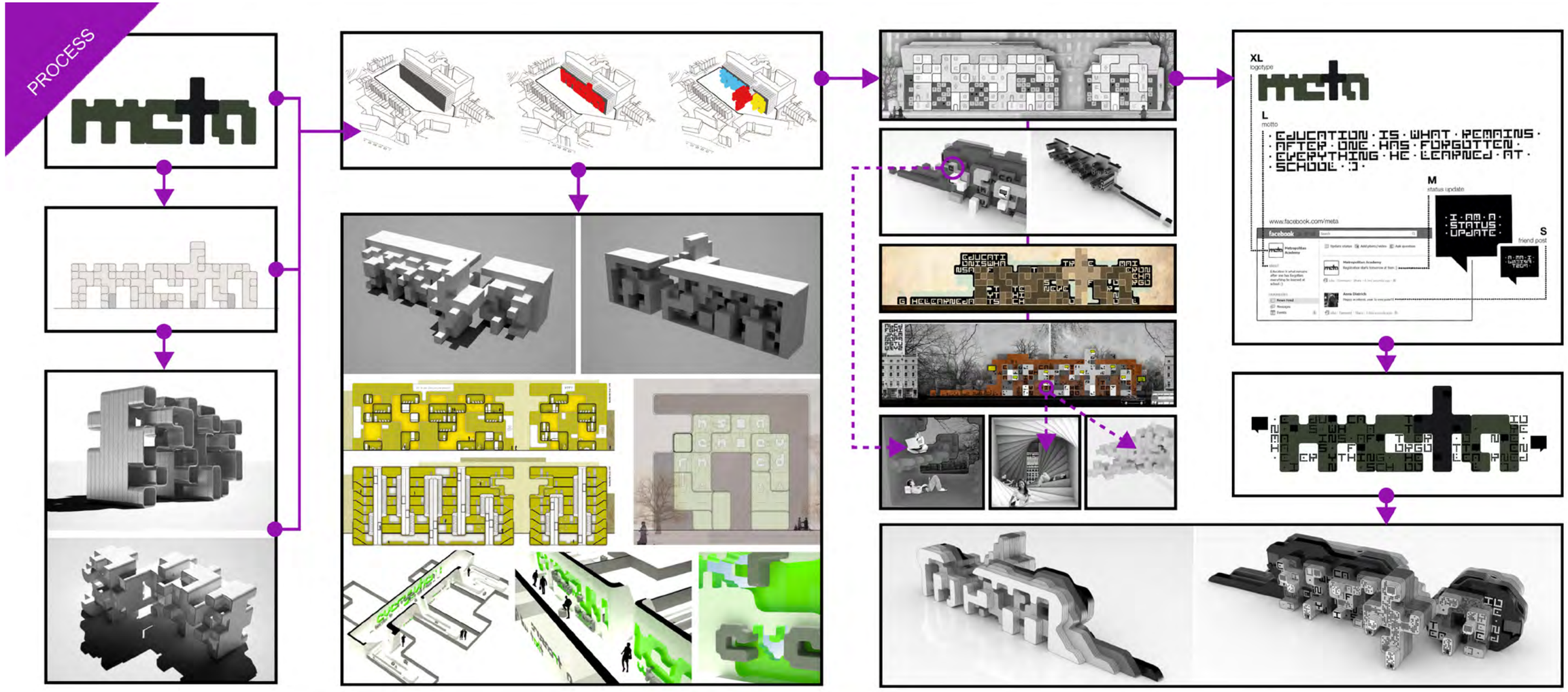


Fig. 147 Design process of Metropolitan Academy

for further permanent information (this has been already further tested in "The AA SCHOOL Experiment") or internet-based real-time typographic content. In particular, the use of a square typeface followed by a square 'pixelation', seen in 'The GOOGLE Experiment', seems to be more promising, as the final surfaces can better comply and integrate with the restrictively rectangular nature of digital screens, which are essential from a technical point of view for the communication of the internet-based ephemeral typography.

Content. The project's typography needs to include both permanent and ephemeral messages **[Fig. 146]**. The permanent information can give a distinctive concrete identity, a key aspect for the new school in order to act as a local landmark. A good logo concept for the school that reflects its values and purposes semantically could help to effect this functionality on an urban scale. The chosen word, "meta" (from met-ropolitan a-cademy), serves the intended logical associations well. Firstly, it connotes an educational environment that seeks to give the students lifelong skills after their graduation, rather than mere short-term knowledge (meta in Greek meaning 'after'). Secondly, it connotes a setting that aspires to move beyond traditional learning environments by integrating new features (meta in Greek meaning 'beyond'). Thirdly, it connotes an educational building that intends to inherently communicate messages about education and the learning process (meta in Greek meaning 'about'). A second level of permanent information could be a motto that augments and supports the semantics of the logo, such as 'Education is what remains after one has forgotten everything he learned at school :)'.[135] Although logo (more) and motto (less) need to work on an urban scale, they do not necessarily have to be explicit. A deliberate delay in the process of visual perception, as we have seen, engages the viewer both intellectually and emotionally. After the building-sign gets the attention of the viewer, ephemeral information, which will communicate current thoughts, interests and affairs or enduring educational content, should be clearly readable. This is the scale on which an online social media network (Facebook) can be involved. The various posts that teachers, students and local people contribute to the school's social media page (e.g. a Facebook page called 'meta') can start to inform the building and ultimately generate multi-directional interactions through architecture. The relative importance of the messages could also affect their size within the building (e.g. posts by administrators of the page usually communicate information of more general interest than those of 'friends' of the page, so they need to be physically larger).

PROCESS OF TRANSLATION. A series of evolutionary experiments were carried out towards the formation of a physical entity that epitomizes all the conceptual aspects above **[Fig. 147]**. A key task during this process was the design of a logo for the word 'meta' that supports square 'pixelation' in the attempt to translate it into a three-dimensional object. The 'meta' object, then, needed to be 'pixelated' in such a way that works both in plan and section for the interior spaces and circulatory paths of a learning environment, where many build-

135. An observation by Albert Einstein (1879-1955)

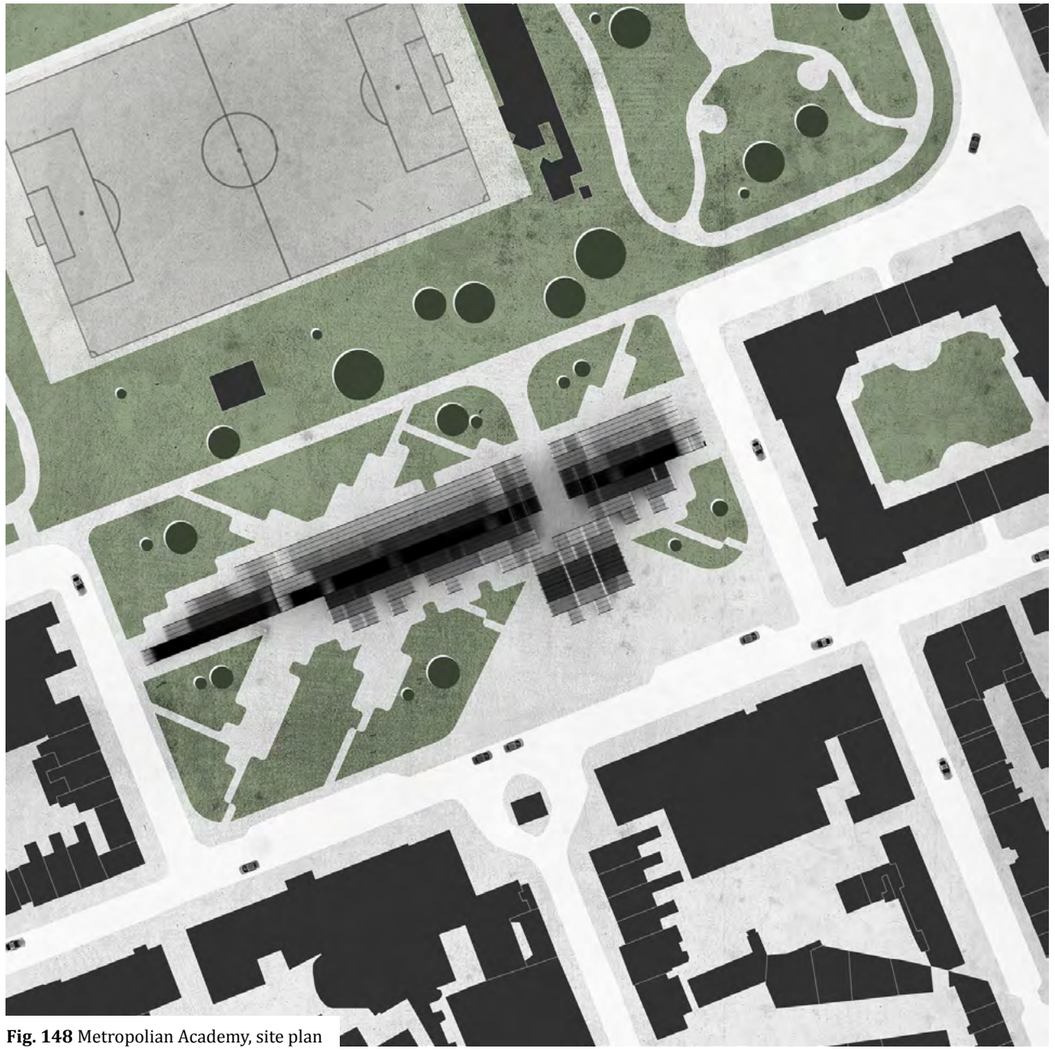


Fig. 148 Metropolian Academy, site plan

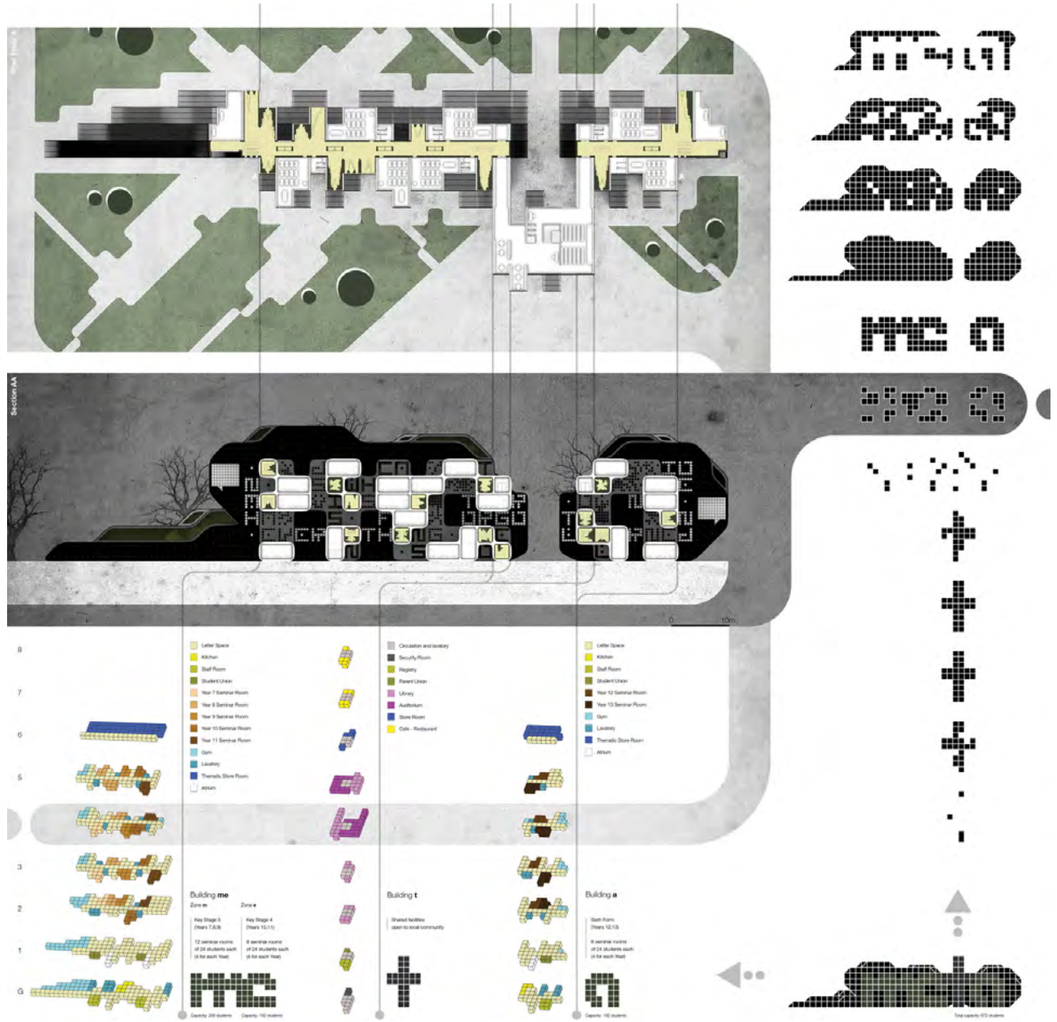


Fig. 149 Metropolitan Academy, 4th floor plan, sections and distribution of programme

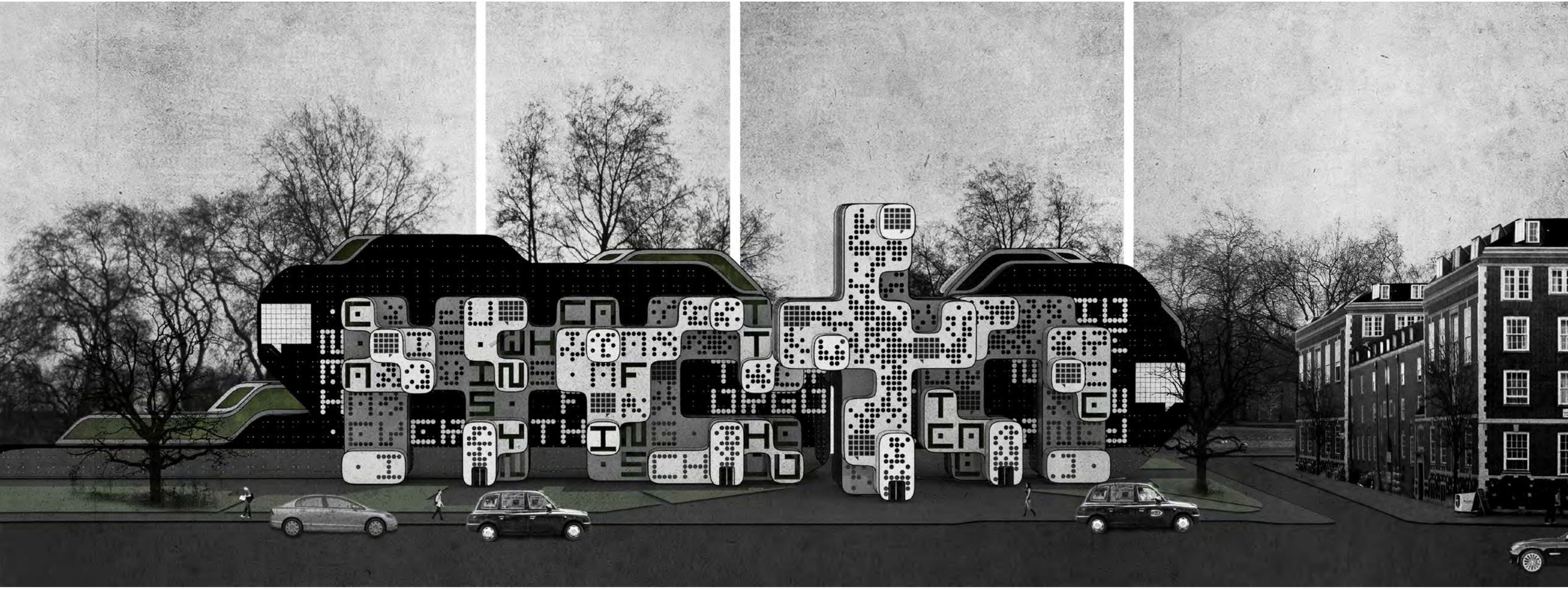


Fig. 150

Fig. 151

Fig. 152 Metropolitan Academy, exterior front view

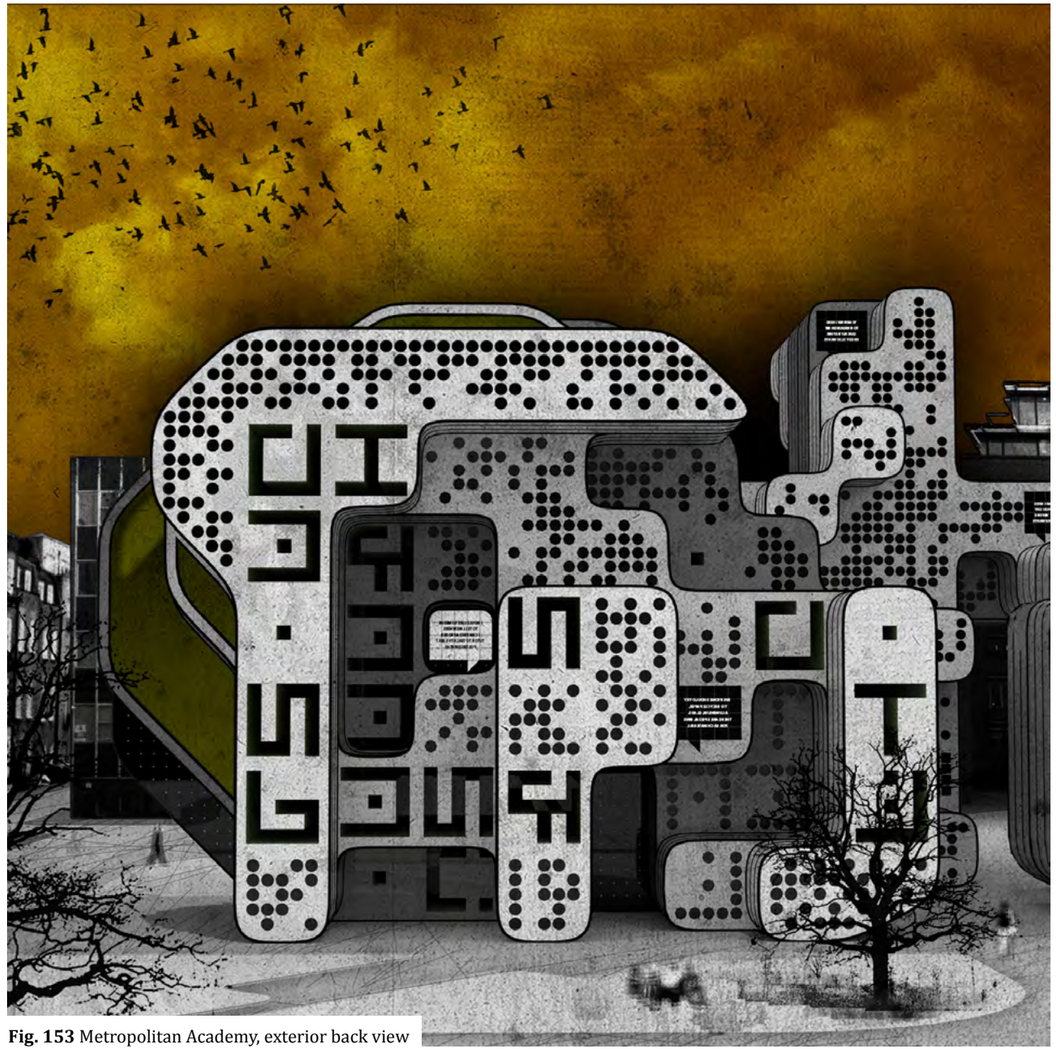


Fig. 153 Metropolitan Academy, exterior back view

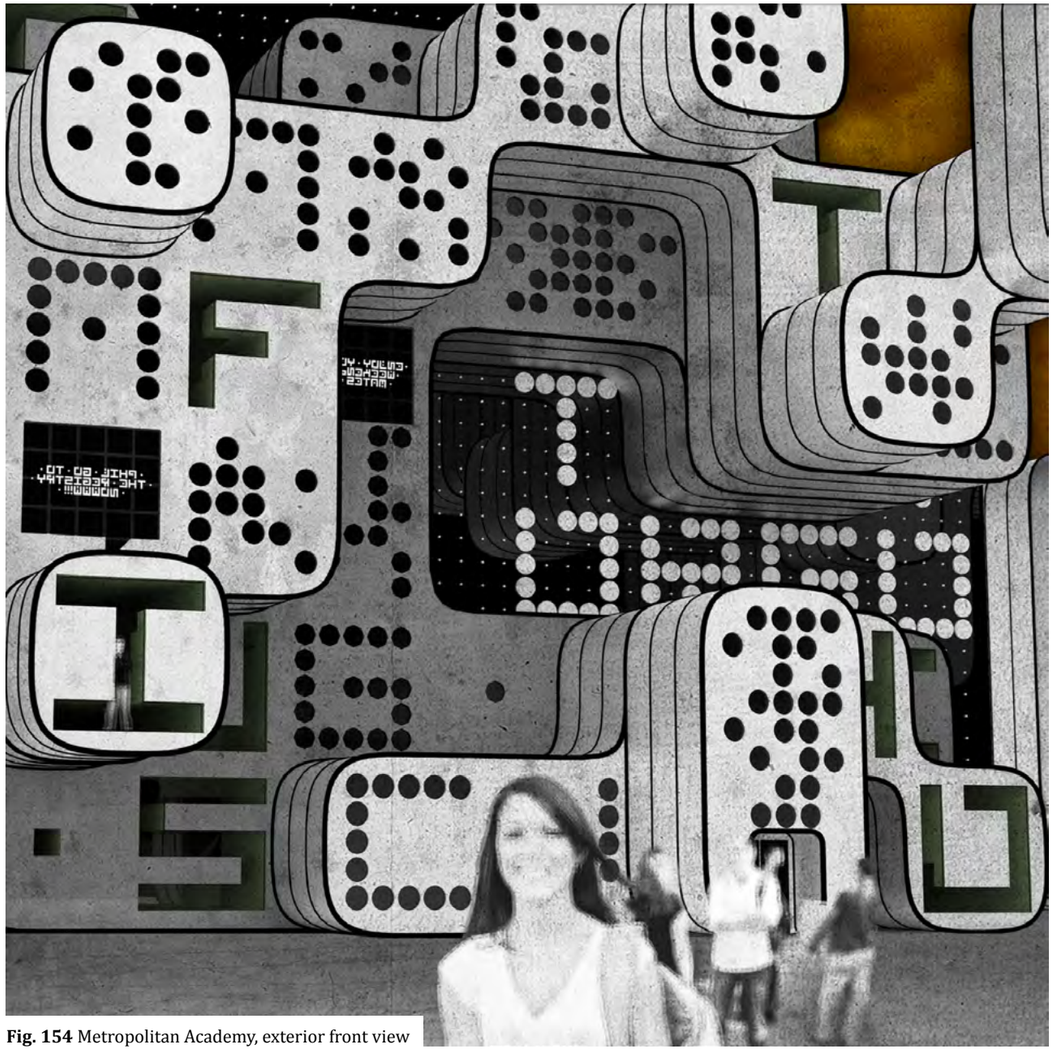


Fig. 154 Metropolitan Academy, exterior front view

Fig. 155 Metropolitan Academy, interior view

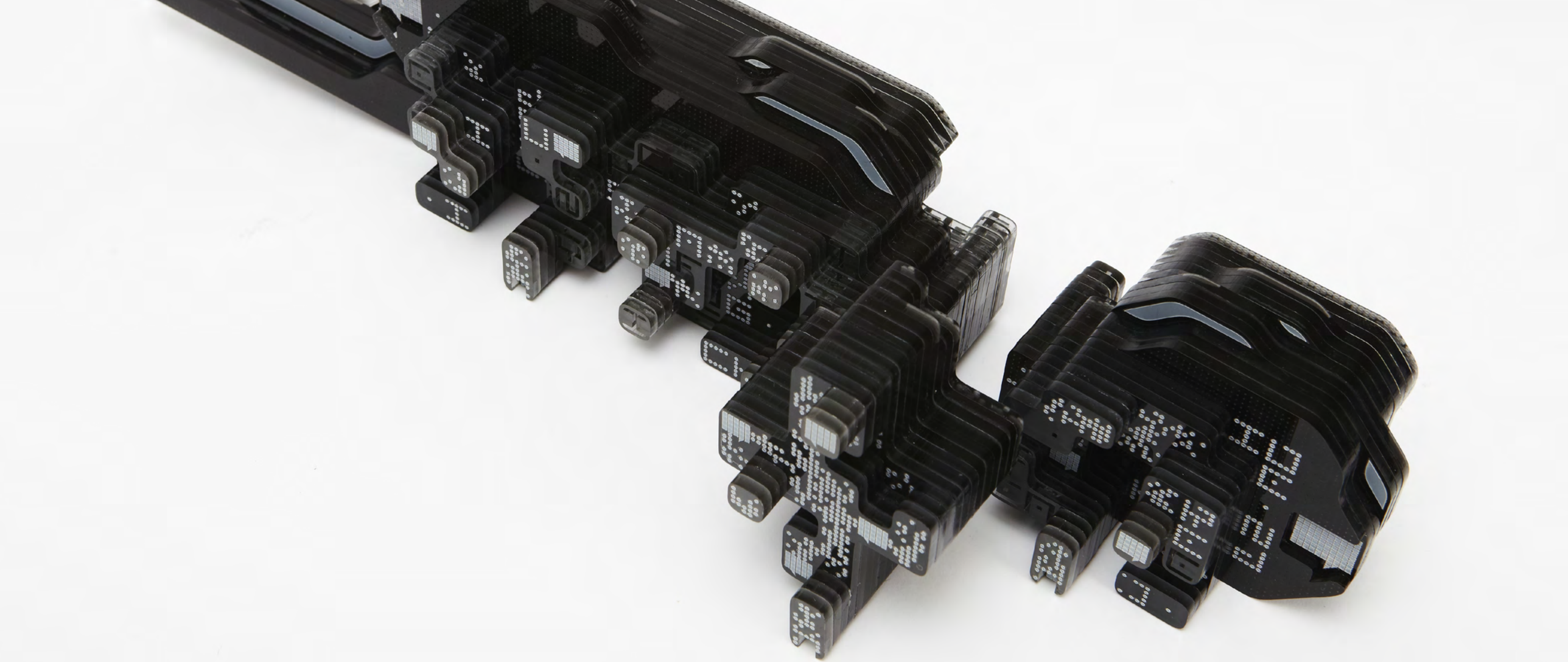


Fig. 156

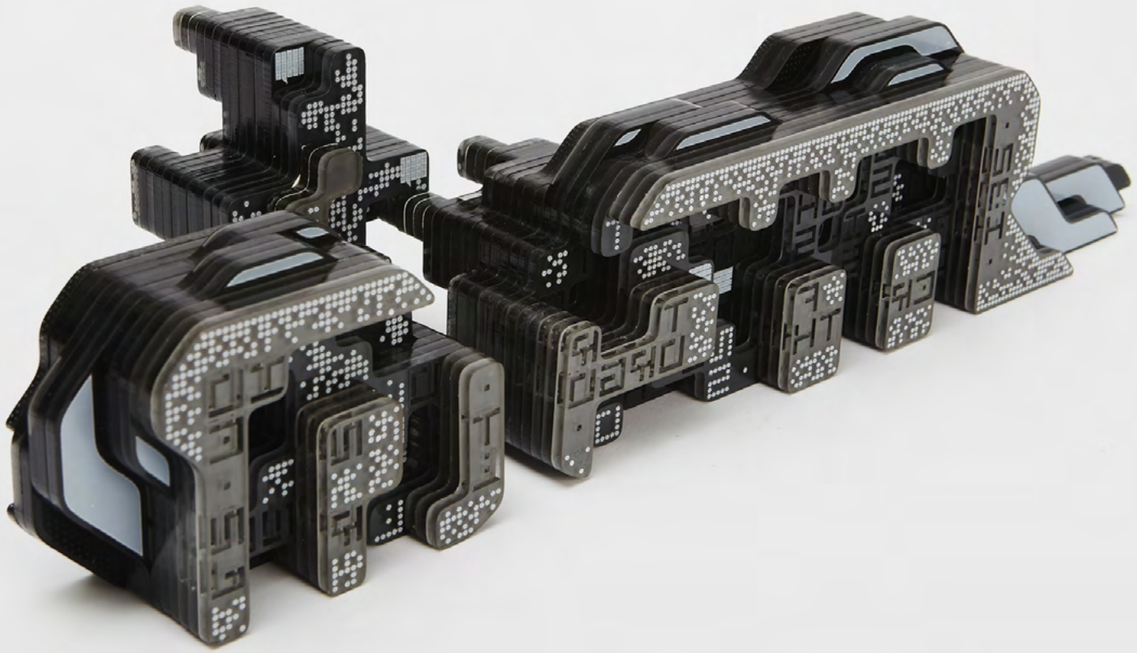


Fig. 157

ing restrictions apply (classroom and safety regulations). Also, a new typeface (the school's 'corporate' typeface) had to be designed for the communication of both the motto and rest of the ephemeral messages. The typeface needed to be distinctive in order to provide a distinctive identity for the school, as well as square in order to work on many scales, following a fractal-type geometry. Final design decisions were made to allow all the typographic information at smaller scales within the 'meta' object to become part of a unified outcome.

iii. Outcome

The logotype "meta" transforms into a six-floor oblong building that not only constitutes an entrance for Coram's Fields, but also acts as a giant landmark sign for the area.[136] Following a 'schools within school' structure for a more efficient administrative and procedural running, Metropolitan Academy is divided into 4 buildings (m-e-t-a). Each of them performs as a separate learning community. Building 'm' houses the Key Stage 3 (Years 7,8,9) and building 'e' houses the Key Stage 4 (Years 10, 11). Both of them as 'me' become the main secondary school. Building 'a' houses the sixth form (Years 12,13). Each floor of "me" and "a" becomes a sub-community including one seminar room for each year (for example a typical floor of building 'a' includes one seminar room for Year 10 and one for Year 11). Apart from these main and other secondary required fixed spaces, the rest floor becomes a fluid area where students can develop school activities be-

136. Mark Dudek, an English architect specializing in educational environments, believes that although primary schools have a neighborhood character, secondary schools have more of a regional function. The secondary school should become a landmark and 24-hour resource for the community. Mark Dudek, Architecture of Schools and the New Learning Environment (Oxford: Architectural Press, 2000), pp. 93-98

yond the lecturing process (i.e. talk, study, draw, design, play music, surf on the internet). Letter 't', slightly heading-on but still attached to the rest, includes all the shared facilities such as library, auditoriums and cafe-restaurant. This is the only building open to the local community **[Fig. 149]**. On a room level, the proposed motto of the new academy "breaks" the peripheral wall of the fluid spaces creating openings as well as unexpected 'pixelated' interior spatial configurations **[Fig. 155]**.[137] On a skin level, the building plays with the notion of Facebook 'wall', where people expose written information (thoughts, notices, news, etc.), and scales it up into an urban wall. For this function to be realized, the official page of Metropolitan Academy on Facebook becomes the medium where anyone can leave his input and this can be automatically translated into a facade element. 'Status updates' appear on big transparent screens projecting towards Guilford Street and 'friend posts' appear on small transparent screens projecting towards the interiors of the building. Status updates are formal information uploaded to Facebook page 'meta' by the administration and tutoring staff of the school, while 'friend posts' are the various informal messages uploaded by students or other friends of the academy.

In the book *Joined Up Design for Schools* (2005), John and Frances Sorrell note that "schools, like companies, need a clear identity with set of values and a strong sense of purpose, which everyone understands".[138] Metropolitan Academy attempts such a comprehensive distinct identity. The logotype 'meta' itself reveals the intended range of values and purposes. As the logotype along with further permanent (motto) and ephemeral information (status updates and friend posts) become multiple scale features of the building, Metropolitan Academy transmutes into a contemporary urban medium of communication; a place where new types of interactions between people enhance a unique democratic way of exchanging ideas and producing knowledge.

137. English architect Richard Jobson, experienced in the design of school buildings, notes, "circulation areas of a secondary school should be interesting, colorful and spatially varied to reduce conflict during the changeover periods", quoted in Dudek, p. 95
138. John Sorrell and Frances Sorrell, *Joined Up Design for Schools* (London: Merrell, 2005), p. 90

c. Wor(ld)ship

Religious architecture is another obvious area of investigation for the application of typotecture. Sacred spaces frequently embed the expression of deep symbolism within their structure with typographic elements, but not necessarily alphabetical ones. The cruciform plan of many churches is probably the very first such example.[131] However, apart from the recent involvement of supergraphics in the design of Hillcrest Church, there are no further alternative uses of typotecture in faith spaces. Changing beliefs about religion and spirituality could become a vehicle for the development of new typotectural activity in this field.

i. Brief

Multiculturalism is a social phenomenon which has already affected many urban environments internationally. Great diversity in rituals and religious practices is highly manifested in these modern multicultural societies, so cities should now be able to provide the required faith spaces for all. Considering the wide range of religious groups, a possible approach

139. It should be remembered here that Islamic calligraphy that appears on mosque facades is not considered a form of typotecture, as it is designed afterwards by a specialized calligrapher.

Brief

Influence

Use of existing graffiti (semi-legible graphic elements) of an area for the generation of its 'social topography'

Context
(Pragmatic dimension)

Busy park with high multicultural presence

Concept of translation

Superimposition of religious symbols (semi-legible pattern) for the generation of an inter-faith temple

Content
(Semantic dimension)

Religious symbols, informal graffiti

Form
(Syntactic dimension)

Letter dispacement, scaling, curving, distortion, joining, repetition

Process

Iterative evolutionary design process considering context, form and content

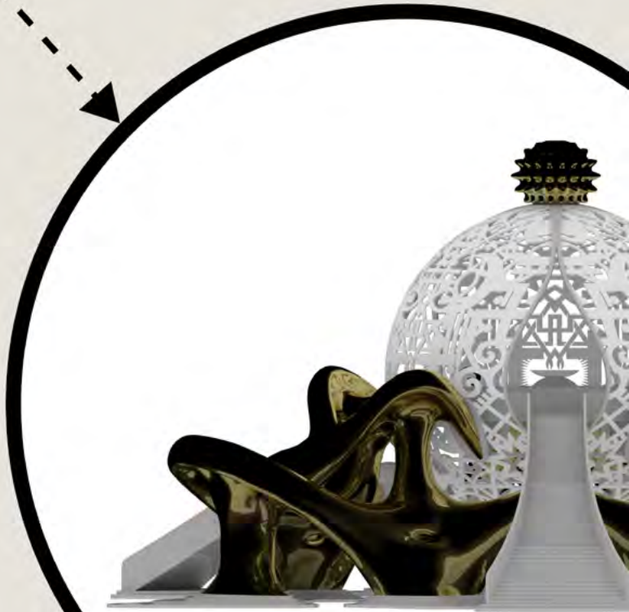


Fig. 158

for this need to be addressed is a shared place of prayer, reflection and meditation. There are already multi-faith prayer rooms since the late 80's and are mostly seen in places with high intercultural human presence such as airports. Due to the new social facts the worship room of an airport could now be a self-contained space into a wider urban context. Such a place could not only facilitate individual prayer needs, but also answer new situations that traditional religious services are no longer able to address. Such examples are interfaith marriages or memorial services after disasters in which there are victims of more than one faith.

ii. Strategy

INFLUENCE. An example of a recent controversial interaction between the urban environment and graphics is contemporary graffiti. This practice by young people has been widely criticized for adding visual clutter to the city, or even for communicating offensive and inappropriate messages. However, there are many who argue that contemporary graffiti is a form of public art. Artistic depiction does not focus necessarily on communicating direct messages to the public, so legibility is not always the objective. It can, however, express, individual or communally held views or commentary on social, political, ethnical, racial, religious, or gender issues. The wide engagement of graffiti with city life means that it can be seen as an effective means of social engagement in establishing dialogue and, thus, of addressing conflict in the long term. Architects have recently been looking for a tool which expresses this dynamism in three-dimensional design. This

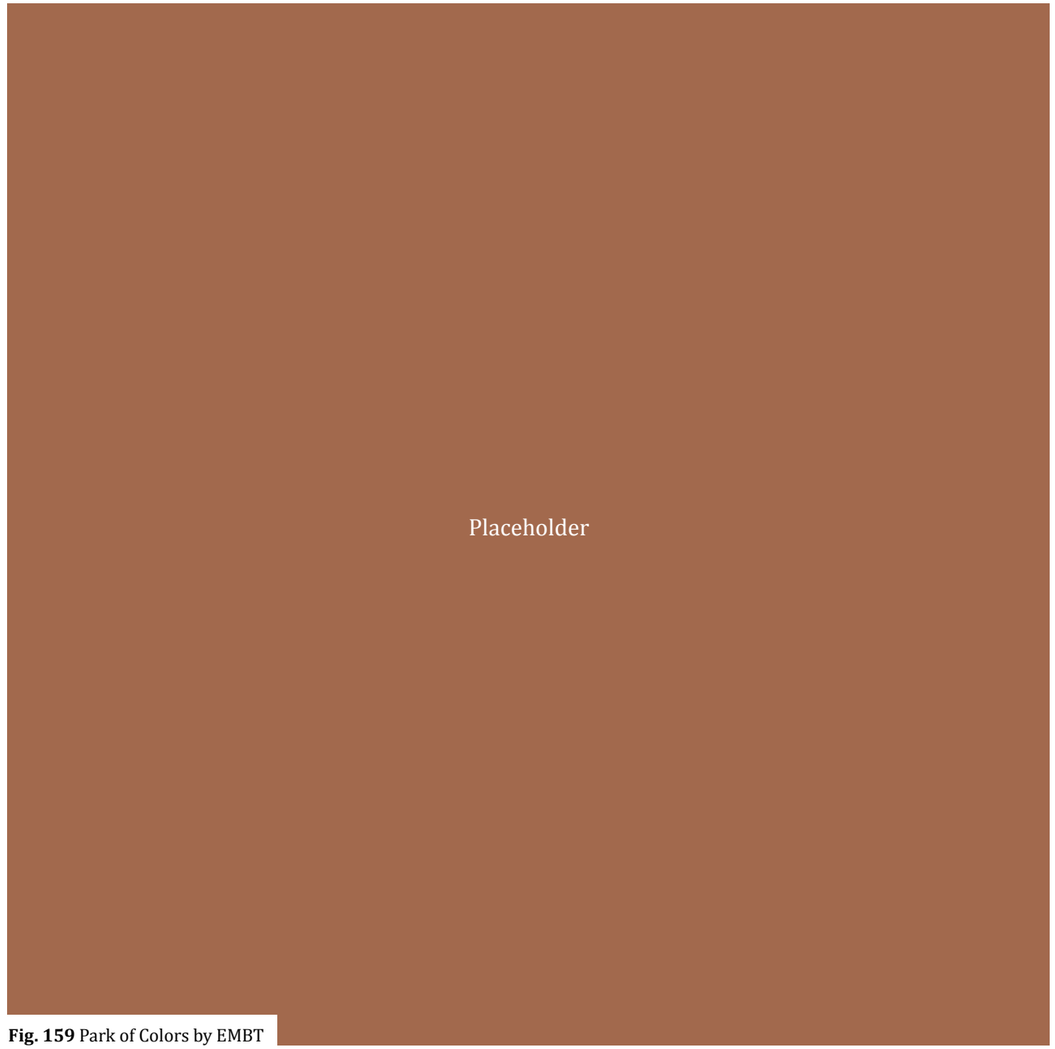


Fig. 159 Park of Colors by EMBT

is as yet mainly used for abstract self-expression. The use of three-dimensional graffiti elements is frequently a straight formal translation of two-dimensional shapes into urban objects (eg. Zedzbeton 3.0 by MUA Architects). An example that stands out in this design trend and that has influenced the design process of the London Temple is EMBT Architects' Parc of Colors (2001) **[Fig. 159]**. In this example graffiti is a responsive element, making the measure of quality in typotecture the degree to which a structure reflects and engages various aspects of landscape, regional identity, and cultural references, rather than merely its level of success in formal design.

Parc dels Colors, as we have briefly seen in Chapter 2, is a project to convert an empty, run-down wasteland into a lively suburban meeting place with an 'ideal' landscape that is capable of filling the gap previously existing in the surroundings. In order to achieve this, the architects proposed a range of new visual/spatial codes that illustrate/construct metaphorically the diversity and multiplicity of images that have moulded the identity of the neighbouring areas. This fragmented vocabulary generates a collage of fictitious subplaces that will eventually be embodied over time with the nearby vegetation and structures. As Enric Miralles stated before receiving approval for construction of the park,

> the activities that take place already exist, but today they take place in different streets and spaces… I started to work trying to think of a building that would imply a landscape that did not exist there… an ideal landscape… This project is a narrative from its beginning, anecdotal… to fix a very concrete moment: when the neighbours of Plana Lledó and Santa Rosa agree to the construction…[140]

The architects, in their attempt to generate this "social topography" of the area, which, according to Miralles, is 'the reality of the place where the topography mixes with the social desire of the project of transforming marginal emplacement into a public construction',[141] use the graffiti painted by young people in the neighbourhood on the facades of the surrounding buildings as a dynamic formal and semantic tool. They do not aspire to a mere spatial translation of these graffiti, but they re-examine their formal qualities to generate new unique syntactic and semantic configurations. The outcome is three physical boundaries where prefabricated (concrete or steel) elements are suspended. In reality, these elements are graffiti-inspired letterforms that form three large signs denoting the names of the neighbouring areas: PARC MOLLET - LUDOTECA AVIS - SANTA ROSA. However, the anatomy of the letterforms is, like much graffiti, so generative and obscure that these phrases are hardly legible, if at all. The objective is not actually the smooth decoding process of a message, but a connotative gesture for local young inhabitants to familiarize themselves with the new landscape and embrace it.

What is interesting in the three-dimensional, graffiti-like elements of Parc dels Colors (and many cases of real graffiti) is a play on different levels of (il)legibility. The signification process involved, which is feasible either by developing a similar artistic sensitivity or though random interpretation, introduces a new concept: asemic writing. Asemic writing

140. Enric Miralles, quoted in El Croquis: Enric Miralles 1983-2000, 50+72 (2000), p. 366
141. Ibid

produces no semantic content and has no verbal sense, because the symbols used are either illegible or invented. These symbols appear to be a part of an unknown sign system, rather than a foreign language or an ancient language that just needs deciphering **[Fig. 160]**. Additionally, they are not completely accidental marks, otherwise we would not refer to this process as writing but as abstract expression. Artist Olen Lascan tries to define asemic writing thus: "first, a suspicion holds that a given specimen belongs to or instantiates a sign or writing system; second, that this system is unknown in an absolute way".[142] It is difficult to categorize a text as completely asemic, because what is asemic may end up becoming meaningful to someone later on as they follow their intuition. Readers may form their own meaning for the sign as a ramification of their interpreting process. Asemic writing is a good example of the importance of Peirce's "interpretant", in his theory of signs. As the Saussurean "signified" (or "referent" for Peirce) is absent in asemic signs, the communication process makes sense only by the effect of a "blank" sign on someone who attempts to read or understand it. It is worth mentioning here that the lack of content, or the obscure hints of possible meanings, is bound to generate multivalent interpretations, as the connotative thinking is not led, and thus limited, by the reception of a specific denotation. This diverse range of meanings for the same sign places asemic expression next to natural phenomena; they are both mystical, and can be interpreted randomly, without any human-induced restriction such as language.[143]

Due to its spontaneous origin, asemic writing can acquire a spiritual dimension. It is an unconscious mental process that carries universally shared existential and emotional experiences that languages cannot adequately express. The contemporary artist Tim Gaze, who incorporates asemic writing into his work, adds:

> We humans don't think in words. There's a deeper level, which only condenses out into words as the final stage. This is my belief. If this is true, then we need something other than words, to illustrate our true thoughts. Some of the asemic writing feels true to me, in ways that words cannot achieve. Language is a tribal influence on humans. If we can find ways to surpass individual languages, humans will feel more included in a unified whole.[144]

Such a belief is quite similar to the idea of the automatic writing that is practised in many religions, Taoism being an example. This type of writing suggests a psychic ability which enables a person to produce words that are claimed to arise from a subconscious or supernatural source, and connect human beings to the meaning of their existence. From this perspective, the use of asemic writing makes perfect sense in the context of the creation of a sacred space that seeks to communicate, rather than established codified religious beliefs, an ecumenical approach to spirituality which could be defined as wor(ld)ship.

CONCEPT OF TRANSLATION. For the expression of each the spirit of each religion, one possibility for the London Temple would be the incorporation of blended fragments of differ-

142. Olen Lascan, 'Asemic fantasies' in Olen Lascan Blogspot <http:// http://olenlascan.blogspot.co.uk> [accessed 18 February 2014]
143. Ibid

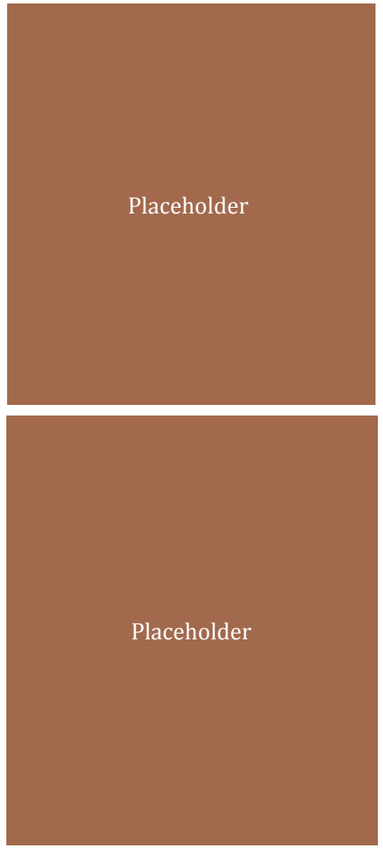


Fig. 160 Examples of asemic writing

144. Tim Gaze, interviewed by Michael Jacobson, 'Words to be looked at' in Dogmatika Online Magazine <http://dogmatika.com> [accessed 19 February 2014]

ent sacred architectural styles. Instead, it seeks to propose an alternative "neutral" environment where the only reference to religions is their symbols, without any further use of faith-based artifacts. Religious symbols themselves sum up the values and beliefs of each faith and help followers to come closer to their object of worship. However, following the concept of asemic writing, the objective for their syntactic dimension in the London Temple is for these to be distorted so that they no longer communicate any clear religious content. Their new syntax will become a submerged element of an indefinably sacred artificial environment that reflects London's multi-faith reality, similar to the graffiti-inspired elements of EMBT'S social topography in Parc dels Colors. EMBT converted the familiar in the surroundings of the graffiti in their project into hardly legible letter-objects with a similar aesthetic; in our case the writing elements are specific and universally recognizable religious symbols that need to integrate, generating a configuration of ambiguous content. These religious symbolsare not invented (as in many cases of asemic writing), but they should be promptly manipulated to become illegible or semi-legible. At times their semantic meaning should be decoded intuitively by the observer, based on personal experience or religious belief. The project intends to introduce a dual play between semantic (conventional) and "asemic" writing, and as such the temple is destined to become a place of worship for every faith and no faith at the same time, depending on the individual's interpretation. The resulting spatial configuration, which initially contains hidden symbols, should then translate into the skin of an environment which will finally act as a three-dimensional cosmological icon, similar to Newton's Cenotaph (for Sir Isaac Newton) (1784) by Étienne-Louis Boullée, as example of 'architecture parlante' **[Fig. 161]**.[145] Using Venturi's terminology, Boullée's project can be seen as a pure Duck, but the London Temple intends to transcend the notions of Ducks and Decorated Sheds by blending iconography with symbolism. In order for this iconography to be effectively expressed, the environment, though artificial, needs to include references to nature: a biomorphic synthesis that is able to express physical objects and phenomena in which human nature evolves and seeks diverse comprehension across religions. It also needs to be a 'tabula rasa' in which human beings can intervene (possibly through informal inscriptions and graffiti), similarly to the way they interact with nature, in which they belong. Through the amalgamation of symbols and icons, the temple as a whole will finally acquire a communicative power that will be based not on pure sculptural form, but rather on its capacity as an entity to absorb and transmit ideas through interpretation based on all faiths or none.

Context. The proposed area within London for the implementation of the London Temple is Hyde Park **[Fig. 162]**. Due to its size, key central location and rich natural landscape, Hyde Park attracts thousands of visitors daily, consisting of both local inhabitants and tourists from various ethnic and religious backgrounds. This culturally diverse green outdoor area, randomly populated by artificial structures, can be seen as a microcosm of the real world: a model settlement for the materialization of the notion of wor(ld)ship. In his seminal book Inside the Endless House (1964), the Austrian-Ameri-

Fig. 161 Newton's Cenotaph by Étienne-Louis Boullée. A massive sphere meant to represent the whole universe, with Newton's sarcophagus at the bottom

145. See pp. 42-43

Fig. 162 Proposed site for London Temple

can architect and artist Frederick Kiesler observed that

> no object, of nature or art, exists without environment. As a matter of fact, the object itself can expand to a degree where it becomes its own environment… The traditional art object, be it a painting, a sculpture, a piece of architecture, is no longer seen as an isolated entity, but must be considered within the context of this expanding environment.[146]

In our case, the London Temple in Hyde Park, as a spatial cosmological icon within a micro-cosmos, 'breathes into the surroundings and also inhales the realities of the environment'.[147] This reciprocal relationship can give the London Temple a different perspective: a continuous evolutionary topography that consistently reflects the ever-changing multicultural and multi-faith reality of Hyde Park, of London and, by extension, of the world.

Form. The design exercises that seemed pivotal to be taken into account for the structural configuration of this project are: 'The CROSS Experiment', 'The MOON Experiment', 'The BISMALLAH 2 Experiment' and 'The EUSTON 3 Experiment'' **[Fig. 163]**. These studies, which all involved letter displacement with or without further operations (such as scaling, curving, distortion, joining, repetition) of various typographic components, generated two-dimensional (surficial) patterns that are capable of functioning as expressive fluid skins for a built environment. The superimposition of religious symbols, which present a wealth of geometric relationships,

146. Frederick Kiesler, Inside the Endless House (New York: Simon and Schuster, 1964), p. 573
147. Ibid

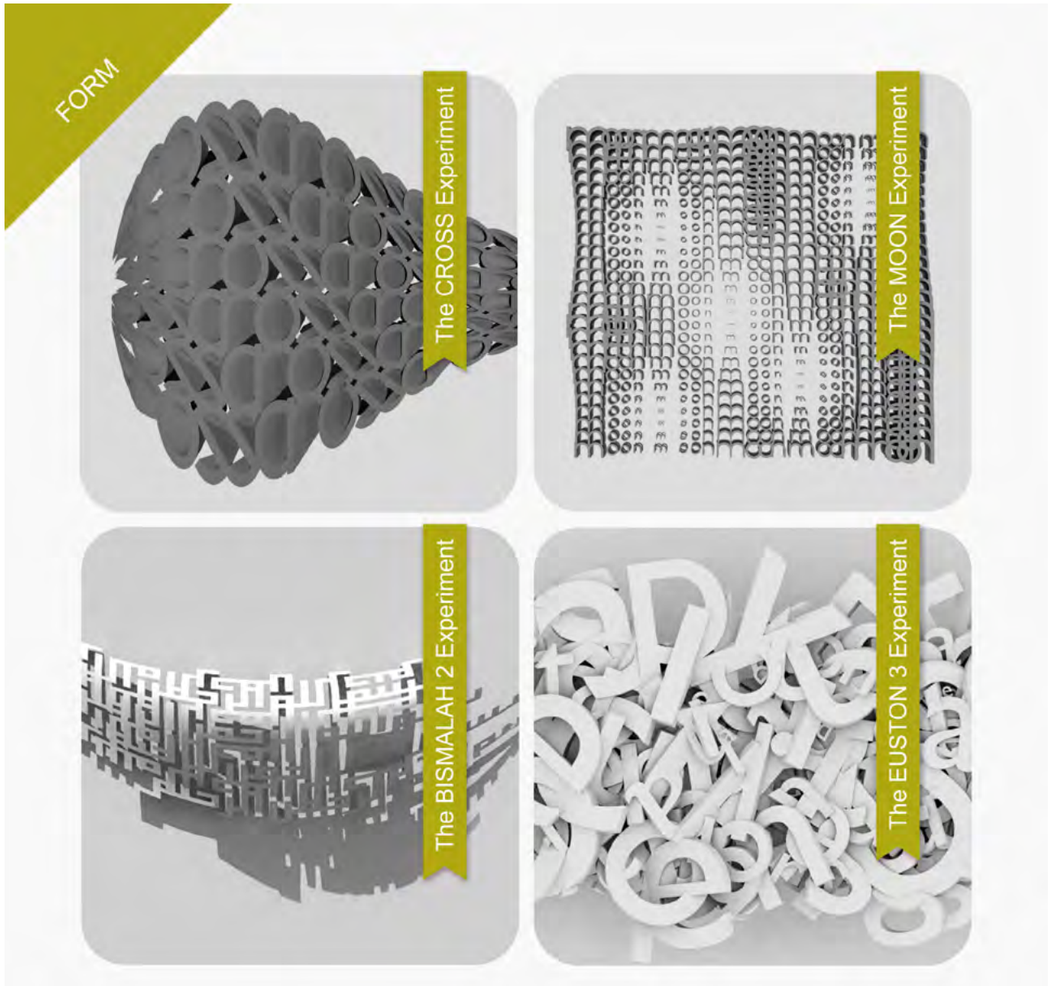


Fig. 163 Experiments studied for the form of London Temple

Fig. 164 Proposed typographic content for London Temple

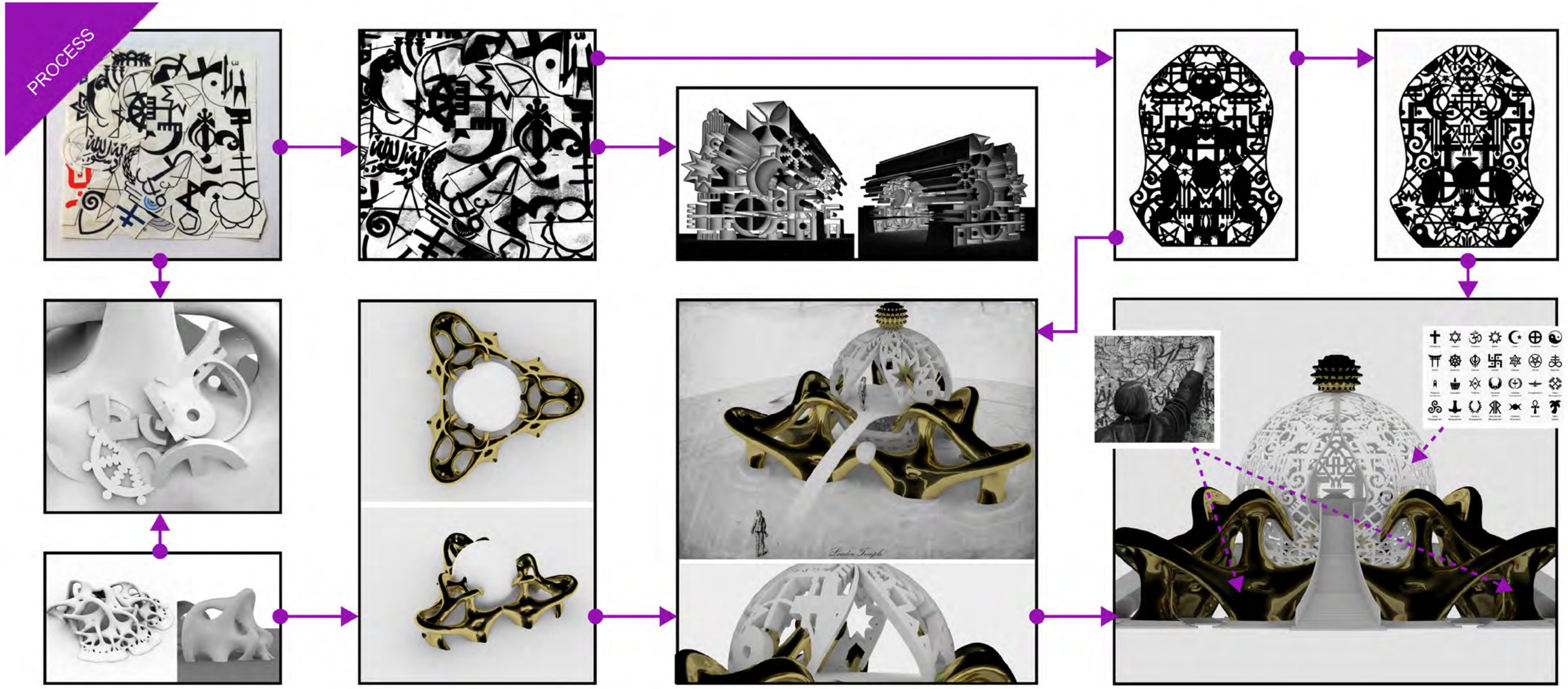


Fig. 165 Design process of London Temple

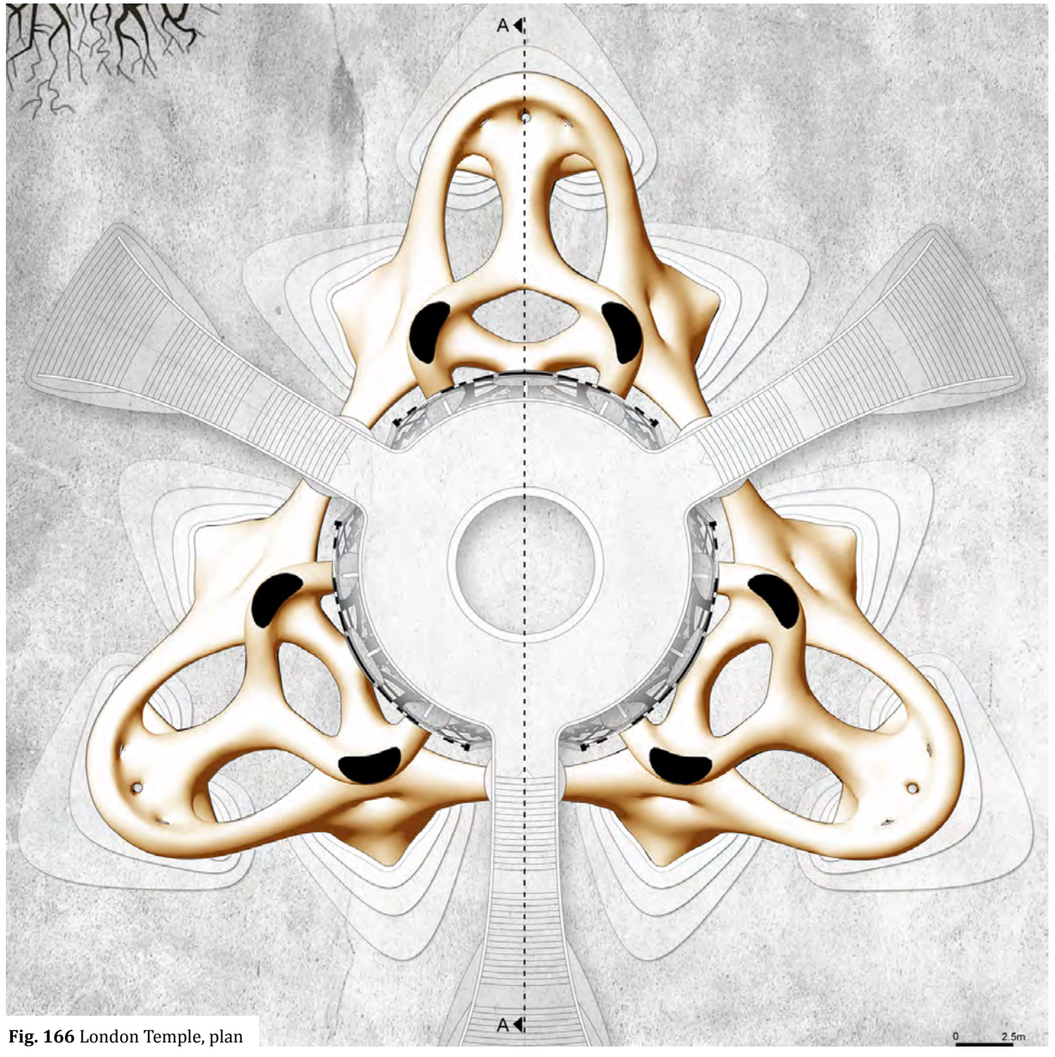


Fig. 166 London Temple, plan

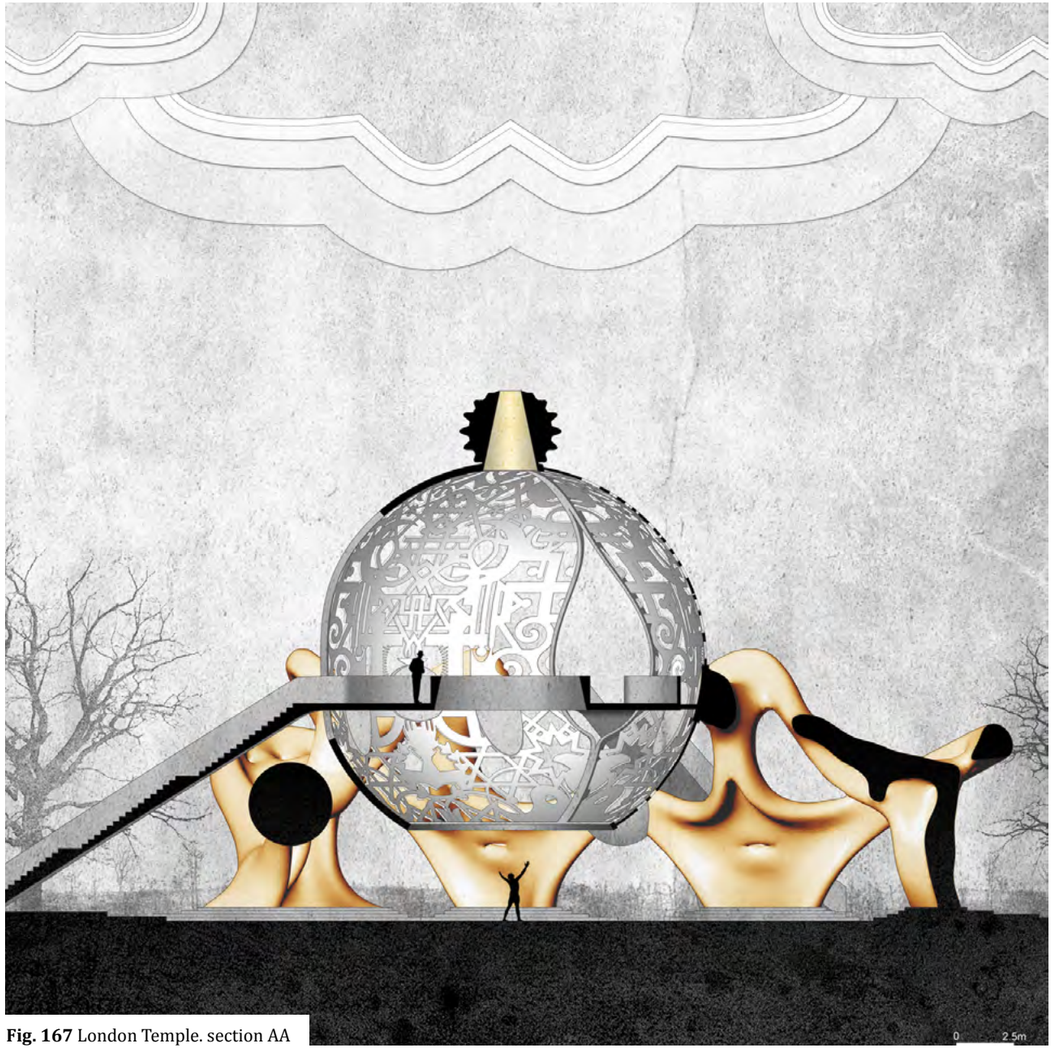


Fig. 167 London Temple. section AA

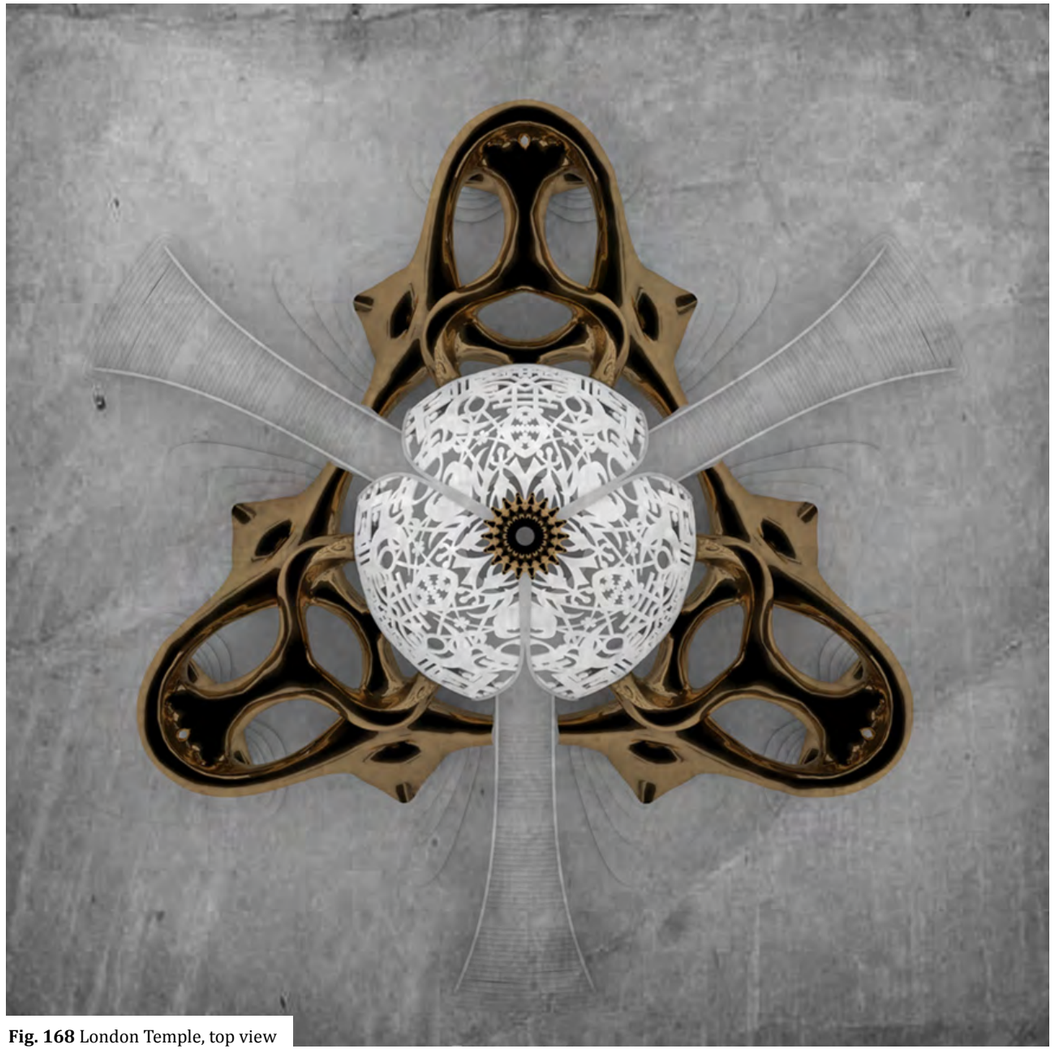


Fig. 168 London Temple, top view

Fig. 169 London Temple, side view

Fig. 170 London Temple, close-up view

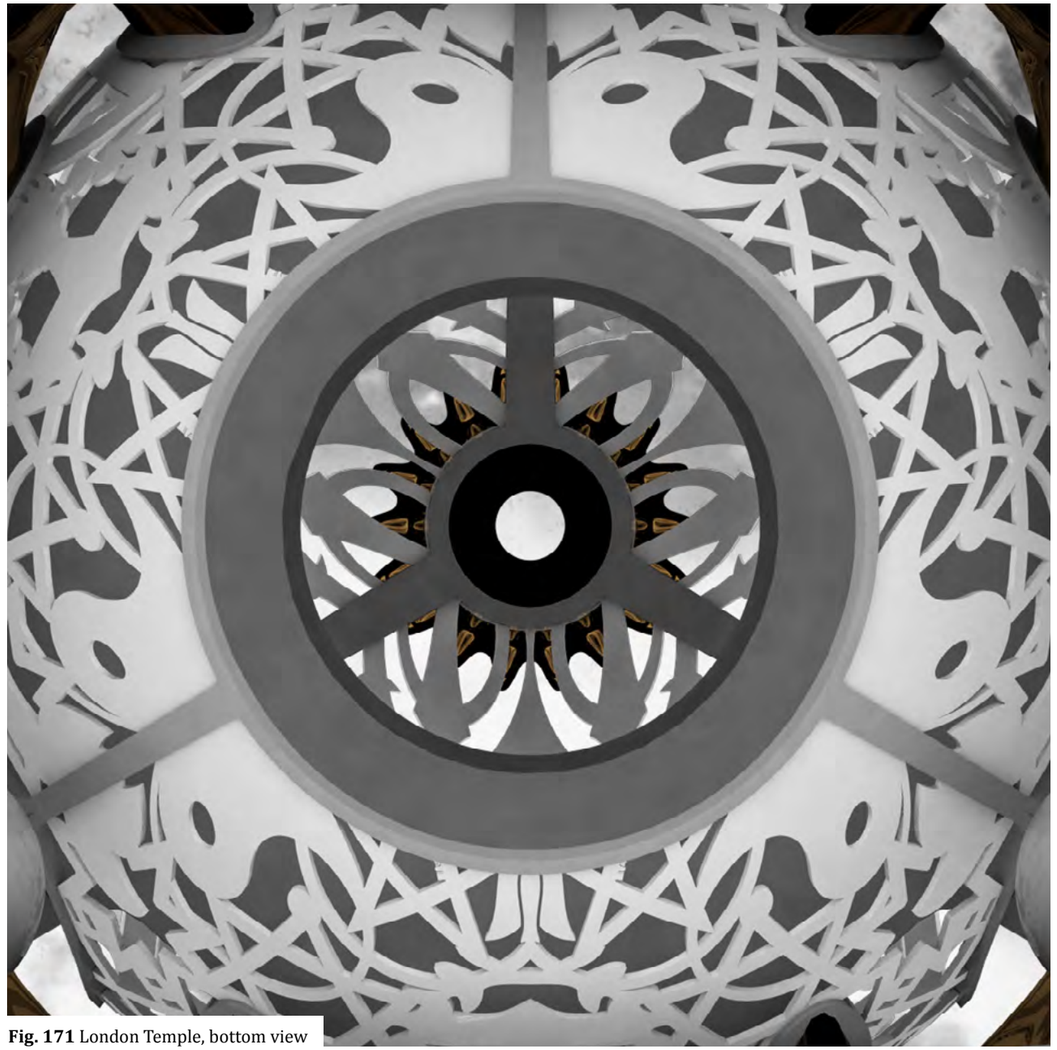


Fig. 171 London Temple, bottom view

Fig. 172

Fig. 173

can enhance the potential of these skins towards the formation of variably intricate and illegible configurations. As such, symbols will no longer be seen as a sort of design formula, or as compositional elements or barriers of enclosure, but they will be able to serve as an information-filtering membrane that fuses and dissolves traditionalconceptions about spirituality.

Content. The semantic aspect of this project engages, like the two projects above, both permanent and ephemeral typographic elements **[Fig. 164]**. The permanent elements comprise 28 of the best-known religious symbols, assembled unconventionally for the generation of the temple's skin. Although religious symbols are not alphabetical (part of a phonographic notational system), they are a set of graphic representations that express ideas and beliefs associated with faith; a collection of related ideographic symbols that are each given an arbitrary meaning and created to facilitate structured communication within a domain of knowledge.[146] Similar notational systems would be sets of symbols in mathematics, economics, music and other scientific and artistic disciplines: these are still all subjects of typographic expression. In contrast to the permanent elements, the ephemeral elements will not have a predetermined content, as these will consist of various informal texts on the surfaces of the temple inscribed by visitors. This type of "graffiti" often communicates personal beliefs and favourite quotations, commemorates the mutual commitment of a couple, records a person's presence at a particular moment or is purely asemic in content. They will be a type of interaction between the temple

148. Definition of 'Notation' in Wikipedia <http://wikipedia.org> [accessed 4 March 2014]

and its visitors, offering a view of local historical minutiae (till they fade away) and contributing to an evolutionary 'cultural-religious' topography.

PROCESS OF TRANSLATION. The process followed for the interpretation of the concept of wo(ld)ship into a physical manifestation **[Fig. 165]** started with a series of experiments for the formulation of a illegible/semi-legible pattern from the 28 religious symbols. It later involved the generation of biomorphic structural components which, in conjunction with the semantics of the skin, would be able to represent the intended spatial iconography. Structural efficiency during the assemblage of all the components was also a critical parameter of the configuration of the final architectural entity.

iii. Outcome

London Temple is a public sacred space dedicated to all faith groups. Its structure is based on trilateral symmetry following the fact that many world religions contain triple deities or concepts of trinity. Three gold-plated branch-like structural elements, whose surface is a canvas for visitors to inscribe personal messages of any type **[Fig. 173]**, support the main component of the temple, a perfect sphere. The skin of the sphere forms a non-religious pattern composed by twenty-eight superimposed religious symbols. Through openings of the skin, three staircases lead to the main slab of the temple located in the inner side of the sphere. The building is topped by an odd gold-plated spherical component of smaller scale. An imaginative central cone subtracts all intersecting parts of the building, so the visitors can have focal visual access towards the sky from any level of the building. The whole building configuration constitutes a three-dimensional urban icon for multi-faith. The spherical shape along with the patterned skin of the main space express the universal approach of the temple to spirituality as well as the inclusivity of all different faith groups. The inscribed organic base of the sphere is the grounded knowledge that leads (or misleads) human spirit to answer mysteries of life which are symbolized by the odd top small spherical component and prevent human from conquering the truth.

Through the superimposition of all religious symbols for the generation of a highly expressive skin, London Temple does not substitute the existing religious spaces where traditional rituals can be fully practiced, but provides an occasion through a mono-functional environment to build and nurture relationships among individuals of different faith groups. The equal treatment of each symbol in terms of size and weight supports even further this unity amidst diversity. By encouraging visitors to inscribe further messages on the skin, it generates a second layer of superimposed information that maps a respectful co-presence of different approaches in the quest of the human spirit for truth. The whole structure, acting as a three-dimensional multi-faith icon, invites the wider community to come together in a spirit that can range from celebration to mourning. It generates a unique religious experience that involves a journey into the depths of the individual and the multicultural community as a whole.

5

Conclusion

Written language constitutes an essential part of every urban environment, as architecture alone is usually unable to communicate vital information, such as messages of general public interest or political and commercial content, to a city. Signage and architectural lettering are the traditional environmental-scale typographic design practices that seek to address this necessity. However, their supplementary nature usually fails to be reconciled with the existing built context, and the after-effect is a visual inconsistency within a building and city, respectively. This research has suggested an alternative approach that is able to amalgamate typography with architecture through a unified design process. The proposed name for this cross-disciplinary practice is typotecture.

Although the roots of typotecture can be traced back to earlier historic periods, it has always been unidentified, and sometimes confused with signage or architectural lettering. This research sought to establish it as an autonomous ongoing design activity. This ambitious undertaking was attempted through the first ever systematic recording of typotecture's earlier theoretical and practical approaches, as well as a demonstration of its potential for future development using current advanced digital design tools.

A study of the history of architecture revealed a rich experimentation with typotecture since the early 20th century, with some even earlier sporadic explorations. At the beginning of the preceding century, the new architectural typolo-

gies that flourished due to the industrial revolution required instant differentiation from antagonistic built environments. Signage became a given during the design of these buildings, and many architects started integrating typographic elements into their facades through a total design approach, the most notable being that of the German architect Peter Behrens. Modern architects further acknowledged the importance of typography in architecture, and experimented on it extensively. Futurist designer Fortunato Depero promoted the idea of 'typographic architecture' as part of his wider concept of 'advertising architecture' for commercial buildings, avant-garde Russian architects mobilized typographic elements, amongst others, to be integral parts of mainly lightweight structures for propagandistic purposes, De Stijl practitioner J.J.P. Oud treated the facade of commercial buildings as posters and Bauhaus designer Herbert Bayer experimented extensively on kiosks and exhibition pavilions by composing architectural and typographic elements in coexistence. After a conservative use of typotecture during the International Style, Postmodern thinking expanded its use in a more diverse and inclusive way, mainly through the use of supergraphics. Typotecture was applied to a wider range of architectural typologies, presenting diversity in expression and meaning. Although these typographic elements were still two-dimensional, they started playing an active role in the perception of space. During the same period, American Postmodern architect Venturi, as a result of his enthusiastic support of supergraphics, also encouraged new technological means of communication, such as light boards and screens,

as dynamic elements of architecture. Recent innovative design and construction tools and techniques, however, assisted the two-dimensional typographic layers which used to cover buildings to surpass their 'thinness', and later became non-structural elements, structural components or whole building configurations. Among contemporary architectural practices that have been experimenting widely with three-dimensional typotecture are the architectural practices Neutelings Riedijk, MVRDV and BIG.

The design process for new typotectural outputs required meticulous preparations. After a thorough evaluation of historic experimentation, it involved asking strategic questions about which architectural typologies this cross-disciplinary practice can be applicable to, what types of architectural elements it can generate and which functions it can serve. It also investigated the mutual features shared by architecture and typography, and how current design techniques influence their relationship. These procedures offered a panorama of what typotecture has to offer, and how these findings can be reflected in new typotectural designs. An immense amount of preliminary design work followed, before the establishment of three final distinct typotectural proposals.

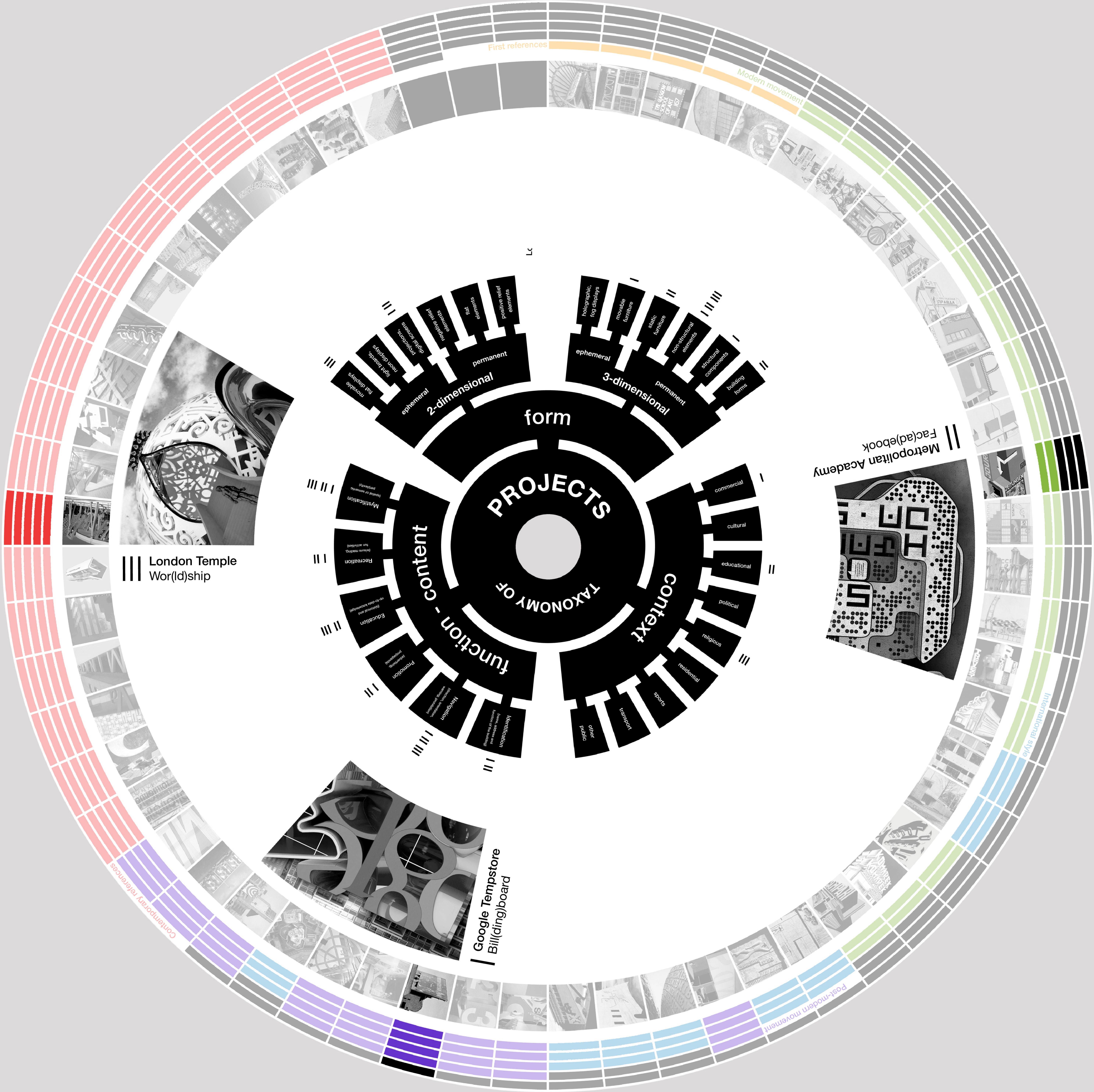
'Bill(ding)board' re-examined the function of a conventional advertising billboard, where the only sense involved is vision, and translated it into an immersive built experience for a contemporary brand using its unique typographic identity. 'Fac(ad)ebook' looked at the integration of communication and learning processes to the structure and skin of an educational building through the use of internet-based

media that involve typography. ‘Wor(ld)ship’ superimposed various religious symbols (non-alphabetical typographic elements, in this case) as alternative expressions of traditional places of worship to generate an inter-faith temple which addresses questions about the contemporary understanding of spirituality. In every output the incorporation of the project with the urban environment, the architectural quality with the feasibility of its materialization and the consistency of the typographic information were all of great importance. The attributes of the three typotectural proposals are summarized in the ‘Taxonomy of Projects’ **[Fig. 176]**.

Strengths - Weaknesses - Opportunities - Threats (SWOT) Analysis constitutes an appropriate method to assess the practical aspects of the research in total, also reflecting the study of historic typotectural experimentation. This concise evaluation of the subject helps the audience for the research to comprehend through key points all the positive and negative features that characterize typotecture, and those which can influence its future development.

Strengths. (a) Typotecture has the unique capacity to offer integrated typographic information within a building using a single strategy, revitalizing the way traditional public signage works in architecture. The result is three-dimensional communication systems where both space and semantics are conceived simultaneously. The viewer, while ‘reading’ the tectonics of a building, ends up decoding a typographic message, or the opposite. This reciprocal relationship bridges the gap between architecture and signage responsible for visual inconsistency in the built environment. (b) The wide range of typographic elements, multiplied by a plethora of typefaces, offers architects new design possibilities in effectively addressing spatial environments where communication is a given. This richness supports even cases where typography is not necessarily a requirement, but where designers would find it appropriate to develop an architectural proposal through the use of typographic elements. (c) Typotecture can present multiple ways of involvement in the generation of built environments. Typographic elements can be effectively transformed into buildings, structural components, non-structural pieces, or furniture and facade elements, or acquire a temporary existence through the integrated use of holograms, projections and screens.

Weaknesses. (a) Typotecture is obviously not a tool easily applicable to every architectural proposal, as one of the main requirements for its consideration is the generation of a highly communicative environment. (b) Although each period has its own visual language adding a unique layer of character and history to the built environment, the semantics of the permanent typotectural forms produced may in some cases become outdated after a certain length of time, because of the constant evolution of social needs. The use of permanent typotecture should be carefully considered. Although this is not always the case, typotecture seems to respond better to ephemeral structures, and the ability of typographic messages to adapt is beneficial. (c) One of the fundamental attributes of typographic elements is their monolateral nature, meaning that their forms have a one-sided semantic significance. This is not a problem with typographic applications. However, in



PROJECTS
TAXONOMY OF
form
2-dimensional
ephemeral
permanent
movable flat displays
light boards, neon displays
projections, digital screens
negative relief elements
flat elements
positive relief elements
3-dimensional
ephemeral
permanent
holographic, fog displays
movable furniture
static furniture
non-structural elements
structural components
building forms
context
commercial
cultural
educational
political
religious
residential
sports
transport
other public
function - content
Mystification
Recreation
Education
Promotion
Navigation
Identification
London Temple
Wor(ld)ship
Metropolitan Academy
Fac(ad)ebook
Google Tempstore
Bill(ding)board
First references
Modern movement
International style
Post-modern movement
Contemporary references

Fig. 174

spatial situations this attribute frequently becomes difficult. The designer should pay extra attention to this detail and try to deal with the emerging ‘wrong’ side of the letterform in space, following a creative and meaningful approach.

Opportunities. (a) Typotecture could be an indispensable tool for the design of emerging architectural programmes in the future, as contemporary urban environments become gradually more complex and typographic information within the urban fabric more important. (b) This research demonstrates a number of possible typotectural outputs using current digital tools familiar to the author. The constant evolution of computational technologies and techniques could probably benefit typotecture even further.

Threats. (a) Although typotecture can offer new possibilities for future designers, it should not be used as a tool for merely supplementing a building with purposeless information. A sense of appropriateness should always be the first thought before applying it. Typotectonics should always be meaningful, though this does not always mean they should be legible or readable. (b) Three-dimensional typotecture is all about balancing the semantic with a new, spatially effective syntactic dimension of typographic elements. In some cases one will be more prominent than the other, but they should both exist in a spatial typotectural form. If this mutual presence is missing, the outcome is likely to be an unsuccessful set of superfluous aesthetics.

This research created a unique opportunity to generate new knowledge in the field of architecture by using experimental design processes as a dynamic part of a theory. The theoretical and practical outcomes did not intend to form an incontrovertibly complete system relating to typotecture, but rather to offer a starting point for further systematic investigation, a fundamental framework for critical reflection and debate that will stimulate further development in an existing, but overlooked, hybrid design practice.

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