

UNDERSTANDING IS SEEING: A DISCOURSE PERSPECTIVE ON IMAGE METAPHOR

Rosario Caballero Rodríguez

Universidad de Extremadura

RESUMEN: El objeto de la presente contribución es el tipo de metáfora conocido como metáfora de imagen, tal y como ésta aparece en el género de la reseña arquitectónica. Partiendo de un proyecto de investigación anterior donde se exploraba la presencia y función de la metáfora en un corpus de 95 textos, la discusión aquí planteada propone que la metáfora de imagen (a) motiva gran parte de la jerga y recursos léxico-gramaticales de los arquitectos y, por lo tanto, es susceptible de convertirse en parte convencional de su discurso, (b) puede mapear tanto imágenes como conceptos y, en este sentido, generar inferencias, y (c) cumple una función en la estructura retórica del género estudiado. A la vez que se llama la atención acerca del impacto de los aspectos visuales de la disciplina en las metáforas que articulan el pensamiento y lenguaje de los arquitectos, en esta contribución se sugiere, por un lado, que las diferencias entre las metáforas conceptuales y las de imagen son menos radicales de lo que se suele pensar, y por otro que la caracterización de estos dos tipos de metáfora requiere prestar atención a los diversos contextos discursivos en los que ambas tienen lugar y cumplen una función.

ABSTRACT: The present paper focuses on the type of metaphor known as image metaphor as it is used by architects to describe and evaluate built space in building reviews. Drawing insights from earlier research dealing with the presence and role of metaphor in a 95-text corpus, here it is suggested that image metaphor (a) motivates a large amount of architectural jargon and lexico-grammatical patterns and, therefore, can become conventionalised, (b) may involve the mapping of both images and concepts and, therefore, allows for inferencing processes, and (c) has a role at different stages of the rhetorical structure of building reviews. Together with drawing attention to the impact that the visual concerns of architects have on the metaphors articulating their thought and language, in this paper it is suggested that the differences between conceptual and image metaphors may be less dramatic than often thought, and that their characterisation cannot be effected unless the different discourse contexts where they may play a role are also taken into account.

PALABRAS CLAVE: imagen metafórica; lexicogramática de la metáfora; discurso; genero.

KEYWORDS: image metaphor; lexicogrammar of metaphor, discourse; genre.

0. Introduction

Metaphor is a transfer of meaning between two disparate domains -the term metaphor being etymologically related to the Greek term *metapherein* roughly meaning 'transfer', 'carrying over'. By means of this transfer or *mapping*, as the process is referred to in cognitive research after Lakoff and Johnson's influential book *Metaphors We Live by* (1980), some concepts, activities or things (the *targets* in metaphors) are figuratively understood in terms of other concepts, activities and things (the metaphorical *sources*) which, although apparently very different, 'lend' some of their internal logic in the process. Metaphorical mappings may involve concepts (e.g. when we talk about love relationships in terms of a journey, as in "our relationship isn't going anywhere") or images (e.g. Breton's well-known description of his wife's hair as "brush fire"). Such *conceptual* and *image* metaphors may be verbally expressed or realised by linguistic units of various sorts and ranks, all of which point to the figurative quality of a large amount of our understanding of the world.

This paper explores the metaphorical language used by architects to describe and evaluate built space in building reviews, particularly the figurative expressions instantiating image metaphors. The discussion draws upon earlier research dealing with the presence and role of metaphor in the building review genre (Caballero 2001). This is one of the prototypical contexts where the complex array of issues involved both in architects' work and discourse may be best appreciated, and probably the best place where the aesthetic -i.e. 'visual'- and theoretical facets of the discipline actually meet. The analysis was carried out on a corpus of 95 reviews drawn from six leading magazines in the field¹. This allowed for drawing generalisations about the entrenchment of certain metaphors in architectural thinking (as reflected in the systematic occurrence of their linguistic instantiations), and about the strategic use of metaphorical language for accomplishing rhetorical goals in a consistent and patterned way.

The paper is organised as follows: after a brief overview of the heuristics of metaphor in architectural design, I describe the grammatical patterns in which image metaphors are realised in building reviews, and their contribution to fulfilling the rhetorical goals of the genre. The ensuing discussion draws upon these findings in order to see the impact of visual metaphors in architects' thinking and language.

1. The magazines are *Architectural Record*, *Architectural Review*, *Architectural Design*, *Architecture*, *Architecture Australia*, *Architecture SOUTH*.

1. The Thinking eye of architects

Architects have always made use of concepts and entities outside the realm of architecture in order to think and talk about space - a basic, yet abstract and highly complex concept. Among the domains able to provide a set of working models and their corresponding lexis, the natural sciences, linguistic description, and spatial mechanics have furnished the theoretical and critical apparatus of architecture. This is illustrated by references to buildings as "vital organisms" susceptible to having "periodic spurts of growth" and to architecture's conventions and elements as its "vocabulary", "rhetoric", "imagery" or "syntax", or by calling buildings "machines for living". Such notions of built artefacts as texts, living organisms and machines have become part and parcel of architects' disciplinary acculturation, and, therefore, conventional and automatic within the discipline.

Metaphor is also consciously used by architects, particularly when thinking up a building; it not only supplies them with a set of 'ready-made', theoretical models, but also, and most importantly, meets their more practical needs, thus becoming what some design scholars call a design *trigger or primary generator* (Darke 1979). This is because architectural design is an intrinsically analogical process in which things which, in principle, have nothing to do with spatial artefacts, are consistently invoked in their design. Put in another way, "One of the things that happens in design is that, by means of metaphor in language and formal and other associations in the visual mode, things that are not buildings (e.g. fridges) get into the design for buildings" (Medway and Clark 2003: 267).

Metaphors equating buildings with "fridges" or any other such entity, particularly those used in the early stages of building design, are mostly visually informed (Goldschmidt 1994, 1995; Lawson and Ming Loke 1997; Casakin and Goldschmidt 1999). That is, they draw upon the external similarity of the object used as the generator of a given architectural project and the appearance of the eventual outcome. In this regard, although a common assumption of design scholars is that architects' craft involves a blend of both perceptual and conceptual mechanisms, the former appear to be particularly important. This, however, does not imply a clear-cut distinction between visual and non-visual knowledge, as suggested by the phrase *visual thinking* often used to refer to architects' cognitive style (Arnheim 1969; Oxman 1995; 2002). Rather, visual thinking is described as a process that "exploits the perceptual event in order to *initiate reasoning with the perceived stimuli of visual objects*" (Oxman 2002: 147. Italics in the original). In other words, architects are characterised by having a *thinking eye* (Oxman 2002), a qualification that captures the complex, multiform knowledge structures involved in their work.

The thinking eye of architects may be appreciated in everything they do, and, of course, in the metaphors employed in both their verbal and graphic endeavours. For verbal expression is not the only means by which metaphors may be formally realised: sketches and plans also reveal architects' use of non-architectural entities when designing a building. In fact, it is often the case that the metaphor informing a particular design is articulated both verbally (the expressions in italics) and pictorially in architectural texts, as illustrated below²:



(1) As a freestanding element, it needed to be curved for stability, and the curve chosen prompted the development of a *tadpole-like plan with entrance and social centre in the head*. [...] The combination of radial and linear principles in the plan allows *transition between centrality in the head and a route distributing to either side in the tail*. [...] *The thick, solid brick wall is visibly the spine of the whole, emerging naked externally in the tail*.

Here, the verbal description of a crèche in Bremen is faithful to the physical resemblance of its graphic representation to a tadpole, as explicitly acknowledged in the qualification of the building's plan as "tadpole-like" in the text. Parts of this particular "tadpole" such as its head and tail are also used for commenting upon the arrangement of the different volumes making up the built whole. The metaphor that may well have generated the design of this crèche is thus discernible in both the graphic and the verbal appreciation of the building.

The tadpole analogy above is, in this respect, visually oriented, as is also the case with a large amount of the figurative language in architectural texts, be it conventional lexis or jargon terms like "bullnose", "ring beam", "curtain wall(ing)", or more innovative descriptions of spatial structures as "three-sided doughnut[s]", "pod[s]" or "gargantuan blancmange[s]". The visual bias of architectural metaphors is nevertheless a question of degree: the use of an image such as a "tadpole" may also involve abstract knowledge of its relational and functional properties. In other words, a visual metaphor in architectural discourse may invoke both an image and a conceptual frame. In order to illustrate this point, consider the following passages:

- (2) *The almost gaseous materiality* reflects the distance Mayne has come *since the heavy-metal days in the 1980s, when his Schwarzenegger display of steel implied permanence and a form of unyielding truth in construction*.
- (3) *Myers' design is a multiple hybrid of Eames and Kahn*.

2. I am grateful to the architect Peter Hübner for kindly providing the plan reproduced in this paper.

In passage 2, the evaluation of the architect's excessive reliance on metal structures in previous work is articulated by the use of "heavy metal" (a pun referring both to that excess and to a musical trend). Similarly, the name of a famous muscular actor is used to pre-modify the architect's 'display of steel'. Understanding expressions like these will involve, in the first place, *imagining* the typical appearance of the entities used as qualifiers. At the same time, it requires appreciating the positive or negative connotations of such nouns within the general cultural context in which the discourse interaction takes place. Even more specifically, those implications will be related to the specific set of values of the community of architects (actually, a particular culture within that broader frame).

The clearest case of the rich knowledge articulated by architectural metaphors concerns expressions incorporating the names of well-known architects³. This may be seen in passage 3, which is concerned with describing the overall appearance of the building at issue while ascribing that appearance to a specific trend or typology. This commentary is incomprehensible if the reader has no familiarity with the physical appearance of Kahn's and Eames's work, the body of knowledge informing it, the corpus of practices it encapsulates, and the implications for the community of architects in terms of status and value. Indeed, the use of names of architects proves a particularly comprehensive strategy in architectural discourse. On the one hand, they are shorthand reference terms in that they encapsulate well-known design typologies in the architectural canon. On the other hand, they may be usefully deployed to convey judgements precisely by appealing to the status of the architects whose prototypical design style is being referred to. In other words, expressions like those above are motivated by an image metaphor, yet also convey abstract knowledge, and, therefore, are recurrently used by in architectural commentary. The form and function of image metaphors in architectural texts is the subject of the following section.

3. Figurative expressions like these are metonymically motivated. The metonymy would be AGENT FOR PRODUCT or, more specifically, ARCHITECT FOR STYLE whereby the name of a given architect stands for his/her particular building style, therefore playing a twofold role: referential with regard to that style, and predicative with regard to the entities qualified through it. Nevertheless, discussing the metonymic motivation of certain metaphors involves moving on a level of technical specificity that falls beyond the scope of this paper. For those interested in the relationship between metaphor and metonymy, see the papers in Panther and Radden (1999) and in Barcelona (2000).

2. Form and function of image metaphors in architectural texts

As discussed elsewhere (Caballero 2002, 2003), image metaphors can be realised across different grammatical categories. Paying attention to this linguistic realisation is useful for two main reasons. In the first place, linguistic form may shed light on the knowledge involved in metaphor, as illustrated by example 4 (below), where "visceral" departs from its (metaphorically motivated) more conventional sense of 'instinctive' in order to emphasise the colourful quality of the spatial artefact under review, as specified by the apposition. Put in another way, although "visceral" often realises a 'conceptual' metaphor, in the example below it instantiates a visually motivated metaphor:

- (4) *Visceral shots of colour* -yellow fibreglass cubicles, a yellow wall in the entrance hall, purple and red wetsuits- also *animate the stark composition*.

A similar visual focus may be discerned in a number of adjectives portraying buildings as human beings. This is the case with a conventional term in architectural discourse such "blind" (as in "blind wall" or "blind building"), as well as the adjective "mute" in the following passage:

- (5) [The music rooms] sit flush with the facade and fold open and back as necessary when the rooms are occupied and used in different ways: *the mute box suddenly speaks of humanity*.

Here one of the buildings in a university campus is evaluated by means of an expression playing with both personification and visual information. The adjective "mute" appears to suggest a personified view of the building under review (reinforced by its immediate co-text), pointing, at the same time, to characteristics similar to those encapsulated in adjective "blind", namely, solid, closed to the exterior. However, interpreting the term in the latter sense involves paying attention to the images accompanying the verbal commentary (showing an hermetic building devoid of openings), which help decide that "mute" refers to the building's 'keeping its mouth shut' or lack of openings, rather than to its ability to produce sound. Indeed, the pictorial quality of figurative expressions like these is not only strengthened by the images in architectural texts, but in certain cases may be missed unless these visuals are paid due attention. The example above thus suggests that, although the idiosyncrasies of the knowledge projection involved in diverse metaphorical mappings may be discussed in terms of concepts, the formal and contextual aspects intrinsic to its actual instantiation need to be considered if we want to gain some insight into metaphor. Furthermore, in the case of multimodal texts

such as those characterising architectural discourse, classification may be facilitated by the information provided by the graphics and images in them.

Finally, the linguistic realisation of metaphor is critical because one of the requirements for a metaphor to be considered conceptually relevant -that is, conventional and widely used in reasoning- in cognitive linguistics is, precisely, its ability to yield stable and systematic linguistic expressions, and this cannot be determined without paying attention to the lexico-grammar of metaphor. This is the subject of the following section.

2.1. The linguistic instantiation of image metaphor

Image metaphors may be instantiated in nominal, verbal, adjectival, and adverbial patterns, among which the former three are the most numerous⁴. The most conspicuous cases of visually motivated patterns in architectural discourse comprise 'possessive' of-constructions, nominal pre-modification patterns (henceforth, 'N+N' patterns), '-like', and '-shaped' derived adjectives, and relational constructions involving motion verbs. These are discussed in turn.

Architectural texts yield recurrent instances of figurative noun heads that play an attributive rather than a referential role within their respective groups. Such patterns involve a nominal head post-modified by a prepositional group introduced by 'of', as shown below:

- (6) Holl's dialectic between typological conventions and the fetishism of craft is announced at the new entrance to the science center, a three-story tower that looms above *the reclining coil of the new exhibition wings*.
- (7) The private offices lining the street facade aren't particularly grand, and they bear the brunt of the facade's geometric irregularities, like a *sliver of a window* that tapers to a ridiculously small point.
- (8) *A long slash of glazing* provides glimpses to the interior.

Despite this lexico-grammatical pattern, the notional heads in these expressions are 'exhibition wings', 'window', and 'glazing', which are qualified by "reclining coil", "sliver", and "long slash" because of the shapes and forms suggested by these entities. The metaphorical sources thus realised therefore function as epithets for their respective targets. This role can be more clearly perceived if the examples above are compared to passages 9 and 10 below; both show a superficially similar structure, but illustrate the referential use of "valley" and "V":

4. Due to length constraints, this paper deals solely with the most conspicuous cases of visually motivated metaphorical expressions in architectural texts. More detailed discussion on the lexico-grammar of architectural metaphors may be found in Caballero (2002).

- (9) *The valley of the butterfly roof* compresses the space on the low south side and releases it to the view on the high north face.
- (10) The potentially endless shed arrives at a glass wall at each end, which of course floods the terminations of the volume with light, but luminance is carried through the whole place by skylights over *the V of the trusses*.

All these 'possessive' constructions instantiate a relational predication of a whole and its parts, construing this relationship in different ways, and foregrounding certain traits at the expense of others⁵. Thus, examples 9 and 10 illustrate an *ownership* relation in the sense that a butterfly roof and a truss have structural parts referred to as "valleys" and "Vs" after their resemblance with such entities. The constructions convey the prototypical relation between a whole and one of its parts underlying many such possessive patterns. Examples 6-8 also predicate something about a whole ('exhibition wings', 'window', and 'glazing') and its constituent parts. However, in this case such 'parts' are properties rather than actual physical elements. Windows or glazing have no such thing as "slivers" or "slashes"; rather, they *look like* these entities, which are incorporated in the expressions in order to qualify the architectural elements whose external appearance or shape resembles them. The syntactic realisation of this intensive relationship thus foregrounds a property of the entities referred to in the 'of-phrase' by fronting it (that is, by instantiating it as the head of its nominal group). Consequently, linguistic form draws attention to what architectural arrangements look like, rather than to the different parts making up the whole.

A second arresting case of image motivated patterns in architectural discourse concerns 'N+N' patterns. These fall into two types. The first group comprises combinations where the figurative term is the pre-modifier, and the metaphorical target is the head of the group, as shown in passages 11-13 below:

- (11) *Rugged 'tree-trunk' columns* and rough sawn internal planking combine with furnishings of cherry, oak and leather to exude rustic homeliness and warmth.
- (12) The massive walls support corrugated steel *butterfly* roofs with inverted gables [...].
- (13) Fiberglass *strip skylights* in the ceiling above the vast double-height space mark *the pinwheel plan*.

5. Langacker (1991, vol. II: 167 ff) discusses possessive constructions as a group covering a variety of relationships ranging from ownership and part-whole relations to association or kinship relations. Irrespective of their linguistic instantiation, all of these are explained as different ways of construing the relationship between a given entity (referred to as the reference point) and one of its properties (be they characteristics, kinship or possessions). The patterns exemplified in 6-9 may well be explained as construing a predication of architectural reference points according to their appearance or aesthetic properties. In turn, examples 10-11 would construe the relationship between architectural wholes and some of their constitutive elements or parts -in this case, the relationship being one of possession rather than external characterisation.

These imagistic pre-modifiers may work at the service of both description and classification, and, therefore, the different instantiations need to be analysed within their discourse contexts to see which function is predominant in each case. Among those cases with a clear classifying function, we find "butterfly roof", "ring beam", "wheel arch" or "curtain wall", all conventionally used to refer to specific types of truss, beam, arch and wall respectively. Indeed, typological classifications of construction elements in architectural discourse often rely on visually driven metaphors instantiated in this way. Moreover, the recurrent collocation of nouns such as "box", "strip" and "slit" with certain architectural terms (e.g. 'window') point to the potential of such patterns for compounding, the resulting combinations playing a clearly classifying role.

The second type of 'N+N' patterns concerns cases where the figurative term (the source in the metaphor) is the head of the nominal group, and the target is the pre-modifier. This literal pre-modifier focuses on the functional aspects of the architectural entity thus modified, while the figurative head highlights its external appearance. This is illustrated in the following examples:

- (14) A kitchen behind the social hall connects to the residential wing, which subdivides into *three dormitory pods* along a west-facing veranda, with east-facing verandas between *each pod*. [...] *A fourth dormitory pod tucks* into a basement level at the south end.
- (15) The architect completely breaks *the traditional supermarket box*, yet respects its purity as a typological form enough to keep his manipulations distinct from it.
- (16) *Smaller vertical window slits* are intermittently cut into the concrete flanks, forming an abstract pattern along the Calle Antonio Machado.

Contrary to the norm in general discourse, the pre-modifiers in the examples above do not qualify or classify their noun heads. Rather, they *name* them: 'dormitory', 'supermarket', and 'window' actually refer to particular architectural entities, thus departing from the prototypical functions fulfilled by pre-modifiers. Indeed, the expressions above would be equally comprehensible without the heads in the nominal groups ("pods", "box", "slits"): that is, the readers of such passages would understand that they describe a supermarket or a window. The heads thus seem to draw attention to the external appearance of the architectural entities at issue, which motivates their reference and qualification as "window slits" or "supermarket box(es)".

Adjectives are also an interesting source of insight into the figurative motivation of certain processes of word formation, and, accordingly, into the 'mechanics' of some metaphorical transfers in the architectural realm. This is particularly evident in 'Noun-shaped' suffixed compounds, *and* 'Noun-like' derived adjectives.

'N-shaped' combinations explicitly signal that the trait shared by the two entities in the metaphor is their shape. This does not imply that the architectural entities or targets thus modified must have a well-defined shape, however. In fact, imagistic adjectives are often found to qualify fairly vague terms such as 'plan', 'form', 'mass', or 'volume'. Technically speaking, these are metonymically motivated nouns used to refer to whole buildings in terms concerning one of its constituents or properties. In other words, although forms, plans, and volumes are some of the aspects involved in architectural artefacts, they are often used to refer to the building as a whole, a practice inherited from the Modernist critical language of the 1920s (Forty 2000)⁶. This tendency of architects to render what is concrete as abstract is offset by the opposite effect created by the imagistic adjectives qualifying spatial volumes or forms. These are all concerned with rendering the abstract as concrete. This 'concretising' role is aided by the nature of the sources often involved in the metaphors, which may be alphabet letters ("L-shaped"), geometrical shapes proper ("wedge-shaped"), and entities with a recognisable shape ("butterfly-shaped"), as shown below:

- (17) Rosselli has removed crosswalls to create *what reads as a high L-shaped space*.
- (18) Only the meeting room *-an egg-shaped volume grafted to the front façade-* announces itself as special.

On the other hand, when 'N-shaped' adjectives pre-modify specific architectural entities, their role is to qualify or further specify the shape suggested by the surface that they cover (i.e. the plan of the building) or by their outline:

- (19) The contrast in shaping of space seen in the main building between the irregular foyer and more disciplined reading rooms is played out again between *the fan-shaped lecture hall* and the terraced foyer.

'N-like' combinations also point to the resemblance underlying metaphorical transfers, as signalled by suffix '-like'. However, they are less explicit than 'N-shaped' patterns about the aspects shared by the entities metaphorically related. 'N-like' adjectives may also modify either vague terms or concrete spatial configurations.

6. According to Forty (2000) modern architectural language pivoted on five key words: space, form, design, structure, and order. The use of such 'vague' terms somehow illustrated architects' rejection of a number of inherited metaphors -usually drawn from the domains of language and biology and profusely incorporated in the previous critical discourse. Their adoption was, thus, a way to foreground the new modern concern with what was strictly architectural and conceptual while highlighting the limitations of language to describe both the essence and experience of space.

However, since the suffix '-like' provides little information about the trait involved in the metaphor, their contribution to a specific, accurate picture of the entities qualified in this way needs to be considered as a matter of degree. Thus, while adjectives like "lozenge-like" or "boxlike" convey a distinct appearance, in many other cases the exact nature of the qualification provided by 'N-like' compounds must be inferred from their immediate co-text, as happens in the example below:

- (20) At first floor level a long foyer and balcony protrudes out onto the main street elevation. *This visor-like glazed slot [...].*

Moreover, most adjectives formed by this means do not specifically focus on shape, but rather convey the general appearance of buildings or building elements. This appearance may result from a mixture of traits in certain cases (for example, the qualification of a building as "alcázar-like") or may, in contrast, involve a very specific characteristic. The latter is illustrated in the examples below. The image in 21 highlights the texture and colour of a building previously referred to as a "cavemonster" by comparing it to an animal's hairy coat and blood⁷. In turn, the adjective in example 22 stresses the intensity of the colour of two buildings by comparing it to the colourful display typical of peacocks:

- (21) The cavemonster is appropriately made of dark brown rusted steel, where *the pelt-like oxidation of the metal trickles like old blood into the rocks at its base.*
- (22) It also features *two of the brightest antidotes to the city's midwinter gloom: a pair of glass buildings with peacocklike intensity.*

In this respect, the main difference between 'N-like' and 'N-shaped' adjectives is that the former evoke richer images usually, but not always, at the expense of specificity, while the latter always focus on shape, often a well defined one.

Finally, one of the most recurrent and interesting figurative patterns in architectural discourse is the type of expression that describes, in dynamic terms, the way buildings are sited or the way certain elements are arranged within the built whole. The pattern is illustrated in example 23 below. Here the spatial 'relationship' between a building and its surroundings is conveyed by means of "step down" and "embrace":

- (23) Based on *a boomerang shaped plan, the new building steps down from a prow at its south end to embrace a new public space.*

7. "Pelt-like" might also be regarded as an example of synaesthetic metaphor since it combines visual and tactile information.

Such expressions instantiate the metaphor FORM IS MOTION (Lakoff and Turner 1989), the information involved in the mapping being the 'shape' or image suggested by the way in which buildings are sited. The expressions are specifically concerned with *perceived motion*, that is, with the illusion of motion created by the buildings' external appearance and siting (see also Langacker 1986; Talmy 1996).

Verbs like 'run', 'crouch', 'travel', 'rise', 'heave', 'embrace', 'hover', 'meander', and the like are recurrently used to describe spatial artefacts according to the way in which they appear in their sites and/or engage with surrounding structures. In other words, motion patterns in architectural discourse articulate an intensive pattern between an entity A (the building) and an entity B (its site or surroundings) whereby some quality is attached to A via the predicator in compliance with its relationship with B. The verbs used in the expressions foreground diverse aspects of this relationship and, above all, of the building's appearance: the building's size or 'bulk' ('sit', 'rest'), a combination of height and verticality ('loom', 'stand', 'rise', 'soar'), continuous, uninterrupted spatial 'presence' ('meander', 'flow', 'run'), and even the small size or 'difficult' nature of the building's site ('tuck'). Some of these are illustrated below:

(24) *Tucked between existing structures on a tight site, the addition dramatically captures daylight.*

(25) *One geologically contoured part of the building heaves up from the site like surrounding pre-Alpine hills rising out of the valley, while another part thrusts toward the intersection in an eruption of angled volumes caught in seismic upheaval.*

(26) *The glazed restaurant/café, designed by Bill MacMahon, seemingly melts out onto the surrounding concourse.*

The examples above call attention to how indispensable motion is to understand and talk about space, and, at the same time, show the visual quality of a large amount of the metaphorical language in architectural texts in compliance with the discipline's graphic concerns.

2.2. The function of image metaphor

Building reviews are relatively short texts aiming at describing and evaluating a given practice -encapsulated in a finished building- for the community of architects. The textual organisation of reviews is determined by the descriptive and evaluative aims of the genre. Thus, the texts prototypically show three distinct sections: Introduction, Description, and Closing Evaluation. Each of these is further structured in recognisable textual sequences or *moves* which, in turn, are organised in a number

of steps and sub-steps representing the diverse ways chosen by authors for accomplishing rhetorical goals (Swales 1990). Finally, two other typical components of the genre are the visuals co-occurring with the verbal commentary, and the Technical Specifications Card providing information on the people participating in the project and its budget (Caballero 2003).

Image metaphors meet the ideational, textual, and interpersonal needs of architects (more specifically, architect-reviewers), according to the specific demands of the discourse context under analysis. Concerning the descriptive goal of the genre, figurative language covers architects' referential and attributive needs, the former accomplished by metaphors that have become part of architectural jargon, and the latter fulfilled by the diverse lexico-grammatical patterns in which metaphors may be instantiated. Moreover, image metaphors also cover a very specific descriptive need of architects related to what may be referred to as *spatial deixis*.

A characteristic feature of architects' work is their constant handling of different dimensions and perspectives when representing space. Likewise, discussing design projects often requires shifting from one perspective to another. By way of illustration, let us consider the following passage:

(27) Fuksas's new building shares the same plan discipline as the surrounding concrete ones: it rigidly follows the grid and is rigorously oblong. Yet it is quite a different affair. [...] *A huge green parallelepiped initially appears to be almost inviolate, except for a deep horizontal slot which runs round the whole box, about two-thirds of the way up. A couple of vertical incisions in the tight green pre-oxidised copper skin signal entrance.*

The glass slashes are the ends of full-height slots that run right across the building. Using these as the major public volumes, Fuksas weaves off a surprising variety of spaces. The largest is the theatre (or rather the *salle de spectacle*), *a black box which occupies the whole south end of the rectangle* and can accommodate an audience of 350 in different configurations. *A smaller black box* is between the entrance and the main volume.

Across the wide hall with its flat plain in-situ concrete walls and glass ends is the major exhibition gallery. Here, *a slot through the whole building* brings daylight down to the back of the room [...] The rest of the ground floor is occupied with fine art studios and it includes the two big, calm double-height spaces at the north end, which are lit by *the clerestory of the horizontal slot*. [...] The music rooms have the delightful device of shutters which are clad in the same green copper as the rest of the building. They sit flush with the facade and fold open and back as necessary when the rooms are occupied and used in different ways: *the mute box suddenly speaks of humanity.*

On top of the whole thing is another box, this time clad in vertical wood boards. It houses the campus radio station, perched apparently precariously over the south and west edges, and as Fuksas says 'installé symboliquement sur le toit comme une antenne tournée vers le monde.' Symbolic it may be, but seen against the purity of *the green prism* it seems merely clumsy and wilfully rustic.

The green prism crouching among neo-Corbusian mediocrity. Radio station on top of *prism* is permeable to elements. [Captions of photographs]

Here we find the co-instantiation of several lexically related sources for referring to the same architectural target, each term conveying a different spatial perspective of their architectural referents. The passage starts with a two-dimensional qualification of the building's ground plan as 'oblong', that is, provides a *flat* perspective of the space occupied by building seen 'from above'. Change of perspective is suggested by further referring to the whole spatial complex as a three-dimensional "huge green parallelepiped", and to its main and subsidiary volumes as a "green prism" and "box(es)". In contrast, describing it as a "rectangle" (second paragraph) implies a shift back towards a two-dimensional perspective. Likewise, the reviewer's reference to the diverse openings in the building as "slots", "vertical incisions", or "glass slashes" is solely concerned with two spatial dimensions: height and width.

Imagistic language may thus help readers 'see' the building from the angle of view adopted by the reviewer. Apart from responding to various rhetorical needs and concerns, the figurative clusters in this text are also indicators of the viewpoint adopted by reviewers in their commentary. They are concerned, then, with spatial or 'perspectival' deixis.

Shifts in perspective may be more saliently rendered through non-geometric language. The following passage (partly quoted earlier) illustrates an extended metaphor drawn from the domain of biology:

(28) As a free-standing element, [the building] needed to be curved for stability, and the curve chosen prompted the development of a *tadpole-like* plan with entrance and social centre in *the head*. In the developing narrative about the building *the serpentine wall doubled as a city-wall and as the remains an imagined fossil creature -the Urtier*. [...]

The spatial organization presented to a small child could scarcely be simpler: from a distance the building is a *kind of mound or crouching creature* with very low eaves to bring the scale down. [...] The combination of radial and linear principles in the plan allows transition between centrality in *the head* and a route distributing to either side in *the tail*. [...] *The thick, solid brick wall is visibly the spine of the whole, emerging naked externally in the tail.*

This building is first introduced in two-dimensional terms as "tadpole-like", in agreement with the shape suggested by its ground plan. Likewise, its two furthest extremes are later referred to as the "head" and "tail" respectively, the three images being compliant with a two-dimensional, flat rendering of the building. The shift towards three-dimensionality occurs by qualifying the central wall in the complex as a "spine *emerging naked*". Other three-dimensional images are its comparison to "a crouching creature", which co-occurs with the more architectural entity 'mound'.

Architects also use image metaphors for specifically evaluative purposes. When this is the case, they are found in critically evaluative loci within the texts' structure, particularly at the beginning and end of Introductions, and in Closing Evaluations. The following passage closes the Introduction of one of the texts in the corpus:

(29) Diverting the Turia solved Valencia's flooding troubles, but *its riverbed left an unsightly brown gash through the city's stately fabric. Valencia has spent the past 40 years transforming the dry riverbed into a continuous swath of parkland.* To fill in the park's unfinished easternmost end [...] the city commissioned a sprawling 87-acre "City of Arts and Sciences" (CAS), designed by native son Santiago Calatrava.

Here the same architectural target is first referred to as "an unsightly gash" and later as "a continuous swath of parkland", the former expression articulating a negative appraisal and the latter providing a more positive alternative. It must be noted, however, that the evaluative load of both images does not only derive from their semantics since, whereas "gash" might be considered more negative than positive (its negative connotations reinforced by the pre-modifier 'unsightly'), "swath" is a fairly neutral term. In fact, the evaluative effectiveness of the expressions incorporating such terms may well arise from their textual rendering: they appear in a contrast position and, more interestingly, occur at the very beginning of the review. Concretely, the expressions in italics point to both a problem (referred to as "gash") to be solved by the building at issue, and the desired solution (the "swath"). The evaluative frame thus created will be developed in the ensuing text, which describes how that "gash" may become a "swath" thanks to an architectural project.

Together with helping reviewers provide a general picture of what the architectural target -building or spatial context- looks like, visual metaphors in Introductions are also concerned with evaluating diverse aspects of the topics thus introduced. They may help reviewers assess a given situation as a problem that the building under review attempts to solve in a number of ways. These problems are of diverse sorts. A favourite topic is the difficult or unsightly quality of spatial contexts, as shown in the previous example, and further illustrated below:

- (30) Ken Yeang's best known work [...] has been largely tall buildings, where he has set standards and offered ideas about techniques which offer the whole tropical world models for generating *towers that are far less energy consuming than the average dumb glass up-ended rectangles which bizarrely dominate so many would-be prosperous cities of South-East Asia, the Gulf and South America.*

The image in this extract conveys a negative evaluation of a particular urban context, drawing attention to the kind of tall structures currently found in it. The assessment relies on both the pre- and post-modifiers co-occurring with reference to such buildings as "rectangles" as well as on the contrast established between these "rectangles" and the presumably preferred option articulated as "towers that are far less energy consuming".

Buildings may also be evaluated for the first time at the very beginning of the texts, namely in their Titles and/or Leads. This is the case of example 31, where the reviewer uses an imagistic adjective derived from the name of a well-known architect ("Miesian") in order to qualify a building which, in turn, is metonymically referred to as "a Woolley" after the name of its former architect, Ken Woolley:

- (31) Shushing outrage about the wrecking of *a seminal, Miesian Woolley*, Italy's Renzo Piano shows Sydney how to combine harbour breezes with high-rise living and global business ambitions.

Reviews may also close with an image conveying the final assessment of the buildings at issue. When this is the case, image metaphors often co-occur with expressions less visually motivated, as shown below:

- (32) The whole often seems to be *a vast shallow vault supported on stalagmites - a metallic version of the caves in which we all began. Perhaps the space is too noble for the vulgar cacophony of trade-fair stands.*
- (33) Zapata's supermarket is a beautiful object *-it hums with kinetic energy, sweeping along and up the street like an elegant, silvery comet.*

Finally, a given metaphorical expression may re-appear throughout the review, thus creating a figurative frame for the ensuing text. A common strategy is to use an image metaphor to provide a first evaluation of the building at issue at the very beginning of the text, and use a similar or related expression in the closing commentary:

- (34) This year's jury felt strongly that successful environmentally responsible design increases human, environmental and economic performance simultaneously. The design team for the Marshall Street Addition to the Legacy Good

Samaritan Hospital truly recognized this broader definition of energy and environmental design. *They literally and figuratively "thought outside the box."* [...] *Thinking outside the box*, the design team realized that energy efficiency is not solely about the building's utility bills.

This passage plays on the typological trend encapsulated in "box" in order to evaluate positively the building under review. Thus, although the term commonly refers to a familiar -and fairly 'neutral'- building typology, in this passage the reviewer uses it for evaluating positively the work of an architectural team which succeeds, precisely, in avoiding their building being a "box". The term, therefore, is recast with negative connotations.

Evaluative frames are often initially constructed in Titles and Leads, and are, then, exploited stepwise in the ensuing text. Indeed, the impact of the evaluation in both textual loci is intensified when authors re-use the images opening their reviews in later commentary. Passage 35 illustrates this impact:

(35) *MAGIC BUBBLE. Hovering like a gargantuan blancmange above the Greenwich Peninsula, the Millennium Dome is now an inescapable part of the London skyline. [...]*

Engineered by Buro Happold, it is the world's largest *membrane structure*. [...] The hemispherical structure is clad in 80 000 sqm of Teflon coated glass-fibre panels. The smooth fabric surface is alternately hermetically opaque during the day and eerily translucent after dark; *at night the entire structure glows and pulsates like a giant jellyfish*.

Fuller's fantasy of *a city enclosed in a transparent bubble* may yet not be too far distant.

The structure is clad in iridescent tiles creating a lusciously shimmering polychromatic surface. Backlit translucent glass-fibre panels generate a seductively glowing surface. [Captions of photographs]

In this example, the title "Magic Bubble" opens the review of the Millennium Dome in Greenwich with a vivid picture of the building. The subsequent text will refer readers back to this title by means of both non-figurative language (in the captions of the visuals accompanying the main text) as well as figurative expressions such as "gargantuan blancmange" or "giant jellyfish" in a pattern of metaphor diversification. The images opening the commentary not only provide an evaluation focus, but also, and most importantly, create a frame exploited in the subsequent text.

In short, image metaphors on the one hand provide the lexical means to refer to certain building elements or to the way buildings are spatially located, and on the other furnish further qualification of the entities described. In this sense, they are used by reviewers to accomplish both the informational (i.e. descriptive) and evaluative goals of the genre.

3. Revisiting image metaphor

One of the achievements of the cognitive turn in metaphor research has been to undermine the notion of metaphor as a deviant, cosmetic use of language, replacing it with a view of figurative schemas as essential devices in human thought and discourse. However, despite the vast amount of work on metaphor, certain types have attracted less attention than others, or have been described as playing a 'minor' role in human cognition. A case in point is image metaphor, described by some metaphor scholars as mapping rich knowledge (see Friedrich (1991), or Ortony's (1979) description of this metaphor as a "cornerstone of insight"), yet regarded by cognitive linguists as a fleeting case of metaphor, prototypical of literary or advertising discourse, and neither productive nor conventional in the way that metaphors conveying 'abstract', conceptual knowledge are (Lakoff 1987; Lakoff and Turner 1989; Gibbs and Bogdonovich 1999).

Image metaphors map one concrete image upon another, a concreteness which underlies views of such metaphors as irrelevant in the conceptualisation of abstract concepts in terms of concrete ones. Moreover, since any image may, in principle, be mapped onto another, image metaphors have usually been referred to as 'one-shot' metaphors, that is, as highly creative, unconventional metaphors susceptible to triggering different readings and interpretations. In this sense, their ad-hoc nature has been claimed to underlie the lack of stability or systematicity of their linguistic instantiation as well as their little import in normal reasoning processes.

This description of image metaphors is problematic in a number of ways. First, this characterisation of metaphor types does not take into account the different discourse contexts where they may play a role or, at least, be less fleeting. In fact, architectural discourse appears to be one of those contexts where the proverbial unconventionality of image metaphors may be questioned, as suggested by the recurrent presence and critical role of image metaphors in the textual practices of architects. Another problem concerns the inferential richness attributed to various types of metaphor other than image metaphors. The underlying assumption appears to be that inferential structure is a ready-made information pack which may be discussed at a theoretical level, rather than as something activated by real people when encountering metaphorical language in discourse contexts -the idiosyncrasies of which will, of course, affect the audience's inferential activity. A final misunderstanding of the differences between image and conceptual metaphors is encapsulated in the very terms used to refer to each type. Indeed, it arises from the clear-cut distinction drawn between conceptual and visual knowledge, and hence between classes of metaphor, which may well suggest that only those metaphors labelled as 'conceptual' are cognitively relevant or dramatically different from those involving knowledge of 'other sorts'. Let us consider these points in turn.

One of the defining traits of image metaphors is that they map topological information across domains. This information may concern shape (e.g. the reference to buildings as "boxes", "pods" or "wedges") or a mixture of traits related to the external appearance of the entities involved (e.g. the qualification of a building's external cladding as "pelt-like" or "peacock-like"). Many such terms are used either referentially or attributively and, in this sense, appear to comply with the characterisation of image metaphors as unconcerned with rich propositional knowledge, and, therefore, as devoid of inferential structure.

However, problems arise they are considered in their context of occurrence, for even terms exclusively concerned with geometrical shape like "box" (e.g. example 34 above) or the more innovative "fish tank" and "aviary" may go beyond mere reference provided the surrounding context is also taken into account. Consider the following example:

(36) Here, the green glass wall [of the square] becomes transparent and houses overlapping diagonal sheets of glass, intended to create plays of light and reflection. *An aviary without birds or a fish tank without fish*: one is forced to look at a detritus of bogong moths, palm leaves, cigarette packets and grime.

Here "aviary without birds" and "fish tank" go beyond a descriptive, referential -only role, but are used to convey a negative evaluation of the spatial structure under review. Of course, this assessment is inferred from the post-modification of "aviary" and "fish tank": both are useless if empty -emptiness which, in turn, enables the unsightly views described in the subsequent text. This example, as well as many others discussed earlier, suggests that inferential 'poverty' and its opposite inferential richness are not intrinsic properties of the information mapped in metaphors, but of the ways in which these are textually instantiated. Our ability to understand what is both explicitly and implicitly conveyed verbally is, then, only activated when metaphors are seen in context -regardless of whether they map abstract knowledge or images.

A related problem is the concept-image opposition used to categorise metaphors. Here again the metaphors found in architectural texts seem to contradict the assumption that knowledge may be 'compartmentalised' into clear types. A case in point is that of metaphors drawing on cultural domains like music, cinema, or architecture itself, and instantiated in qualification of buildings as "Piranesi without the menace" or "like Anthony Perkins' mother's house in Psycho". All such cases combine the mapping of a particular topology plus related knowledge and values (whether these are cultural, disciplinary, or both) which are activated when the expressions are seen in context.

Last but not least, image metaphors are described as ad-hoc, fleeting, and highly unconventional metaphors. However, as has been described, both architectural jargon and some of the most conspicuous lexico-grammatical patterns in architectural discourse are visually motivated (e.g. copular patterns describing the relationship building-site in motion terms, and 'N-shaped' and 'N-like' adjectives). Thus, buildings and parts of them are recurrently referred to as "pods", "wedges", "lozenges", or "boxes"; nominal compounds provide the means to differentiate and classify construction elements according to their external appearance (e.g. types of vault, rib, roof, or window); and non-possessive genitive patterns (e.g. "a sliver of a window") cater both for architects' referential and attributive needs. If, as linguists claim, professional jargon reflects how a given community of practice codes reality (Halliday and Martin 1993; Markus and Cameron 2002), then the graphic quality of a large amount of architectural vocabulary suggests that image metaphor plays an important role in architects' thinking.

Of course, architectural texts yield both clear cases of metaphors concerned with the abstract properties of built artefacts, and clear cases of metaphors concerned with visual knowledge. Nevertheless, as has been pointed out, numerous figurative occurrences appear to be less easy to class as conceptual or image metaphors. For, although both may be crucial for discussing metaphor in architectural communication, the clear-cut distinction between visual and conceptual knowledge informing each type is particularly troublesome when examining the figurative data in architectural texts. These yield numerous cases of figurative instantiations apparently motivated by conceptual metaphor, yet conveying visual information as well (e.g. buildings qualified as "blind" or "mute") and *vice versa* (e.g. many of the examples discussed so far). In this sense, one of the aims of this paper has been to draw attention to the impact that the visual concerns of architects have on the metaphors articulating their thought and language, as illustrated by the large number of figurative expressions in architectural texts informed by *both* abstract and visual knowledge. Indeed, qualifying architects as having a *thinking eye* suggests that both types of knowledge are closely related in the discipline -and, therefore, in the language used to articulate architectural thinking.

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