The lexicogrammar of metaphor in the discourse of architects

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ABSTRACT

The present paper is concerned with the kind of metaphors used by architects as illustrated in the genre of the building review, and focuses specifically on (a) how they are realised at a lexicogrammatical level, and (b) how they co-occur in the texts under study (*metaphorical variation*). This linguistic approach not only attempts to draw a bridge between the different but, nevertheless, compatible functional and cognitive linguistic approaches, but also aims at restating the importance of syntax in metaphor research. The analysis is done on a corpus of 95 texts drawn from six architectural design magazines, and is theoretically indebted to the experientialist approach to metaphor expounded in Lakoff and Johnson (1980), Lakoff (1987) and Lakoff and Turner (1989) as well as other applied linguistics approaches (Goatly 1987; Cameron 1999).

Key words: Lexicogrammar of metaphor, architecture discourse, metaphorical variation.

RESUMEN

REALIZACIÓN LÉXICO-GRAMATICAL DE LA METÁFORA EN EL DISCURSO ARQUITECTÓNICO

El presente artículo describe algunas de las metáforas usadas por arquitectos en el género de la reseña arquitectónica haciendo especial hincapié en la forma en que estas (a) aparecen realizadas a nivel léxico-gramatical y (b) aparecen combinadas en los textos analizados (*variación metafórica*). Este enfoque lingüístico tiene un doble objetivo: por un lado, pretende establecer un puente entre la lingüística cognitiva y

la lingüística funcional (distintas y, a la vez, compatibles) y, por otro, intenta reivindicar la importancia de la sintaxis en la investigación de la metáfora. El análisis aquí presentado se ha realizado sobre un corpus de 95 textos procedentes de seis publicaciones dedicadas al diseño arquitectónico, y sigue los postulados teóricos planteados por los trabajos de Lakoff y Johnson (1980), Lakoff (1987) y Lakoff y Turner (1989) así como trabajos dentro de la lingüística aplicada dedicados al estudio de los fenómenos metafóricos (Goatly 1987; Cameron 1999).

Palabras clave: Realización léxico-gramatical de la metáfora, discurso arqui-tectónico, variación metafórica.

0.   INTRODUCTION

Acknowledging the «poetic structure of mind» (Gibbs 1994: 2) involves a shift from literature as the sole –or, at best, the most fertile– realm of metaphor towards any discourse domain where figurative schemas may fulfil cognitive and communicative needs. Nevertheless, and despite the large amount of work focusing on the presence of metaphor in non-literary discourse, the realisations of metaphor and the various ways in which these co-occur in texts (e.g. *metaphor repetition*, *extended metaphor* or *metaphor diversification*) are still mainly discussed as especially suited for literary purposes.

The present paper explores the aforementioned phenomena in the specific communicative situation of the review genre within the discourse repertoire of architects, where metaphor is an essential heuristic tool that fulfils their cognitive and communicative needs according to the disciplinary constraints imposed by their handling of such an elusive entity as space. The claim here sustained is that in order to discuss the heuristic role of metaphor in any discipline and for any discourse community (within a broad cultural context or a more specific, disciplinary one), we must pay serious attention to the different realisations of metaphor at word, group and clause level since their textual role is largely determined by them –an issue generally neglected in certain metaphor approaches more concerned with unearthing the cognitive process at work in the different metaphorical expressions. Accordingly, this paper specifically focuses on the lexicogrammatical aspects of metaphor occurrence in a concrete discourse context within architectural communication, and argues for the validity of a linguistic standpoint in order to discuss metaphor's contribution to the communicative needs of architects as constrained by the genre's rationale.

The discussion is organised as follows: after some theoretical preliminaries situating the research here summarised, I describe the lexicogrammatical

realisations of the metaphors found in the corpus, and a number of metaphorical frames and clusters created by the co-occurrence of various expressions at certain textual loci.

1.   THEORETICAL PRELIMINARIES: A DISCOURSE APPROACH TO METAPHOR

The essentially metaphorical quality of human reasoning is the cornerstone in current metaphor research irrespective of falling within comparison views (e.g. Ortony 1979; Miller 1979; Goatly 1997), Interaction Theory (Black 1962; Kittay 1987; Indurkhya 1992), or experientialism (Lakoff and Johnson 1980; Lakoff 1987; Lakoff and Turner 1989). Yet, their efforts towards restating the cognitive status of metaphor versus previous cosmetic views on the subject have somehow resulted in a general downplay of metaphor's linguistic realisation and syntax, and in a mismatch between the communicative importance endowed to figurative schemas and the number of approaches actually adopting a discursive standpoint in their research.

This situation has been lately criticised by a number of researchers within applied linguistics on the grounds that in order to reach a full understanding of metaphor we need to approach the phenomenon taking into account the real communicative contexts where it occurs –and which it helps to structure. Their views are encapsulated in Cameron's (1999: 12) following claim:

> [...] the fact that metaphor is more than language does not mean that language form is irrelevant to the study of metaphor. The recent trend of reducing all metaphors to the form A IS B, in order to focus concern on conceptual content has [...] under-emphasised the potential effect of form on processing and understanding, and an applied linguistics dimension to metaphor study will hopefully restore and renew interest in language form at word, clause, sentence and discourse levels.

Of the three main paradigms in metaphor research, the most outstanding neglect of the linguistic aspect of figurative phenomena is exemplified by experientialism, in spite of the growing body of work concerned with grammatical issues within the theory (Langacker 1987, 1990; Dirven 1995; Panther and Radden 1999; Panther and Thornburg 2000 among others). This scant interest is somewhat congruent with the experientialist discrimination between metaphor as a cognitive phenomenon and its linguistic realisation, even if the latter is crucial to discuss the different roles of figurative language (e.g. the largely discussed predicative or referential predisposition of metaphor and metonymy respectively) as well as metaphorical variation in texts. Thus, as Goatly (1997: 198) argues

> Much of the psychological research on metaphor ignores syntax at its peril, but the neglect spoils some of the insights of linguists too. For instance, Lakoff and Johnson (1980) fail to take it into account when discussing metaphorical mixing.

An applied linguistics approach to metaphor not only involves discussing metaphor's functional role within a real discourse context rather than discussing artificial or de-contextualised examples, but requires for paying attention to the linguistic realisation of cognitive schemas. This linguistic standpoint is useful for various reasons. First, metaphorical expressions are the only concrete data we have of the cognitive process(es) underlying them and, therefore, deserve a more detailed attention than what has usually been the case. Second, linguistic form actually reveals some information about how the cognitive mapping has been effected (e.g. the incorporation in certain realisations of the metaphorical grounds as in 'N-shaped' adjectives resulting from image mappings) and may also constrain the workings of metaphor at a textual level. Third, one of the requirements for a metaphor to be considered conceptually relevant that is, conventional and widely used in reasoning– for certain approaches (e.g. Experientialism) is, precisely, to yield stable and systematic linguistic expressions, and this cannot be determined without paying attention to the syntax of metaphor.

Finally, a linguistic standpoint is fully compliant with two current linguistic paradigms which might benefit from an integrated view, namely, Hallidayan functional linguistics and cognitive linguistics. Thus, the functional view of language regards language as essentially driven by meaning, the lexicogrammatical patterns into which the different linguistic units tend to occur realising meaning in distinct ways and providing information at the three meaning levels accounted for in the approach: ideational, interpersonal, and textual (Halliday 1985). This view is not so radically different from the basic postulates in cognitive linguistics, which also regards linguistic structure as semantically motivated and integrating syntax, lexis and grammar in a holistic way. Thus, as Langacker (1987: 39) claims

> Grammar (like lexicon) embodies conventional imagery. By this I mean that it structures a scene in a particular way for purposes of linguistic expression, emphasizing certain facets of it at the expense of others, viewing it from a certain perspective, or construing it in terms of a certain metaphor.

In Langacker's views, different realisations that is, lexicogrammatical patterns, provide different scenes through different images, thus rendering certain aspects of that which is involved in them as more salient than others while also reflecting the human ability for linguistic creativity as motivated by cognitive structures. The fact that innovative realisations tend to become entrenched in the language and, therefore, acquire a unit status is not only a

reflection of the conventional nature of our figurative system, but also its best proof. In sum, an account of the recurrent realisation of figurative schemas by a number of lexicogrammatical patterns within a given discourse is important to discuss (a) the figurative workings of the community responsible for that discourse, and (b) which are the aspects of their reality that appear as more salient and, therefore, play a major role in their specific cultural and professional domain.

1.1.   Methodology and corpus

The discussion in this paper draws upon a previous research devoted to exploring the presence and role of metaphor in the genre of the building review within architecture discourse. Together with responding to manageability constraints, approaching metaphor from a genre vantage point is a way to go beyond the level of lexis i.e. metaphor's contribution to disciplinary jargon– to place the emphasis on how metaphor (a) reveals the world-view of a community, (b) fulfils several rhetorical purposes, and (c) contributes to the unfolding of text according to the genre's rationale. This entails a view of the roles of metaphor as responding to a number of discourse factors, rather than a view of metaphor as a functionally independent mechanism reflecting subjective authorial choices and, accordingly, unpredictable and textually unconstrained.

The analysis was done on a corpus of 95 building reviews drawn from six architecture magazines devoted to architectural design, namely, *Architectural Record*, *Architectural Review*, *Architectural Design*, *Architecture*, *Architecture Australia*, and *Architecture SOUTH*, all originally written in English, fully accessible both through print or online media, and enjoying a good status in architectural circles[1]. The use of this corpus enabled the abstraction of the rhetorical structure of the building review, and provided the grounds to explore: (a) what kind of figurative expressions were most common, (b) whether these appeared systematically in certain text-structural loci –called *moves* and *steps* after the work of Swales (1990), and (3) which were the purposes they served.

The research was theoretically indebted to the experientialist approach first expounded in Lakoff and Johnson (1980), Lakoff (1987), and Lakoff and Turner (1989), but also drew useful insights from other applied linguistics approaches (Goatly 1997; Steen 1999) more 'textually driven' than the former. In connection to this, metaphor in the review was discussed in very comprehensive terms; that is, all processes implying a mapping of any sort were considered –in a broad sense– as metaphors and, therefore, analysed and interpreted. This covers both metaphor proper (for instance non-controversial

metaphorical expressions depicting architects as "weaving" spaces) and those cases of simile involving the non-literal comparison of buildings or parts of them to a very different –non-architectural– entity.

Finally, the metaphorical expressions illustrating the discussion appear in italics within the textual chunks and between inverted commas in the main text, and the metaphors –deep-level cognitive mappings– realised by them appear in capital letters according to conventional notation in cognitive linguistics.

2. METAPHOR OCCURRENCE IN THE BUILDING REVIEW: METAPHORICAL DOMAINS AND LEXICOGRAMMATICAL PATTERNS

2.1. Metaphorical domains

The metaphors found in the corpus draw upon a variety of experiential domains, among which the most recurrent are those of biology, motion, textiles, language, machines, and music. These yield the two main types of metaphor acknowledged in the Lakoffian literature:

(a) *Conceptual metaphors,* mapping concepts onto concepts. These can be further classified into *ontological* metaphors, whereby events, activities, emotions, ideas, etc. are viewed as entities and substances (e.g. BUILDINGS ARE TEXTS) or *structural* metaphors, whereby a concept is metaphorically structured in terms of another (e.g. MAKING A BUILDING IS WEAVING).

(b) *Image metaphors*, primarily mapping conventional mental images onto other conventional mental images by virtue of their similar appearance (e.g. "The basic part of the building is *a three-sided doughnut*").

Most ontological schemas within a single domain ultimately depend on a structural schema subsuming them, as is the case with BUILDINGS ARE CLOTH/TEXTS/MUSICAL PIECES, all of which belong to the more general schemas ARCHITECTURAL PRACTICE IS MAKING CLOTH/ LINGUISTIC PRACTICE/MAKING MUSIC. These can be decomposed into different parts or metaphors that focus on various aspects of architectural activity (for instance the architect, his/her building) and, more often than not, co-occur in the same textual stretch, as illustrated below:

(1)   Like a Renaissance architect, Holl studies *architecture's rhetoric*; he uses typological conventions and elements to create new meanings. In the Cranbrook science center, Holl begins with *the basic vocabulary of foursquare enclosures* infiltrated by oblique angles at facade openings.

(2)   The bridge is, says Couvelas, *'a thread darning the hole* caused by the excavation'*, and, *in the darning, the pattern of the old weave of the city* has been brought to the surface to take part in *the modern tapestry*.

Textile, language and music metaphors foreground the structured quality of built artefacts according to their own specifics and, in this sense, are the low-level realisations of the more general metaphorical schema ORGANISATION IS PHYSICAL STRUCTURE, itself recruiting structure from the even more basic WHOLE-PART image-schema (Johnson 1987; Grady 1997). Thus, and although most conceptual metaphors ultimately relate to these two basic schemas, the ontological metaphors specifically focus on the products of the architectural activity, whereas the structural ones refer to the architect's creative role of thinking up and making a building, highlighting the procedural aspects of the arrangement of parts into a whole according to a set of conventions.

Biology and machine metaphors shift the focus from arrangement to function, describing this in human or mechanistic terms. Biological metaphors also provide part of the jargon terms that refer to architectural elements as body parts (e.g. "spine", "bowels", "skin", "lung" or "tendon"), all of which activate the schema BUILDINGS ARE LIVING ORGANISMS and, in some cases, the more specific view of buildings as HUMAN BEINGS. Some examples include:

(3)   Under its *skin* the library is a great *machine*, and a High-Tech architect could have had a field day with its *mechanisms*, but Wilson rightly chose not to play up this aspect.

(4)   Royally renewed Stockholm's Royal Library has had one of its *periodic spurts of growth*.

(5)   Moneo claims to have created a building "*content in its role as spectator*, *without seeking the status of protagonist held by the cathedral and the palace*".

Finally, motion metaphors describe the spatial experience of the users of buildings by means of a journey metaphor as in the example below where spatial elements are referred to as "orientation devices" helping to clarify the

"path". We also find the coinage of the term "officescape" referring to the interior landscape and views that one sees when making this particular journey:

(6)   "From one building to another, *you're experiencing movement as part of a journey*", claims the architect, who always deploys *orientation devices views*, openings, corridors– to make the *path* of the constantly changing *officescape* self-guiding and cogent.

The second type of metaphors concerns *image metaphors*, which arise from a perceived similarity between concepts, and are usually structured in terms of a distinct shape or topology as in the largely quoted example "My wife whose waist is an hourglass". The various metaphorical sources mapped onto architectural targets can be grouped into animate and inanimate sources, the former usually involving human or animal body parts such as "eye", "finger bone", "cage of ribs", "hand", "wing" or "fin" or plant terms such as "pod", "tree trunk" or "onion". Inanimate sources comprise geometrical shapes, food, mechanical artefacts, and entities belonging to the spatial domain itself (either geological or built space). Finally, a set of images draws upon cultural sources which not only trigger a specific external appearance, but also, and most importantly, the set of values and judgements inherent to their cultural nature, as illustrated below:

(7)   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.

(8)   Myers' design thus is a multiple *hybrid of Eames and Kahn*; open and conventional plans; *and loft, house, and gas station*.

The interpretation of these examples will depend on the audience's knowledge of cultural artefacts like the heavy-metal cultural trend or Schwarzenegger and their associations, and, in the discipline-specific case of Eames and Kahn (two well-known architects), the physical appearance of their prototypical buildings, the corpus of practices they encapsulate, and the implications for the community of architects in terms of status and value.

2.2.   **Lexicogrammatical patterns**

The differences between image metaphor and conceptual metaphor concern the nature of the mapping underlying both as well as their linguistic realisation. Thus, whereas image metaphors ultimately arise from our visual

experiences and our ability to relate two entities on the grounds of their similar appearance, this physical grounding is less immediate and far more complex in conceptual metaphors. Their different nature is also reflected in the linguistic realisation of both types of metaphor and, thus, we find that the realisation of conceptual mappings is less varied than that of image mappings –for instance, the former do not motivate as many word-formation processes as the latter.

In order to outline the lexicogrammatical realisation of both conceptual and image metaphors in the corpus, all the expressions were initially classified according to the four word classes in which metaphorical sources are realised (i.e. nominal, verbal, adjectival and adverbial realisations), and further grouped according to their combination in higher-rank units.

2.2.1.   Conceptual metaphor

The word class in which most conceptual metaphors are realised is that of nouns, followed by verbs, adjectives and adverbs. Within nouns we find terms which belong to the conventional jargon of architects (e.g. "skin", "cladding", "rhythm", "spine", "bowels" or "fabric"), and usually function as heads of their respective groups, thus fulfilling a referential role. Examples 9 and 10 illustrate first reference, and example 11 anaphoric reference:

   (9)   Foyers, auditorium and flytower are all enclosed in a single sculptural form, like an upturned hull, running west-east across *the main north-south grain of the building*.

   (10)   *The heart of the building* is the lyric theatre which will seat about 1800 people.

   (11)   Measuring some 700 feet long by 80 feet wide, the new structure is heroically scaled, and in both form and materiality draws on Nagasaki's historic shipbuilding traditions. RoTo's original brief was to embellish the exterior of *this dockside behemoth* [...] but the practice proposed that some public space should also be introduced.

The nouns occurring in some of the titles of the reviews also provide the first –cataphoric– reference to the building under review, while encapsulating some sort of evaluative comment in for example titles such as "Regenerative Journey", "Dragon Promenade" or "Tapestry Weaving".

Other nouns appear in pre-modification and post-modification patterns, the former usually fulfilling a classifying role (examples 12 and 13 below) and the latter involving appositions which provide extra qualification to their previous referents (examples 14 and 15):

(12)   The last but one was an underground bookstore, created in 1971 to solve *growth problems* for the foreseeable future.

(13)   These upper level spaces are linked to a ground floor foyer by a *promenade staircase* and a funicular lift.

(14)   Moving around, you discover the foyer as one continuous space, a complex and exciting internal *landscape* with rich multi-layered views in all directions, yet organized in a seemingly natural way and easy to navigate.

(15)   Overscaled but delicate, provocative yet serene, *a concoction of opposites*, this urbane container for books and media both celebrates and rejects its place in the matrix of time, space, and commercial culture.

Nouns in 'like/as' adverbials provide extra qualification to verbal processes related to how the building behaves or was conceived/constructed:

(16)   The building may have been cast *as a supporting player* in the urban drama of its surroundings, but it has strong character and authority.

(17)   Eluding easy understanding, Van Berkel & Bos's design works *as a piece of environmental braille*, with light, textures, and shifting planes that cue changing interpretations of its form.

Nouns are also found in intensive patterns (copular metaphors) which explicitly realise the source and target in the metaphor. In contrast with copular realisations of image metaphors, copular conceptual metaphors are essentially concerned with what buildings *are* according to their behaviour and/or relationship with other structures or contexts rather than with what they *look like*. Compare the two examples below, example 18 exemplifying an image metaphor and example 19 a conceptual one:

(18)   The building is *a simple two-storey box* 140m long by 25m wide with its long axis running north-south.

(19)   Under its *skin* the library is *a great machine*, and a High-Tech architect could have had a field day with its *mechanisms*, but Wilson rightly chose not to play up this aspect.

The focus in example 18 is the external appearance/shape of the building whereas in example 19 the focus, even if somewhat understated, is on function

rather than aspect. Consequently, we don't find perception or resemblance copulas in intensive patterns. Rather, the norm is for the occurrence of the more assertive 'A is B' pattern in all but three of the examples in the corpus, these involving the verb 'become'.

Other verbal patterns involve material processes either referring to the architect's performance (e.g. "orchestrate", "weave", "write") or to the buildings' functions and behaviour (e.g. "feed", "grow", "live" or "exude"). Biological metaphors can also involve behavioural or mental processes (e.g. "aim", "attempt", "succeed", "defer", "draw", "demonstrate" or "respond") and activate a personification schema.

The adjectival realisations of conceptual metaphors usually fulfil an attributive function concerning the nouns they modify, the only exception being adjective "vernacular" which clearly fulfils a classifying role. In contrast with image adjectives, not all adjectival realisations of conceptual metaphor result from derivation processes. Furthermore, derived realisations result from suffixes[2] less 'visually-driven' (i.e. not focusing on external appearance) than image adjectives, and usually expressing other traits than physical ones, namely, (a) result, as in '-ed' past participles with adjectival function like "stripped", "folded" or "orchestrated", (b) showing certain qualities or characteristics, as conveyed by suffixes like '-al', '-ic', '-ive', '-ar' or '-ous' in "functional", "kinetic", "rhythmic", "intelligent", "provocative", or "sinewy", and (c) agency, as in "speaking" or "brooding". These realisations can occur either in pre-modification or post-modification patterns, the former yielding the largest number of occurrences, and the latter involving copular metaphors and appositive structures. Some of these are illustrated below:

(20)   Supported by steel *ribs*, the *muscular* south elevation shields the aerial promenade from the strong winds that accompany Nagasaki's frequent monsoons.

(21)   By the end of the 1980s, Moderna [museum] was simply *too cramped for its skin* and drastic action was needed.

(22)   Green space is a rare commodity in this *tightly-knit* urban neighbourhood.

(23)   The internal organization displays itself: the parts are *readable*.

Finally, adverbial realisations of conceptual metaphors are very scarce, and all of them draw from the domain of biology, further stressing the reference to buildings as living organisms (e.g. "physically", "organically") or human beings (e.g. "naggingly", "wilfully", "politely") as illustrated below:

(24)   [The building] quickly and *naggingly insists on* oscillating between being a whole and a composition of parts.

(25)   The two buildings *sit comfortably together*, each an expression of its own time.

2.2.2.   *Image metaphor*

Here also nouns realising images yield the largest number of occurrences in the corpus, followed by verbs and adjectives –realisations in adverbs proper are numerically irrelevant. The nouns comprise terms which encapsulate (1) geometrical shape ("box", "coil", "cone", "cube", "doughnut", "lozenge" or "wedge"), (2) general external shape ("aviary", "baguette", "bowl", "butterfly", "fin", "hull" or "igloo"), (3) general appearance ("accordion", "blancmange", "bubble", "pinwheel" or "zeppelin"), (4) shape plus size ("seam", "slash", "slit", "sliver", "slot" or "strip"), (5) texture ("rice paper" or "taffy"), and (6) colour ("blood", "fire embers").

As regards nominal realisations, the presence or absence of the metaphorical target from the immediate co-text has an effect on the textual role of the metaphors. Thus, the absence of the targets results in their referential role, as is the case with images occurring as noun heads in their groups and genitive possessive patterns:

(26)   The LVMH Tower fills a narrow, 60-by-100-foot *sliver* on East 57th Street.

(27)   Visitors enter through a glass-and-metal *seam* between the copper-clad garage block and the elongated form of the house.

(28)   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.

When the target term is present in the nearby co-text, the different realisations must be regarded as adding extra information about the target. Images behaving as extra-specification devices can be found in apposition, pre-modification, non-possessive genitive patterns, 'like/as' adverbials, and copular combinations. Some cases also work as cohesive devices, covering both anaphoric reference and repetition as in the following examples:

(29) A little circular balcony flies over the exhibition area supported by a diagonal steel beam […] Externally, *this drum* is decorated with blue and white ceramic patterns by artist Nils Stenqvist.

(30) Diverting the Turia solved Valencia's flooding troubles, but its riverbed left an unsightly *brown gash* through the city's stately fabric.

(31) The residential *wing* […] subdivides into three dormitory *pods* [blocks] along a west-facing veranda, with east-facing verandas between each *pod*. A fourth dormitory *pod* [...]

Nouns occurring in the titles of the reviews have a similar –cataphoric– referential function plus a summarising and evaluative role, as illustrated by such suggestive titles as "Magic Bubble", "Box of Tricks", "Ship of Culture", "Sacred Box", "Nordic Lantern" or "Dragon Promenade".

Other examples of images adding extra information or further specification to the targets previously introduced are provided below, example 32 concerning apposition, example 33 illustrating a non-possessive genitive pattern, and example 34 involving a 'like' adverbial:

(32) The synagogue proper, a *truncated star* with a blocky ark [...]

(33) *A long slash of glazing* provides glimpses to the interior.

(34) 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*.

Furthermore, since the adverbials further modify a previous verb or adjective, it can also happen that they co-occur with other metaphors realised in those verbs and adjectives or in their nominal agents/referents, that is, they must be considered within a broader metaphorical frame and not just within the limits of the verb-adverbial pattern. Consider the following example where the ribs of a building (itself an example of image-based architecture jargon) are first compared to bones due to their common appearance or consistency, and, later, to an eyelid thanks to their common movement. The comparison to an eyelid is further reinforced by reference to the orb of the IMAX:

(35) Beneath [the skylights] a *bonelike cage of steel ribs*, controlled by pneumatic struts, can open and close *like an eyelid*, revealing the sunken, tile-encrusted *orb* of the IMAX to the outdoors.

Imagistic nouns also occur in pre-modification patterns where both source and target are present in the combinations. Metaphors encapsulated in nominal pre-modifiers fall within two distinct groups. The first group comprises metaphorical realisations where the source is the head and the target the pre-modifier of the group, the pre-modifiers always focusing on function and the source-heads further specifying shape as in the following examples:

(36)   The eastern, *bedroom/bathroom wing* is built of Boral cement blocks with *window boxes* elaborating the street facade, and is set back from the steel and timber-framed *living wing* set on the higher, west side of the site.

(37)   The architect completely breaks *the traditional supermarket box*, yet respects its purity as a typological form enough to keep his manipulations distinct from it.

The second group comprises realisations where the source is the pre-modifier and the target is the head of the group, the former specifying the appearance of the target entity thus qualified as in "tree-trunk columns", "big-box retail centers", "bowstring truss", or "butterfly roof".

The final example of images working as extra-specification devices concern metaphors realised in intensive –copular– 'A is B' patterns. Here the close equation between both entities via metaphor is a matter of cline: the most extreme case of close relationship is realised by copulas like 'be', 'become' or 'turn into', while the weakest link would be represented by sense, perception, and appearance verbs such as 'seem', or 'resemble'. This is because all these processes highlight the fact that the similarity upon which the metaphor works is constructed by the addresser, thus reflecting his/her attitude towards the compared objects. The most extreme case of subjectivity would be represented by cases where the reviewer quotes or reports the architect's –and, sometimes, the client's– views on the building as in the following examples:

(38)   This prismatic shape *"looked sharper and more Manhattan"* to de Portzamparc [architect] than his earlier schemes of stacked cylinders, "which were more mannerist and *unlike New York*".

(39)   Hecker [architect] also sees the five-part form as *a hand opening in a welcoming gesture*.

(40)   The bridge is, says Couvelas [architect], *"a thread darning the hole caused by the excavation"*.

The different copulas may thus be regarded as choices open to authors in order to convey their views in their reviews. In other words, authors can choose between a more neutral, assertive and, apparently, objective way to qualify the reviewed artefacts or, rather, may signal the subjective nature of that qualification by either turning to perception processes or reporting the architect's views –in the latter somehow eluding any responsibility on the views sustained in the text.

Adjectival realisations of image metaphors fall within three main types: (1) suffixed compounds of the type 'noun-shaped' adjectives, (2) derived adjectives of the type 'noun-like' combinations, and (3) other suffixation patterns –usually denominal and deverbal adjectives– resulting from adding suffixes such as '-ic', '-y', '-ian', or gerunds and past participles with adjectival function. The most productive –and frequent– of these result from 'noun-shaped' and 'noun-like' combinations. In all cases both source and target are present, and in noun-shaped combinations the grounds of the mapping are also explicitly acknowledged ('-shaped'). The degree of specificity also varies among the different realisations.

In this respect, noun-shaped combinations explicitly show that the object of the mapping is the shape of both source and target, the source usually being the pre-modifier and the target the head in the syntactic pattern. This does not imply that the target must have a well-defined shape further specified by the source and, thus, there is a number of examples characterised by targets referring to buildings or parts within them but, nevertheless lexicalised as 'plan', 'form', or 'volume'. These are all recurrent terms in architectural discourse –inherited from the Modernist critical language of the 1920s– and exemplify a tendency of architects towards rendering what is concrete as abstract. Their vagueness is somehow compensated by the opposite effect created by metaphor: rendering what is abstract as concrete. Examples include "boomerang-shaped plan", "wedge-shaped volumes", "pod-shaped form", or "L-shaped space(s)". Nevertheless, we also have examples where a specific building or building component appears as the target term whose external appearance/shape is further reinforced by the source term as in "fan-shaped lecture hall", or "U-shaped high school".

'Noun-like' combinations also show the similarity basis of the image mapping (encapsulated in the suffix 'like'), even if in more elusive terms than 'noun-shaped' patterns, which explicitly focus on form. 'N-like' adjectives can modify either vague terms or concrete spatial configurations, and, accordingly, the preciseness of their qualification should be considered on a cline. The highest precision is achieved in those cases where (a) both source and target terms refer to specific entities as "tent-like roof" or "stalk-like lighting", (b) the adjectives incorporate geometrical shapes (e.g. "lozenge-like", "wedge-like" or "boxlike") and qualify the shape of the reviewed building as in

example 41 below, and (c) the modified entity is itself a case of source-term anaphorically referring to a previously introduced referent as in example 42 where a foyer plus balcony are further specified as having the shape of a slot which, at the same time, is like a visor in a sort of extra specification chain:

(41)   The new building –an oblong, *boatlike* shape– will stretch behind the old school, with a main entrance on the west side.

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

The third sub-group is a mixed ensemble of different denominal and deverbal adjectives involving particles other than 'like' or '–shaped', among which suffixes '-ic' and '-an/-ian' are the most frequent. Here we find some of the most creative expressions incorporating well-known entities ("visceral"[3] or "reptilian") or architects' names ("Miesian", "Wrightian", "Reptonian", "Corbusian", "Chiricoesque" or "Gaudiesque") as illustrated below:

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

(44)   The use of colour also extends to the *reptilian* green copper cladding of the circulation hub that links the two blocks.

(45)   Barkow Leibinger subtly manipulate the straightforward conventions of the *Miesian* grid, starting with the plan (below), a *Wrightian pinwheel* with four two-story blocks flanking a double-height machine hall.

Those in example 45 are architecture-specific denominal adjectives which, like most of the terms discussed so far, fulfil, first and foremost, an attributive function while expressively and economically filling what could be a lexical gap. Together with this descriptive role, they may also be regarded as indirectly playing an interpersonal function. Thus, by their discipline-specific nature, the indirect effect of such images is to reinforce the sense of community between reviewer and audience –all architects– by activating information that someone outside the profession may not understand easily. The status of the architects whose names are subjected to derivation might also add an extra value component to the architectural target thus qualified.

The last realisation of image metaphor concerns verbs in circumstantial patterns 'A is in B' which illustrate some of the most recurrent –and

productive– occurrences of this type of metaphor in architectural discourse, as illustrated in the following examples:

(46)   The scheme consists of three discrete elements. The largest is a long, *pod-shaped* form housing an exhibition space […] *Nuzzling* one end of the huge *pod* is a 350-seat IMAX theatre.

(47)   Not only do the masonry blocks *inch out* from the vertical plane as they *rise*, but the courses –exposed on the interiors and exteriors– are laid at an angle to the floor, recalling rock strata that have shifted over time.

(48)   It [the building complex] consists of two giant linked conservatories (biomes) which *clamber up* the crags on the northern side of the pit.

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

(50)   Dating from 1954, the Price House has concrete-block walls that *corbel out* as they *rise* and an expansive roof that seems to *float* above bands of glass.

(51)   The drainage slopes of the parking lot indicate an amphitheater-like arrangement that *fans out* from the base of the Umbrella.

Hallidayan functional approaches explain the use of material processes in relational circumstantial patterns as *colouring* devices open to authors in order to endow texts with a certain *tone* (Thompson 1996: 79-116; Martin, Matthiessen and Painter 1997: 100 *ff.*). On the contrary, cognitive linguists regard the phenomenon as illustrating the ontological metaphor FORM IS MOTION[4], whereby motion is mapped onto form or shape. The position sustained in this paper coincides with the latter in that the phenomenon is the result of metaphorical mappings although, in my view, the realisations do not illustrate an ontological metaphor but as many image metaphors as sources are imagistically mapped onto the shape suggested by the kind of movement thus described. Furthermore, not all the verbs realise the generic schema FORM IS MOTION, but also the reverse and equally imagistic MOTION IS FORM.

Thus, whenever the source in the mapping includes motion within its semantics (examples 46-49, and verbs "rise" and "float" in 50) the image metaphor can be formalised as FORM IS MOTION. On the other hand,

whenever the source mapped involves a static entity we get the metaphor MOTION IS FORM ("corbel out" and "fan out" above). This group comprises denominal verbs like "bunch", "ramp", "cascade", "scissor", "funnel", "fan" or "corbel". Accordingly, the sense of motion does not come from the metaphorical source –which only provides the shape or form of a given arrangement– but, rather, is aided by the prepositions that always accompany the verbal realisations and carry the directionality of their respective actions.

Furthermore, not all verbs are equally imagistic; for instance, compare "crouch", "hug" or "rake" to "run" or "sit"; on the other hand, many of the verbs also indirectly point towards the entities whose prototypical movement is used to describe spatial arrangements. Thus, most of the verbs activating FORM IS MOTION can also be discussed as indirectly evoking another metaphorical schema dependent on the agents, inanimate entities and forces prototypically participating in the different processes.

In this connection, verbs prototypically related to animate agents like "sit", "step", "go", "clamber", "lean", "crouch" or "reach" would also activate the metaphor BUILDINGS ARE ANIMATE BEINGS since all of them require an agent whose body properties enable movement, usually pointing to the body limbs involved in such as, for instance, "step" and "crouch" (incorporating legs in their semantics) or "reach", "hug", "punch", and "embrace" (all three typically performed by upper limbs). A second group comprises verbs like "hover", "oversail" or "float", all of which suggest boat or plane sources according to a schema that may read BUILDINGS/BUILDING ELEMENTS ARE KINETIC ARTEFACTS. A third group involves verbs like "surge", "float" and "flow" triggering the metaphor SPACE IS A FLUID. A fourth group comprises verbs like "blast", "heave" and "thrust", which suggest the metaphor BUILDINGS/BUILDING PARTS ARE NATURAL FORCES as in:

(52)   In this case, the architect and his clients have tried to, as Moss puts it, "cross the boundaries of architecture into music" with a fantastic glazed canopy called The Umbrella that *blasts out* from the corner of the building *like some great, unfurling, expanding force*.

(53)   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*.

Finally, we also find a number of verbs that portray buildings and parts of them as pliable ("fold", "unfold"), soluble ("melt") or flexible solids ("stretch", "splay", "spread", "flex", "expand"), and whose 'movement' results

from the application of an external or internal force of some sort involving a change of shape or state. These activate the metaphorical schema BUILDINGS ARE MALLEABLE SOLIDS illustrated below:

> (54) The entry is clearly defined in white frames at human scale and the glazed restaurant/café, designed by Bill MacMahon, seemingly *melts out* onto the surrounding concourse.

> (55) Just behind the screen –a shading device that *splays away* from the building toward the river– are interstitial spaces […]

> (56) The new building –an oblong, boatlike shape– will *stretch* behind the old school, with a main entrance on the west side.

2.3. Metaphorical frames

So far, the discussion has focused on the realisation of metaphors at the level of word, group and clause. All these realisations usually co-occur at certain textual stretches and, more often than not, create figurative clusters or frames which sometimes provide the backbone along which the reviews develop. The most recurrent patterns of this metaphorical interplay in the corpus are (a) *repetition*, (b) *diversification*, (c) *extension*, and (d) *compounding*. These are discussed in turn.

Repetition concerns the consistent repetition of a source term referring to the same target along a text or textual chunk. A recurrent metaphor-repetition pattern in the corpus is illustrated in 57 below, and involves a first occurrence realised by a noun pre-modified by a 'N-shaped/like' adjective (e.g. "wedge-shaped volumes") and the subsequent reference to the thus qualified entity through the source term devoid of the suffix (e.g. "wedge"):

> (57) The plan is based on two *wedge-shaped* volumes *pushed together* and *enveloped* by a great *oversailing* pitched roof, *like a big log cabin or ranch house gable*. *Clad* in rough-sawn planking, the larger *wedge* contains the main public volume of the library, which is conceived as a great luminous room facing south over reading decks, lawns and a courtyard for children's story-telling. The smaller *wedge*, its walls rendered a deep, *oxblood* red, houses the library's backstage facilities, such as librarians' offices and staffrooms. [...] Set between the intersection of the two *wedges* at the short east end is an entrance portico, overlooking a small courtyard landscaped with saplings and boulders. The *gallery-like*

foyer serves as an antechamber to the main public spaces arranged in the large *wedge*.

Diversification occurs whenever different metaphorical sources refer to and highlight various aspects of the same target, as illustrated in example 58 describing a cultural centre plus synagogue in a German town:

(58)   Hecker's buildings are richly *layered compositions of metaphor and masculine form*, and the Duisburg Jewish Cultural Center (JCC) is no exception. It is *a jagged fan of five overscaled concrete fins webbed together* by an entrance lobby, synagogue, and multipurpose hall, as well as less public spaces like classrooms, kitchens, and residences for a rabbi and caretaker. The architect likens the building to *an open book*, *the five pages of which –the concrete fins–* represent significant events in the history of Duisburg's Jewish population. One of the *"pages"* for instance, points directly at the site where the town's former synagogue stood before it was destroyed by the Nazis.
Along the park, *the pages of Hecker's book* are heroically scaled, but as it butts up against the older houses, the building *steps down* around an intimate, irregular courtyard that creates a *quiet*, domestically scaled entrance. [...] The synagogue proper, *a truncated star* with a blocky ark [...] is finished almost crudely. [...] Architect Zvi Hecker likens Jewish cultural Center's oversized concrete *fins* to *open hand or pages of book*. [caption]

Here, after stating the metaphorical quality of the architect's body of work, the reviewer describes the whole as a "jagged fan", and its different components as "fins webbed together". Later, the same whole is compared to an "open book", and its elements to "pages", although this time the comparison is attributed to the architect –the link between both images being effected through the apposition "fins" referring to "pages". The reviewer will keep the architect's metaphor in the ensuing text and in one of the captions of the visuals, and will shift towards a two-dimensional description in the qualification of the synagogue as "a truncated star" (best appreciated in plan than in three-dimensional form).

In fact, the three-dimensional images of a 'fan', a 'book' and something consisting of a number of 'fins webbed together', and the two-dimensional image of a "truncated star" are not incompatible among themselves: imagine an open book seen in section with all its pages spread and it does resemble something like fins webbed together or an open fan, and, if seen from above, it also recalls a "truncated" star. In other words, the images are coherent among themselves, and try to portray a given building by comparing it successively

to several related entities to which it bears some kind of resemblance. The stretch also illustrates the metaphorical interplay referred to as *compounding*, whereby the source of a metaphor previously established becomes the target in a new metaphor, as is the case with "fins" further specifying the previous "pages" in the apposition, and first introduced as part of the "jagged fan" opening the metaphorical chain.

Extension concerns those cases where a number of semantically-related sources are mapped onto semantically related targets as in example 59 below:

(59)   Alluding to organic geometry and primordial building traditions, this little creche in Bremen has a surprising formal and material richness. [lead]
    As a free-standing 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*. In the developing narrative [between architect and client] 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*.
    Curved forms evoke organic associations. [caption] Timber absorbs the complexities of the geometry and gives the interior a warm, *womb-like* dimension. [caption]

The description above follows the organic associations already anticipated in the lead of the review (suggestively titled "Lyrical Geometry"). Thus, after describing the plan as "tadpole-like", the reviewer refers to its two furthermost extremes as the "head" and "tail" respectively, and the space linking both as a "spine" emerging "naked", marking, at the same time, a shift towards three-dimensionality. Other images aiding in the description are the comparison to "a crouching creature" co-occurring with the more 'architectural' image "mound" (both, nevertheless, hedged by "a kind of") plus the qualification of the interior as "womb-like", or the explicit reference to the figurative quality of the whole description in two of the captions accompanying the text.

Finally, some metaphorical clusters do not seem to follow the neat patterns described above but, rather, consist on a mixture of apparently unrelated metaphors drawn from different domains. Consider the following example:

(60)   PASTORAL IDYLL
A new gallery for paintings and sculpture is a *harmonious* addition
to a sculpture park set in the grounds of Roche Court, an English
country house. [lead]
A graceful, *harmonious* addition to the place, it *steps up* the slope
of the garden from the east side of the house to a small orangery
on the east. […]
Harmony is an increasingly *rare commodity* these days when
architectural discord is in fashion. The architect's *interpretation* of
the spirit of the place is restrained and *lyrical*, and the delicacy with
which he has *stitched the new to the old* recalls Foster's work at
the Royal Academy.

The example shows how a musical frame is created in the lead and is
repeated in the sections providing the first and closing evaluations of the
review. The closing evaluation also shows instances of language
("interpretation", "lyrical") and textile metaphors ("stitched the new to the
old"), the former highlighting the intellectual and artistic process of making
a building, and the latter the combinatory skills involved in such.

In sum, seen in the light of the corpus results, metaphor diversification
might be explained according to (a) the need of architects to provide an
accurate description of the reviewed entities, a description that, more often
than not, involves different perspectives and dimensions (typically involving
image metaphors), and (b) the need to refer to different aspects related to
buildings, from the process followed by architects (e.g. textile, musical, and
language metaphors), to the functioning of the resulting building (e.g. machine
or biological metaphors). The patterned way in which many metaphorical
expressions co-occur at different rhetorical loci also ensures the cohesion of
their respective texts.

3.   CONCLUSIONS

In the present paper, I have attempted to provide a general account of the
lexicogrammatical realisation of some of the metaphorical schemas used by
architects as illustrated in a specific genre within their discursive repertoire.
This linguistic approach not only attempts to draw a bridge between the
different but, nevertheless, compatible functional and cognitive linguistic
approaches, but also aims at restating the importance of syntax in metaphor
research.

The research results show that metaphors work as referential and
attributive devices, the former usually fulfilled by the conceptual and image

metaphors that have become part of architectural jargon, and the latter usually fulfilled by the different patterns of occurrence in which these, and especially image metaphors, can be found in the corpus. These lexicogrammatical realisations also suggest the metaphorical motivation of recurrent grammatical phenomena as (a) relational circumstantial patterns involving both material processes and de-nominal verbs in order to describe such intrinsically static entities as buildings, and (b) certain processes of word formation (e.g. 'N-like' and 'N-shaped' adjectives). Finally, the different patterns of metaphorical interplay have been explained as responding to descriptive needs covering both dimensionality shifts and the highlighting of certain aspects of architectural reality.

NOTES

[1]   The selection of both genre and corpus was partly influenced by the results derived from a questionnaire distributed among the architects in the Professional Association of Architects of the Valencian Community. Some of them also acted as informants throughout the research.

[2]   The terminology in the description of suffixes does not follow any particular approach to the subject, being entirely my own and sometimes drawing upon classical grammatical compendiums such as Quirk et al (1991).

[3]   Note that "visceral" does not refer to an action derived from a natural tendency (also realising a metaphor but of a different sort) but to the range of colours displayed by the described entity –as made explicit in the appositions in example 13.

[4]   See the Conceptual Metaphor Homepage at Berkeley [http://cogsci.berkeley.edu/]

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