

Thematic Roles in Image Schemas: A missing link between mind and language

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Abstract

As early as 1968, Fillmore suggested that deep cases could be sets “of universal, presumably innate, concepts” human beings form to describe reality. Langacker’s (1991) role archetypes highlight the “primal status and nonlinguistic origin” of Thematic roles. I argue that Thematic roles have their “nonlinguistic” origin in image schemas and link the image schemas with language structures. The thesis is based on my description of the OBJECT schema (Szwedek, 2018), the definition of the image schema (Szwedek, 2019), and major works on Thematic roles. The OBJECT schema is fundamental in that all physical objects are experienceable by the senses (Szwedek, 2011, 2018). In contrast to relational schemas, it is also conceptually independent, while “[r]elations are conceptually dependent, i.e. one cannot conceptualize interconnections without conceptualizing the entities they interconnect” (Langacker 1987). I posit that Thematic roles are a link between image schemas (mind) and language, constituting a stable scaffolding for various syntactic structures.

Key words: Thematic roles, the image schema, the OBJECT image schema, MOTION image schema, CONTAINMENT image schema

1. Introduction¹

As early as 1968, Fillmore suggested that deep cases could be sets “of universal, presumably innate, concepts” human beings form to describe reality (1968: 24). In 1991, Langacker introduced the term ‘role archetypes’ to highlight the “primal status and nonlinguistic origin” of Thematic roles, considering them “so basic and experientially ubiquitous that their manifestation in language is for all intents and purposes inevitable” (1991: 285).

The present paper argues that Thematic roles have their “nonlinguistic” origin in image schemas and link image schemas with language structures. The thesis is based on preceding papers on the OBJECT schema (Santibáñez, 2002; Szwedek, 2018, 2000),² and the definition of the image schema (Szwedek, 2019) on the one hand, and a selection of major works on Thematic roles (Gruber, 1965; Fillmore, 1968; Jackendoff, 1972) on the other hand. I maintained that though the OBJECT schema was commonly listed as one of many other schemas, it is unique in two respects. It is the most basic mental structure representing all physical objects which, being physical, have one common elemental property – density

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² These papers emphasize the fundamental character of the OBJECT schema (see esp. Szwedek 2000: 143).

experienced through the primeval sense of touch.³ The concept of density as a fundamental property of objects is not new. Already in 1690, Locke described ‘solidity’ (hardness) in terms of resistance, and a few centuries later, Kotarbiński (1929 [1990]) described ‘inertness’ (equivalent of density) in terms of “offering resistance”. The idea of conceptual independence is not new, either. Aristotle described the conceptual independence/dependence in terms of ‘first substances’ (*ens per se* – ‘entity by itself’) and properties, that is, second substances (*ens ab alio* – ‘entity from another’). Following Aristotle, Kotarbiński defined a “body” (a physical object) as something that exists in its own right, that “has need of no other thing in order to exist” (1990 [1929]: 75; tr. A.S.).

The distinction of conceptual independence and dependence is also an important part of Langacker’s (1987) book. He distinguished between conceptually independent “things” and conceptually dependent relations (processes and atemporal relations). “Things” are the only entities that are conceptually independent. All other entities are relational and conceptually dependent, the latter being further divided into processes and atemporal relations. Though Langacker described those entities in great detail, a similar distinction into concepts and relations can be also found in Beaugrande and Dressler (1980) for the textual world, and Johnson’s (1987) description of image schemas as consisting of parts and relations. It follows, as Langacker aptly put it: “Relations are conceptually dependent, i.e. one cannot conceptualize interconnections without conceptualizing the entities they interconnect” (1987: 215). If, then, relational schemas represent relations between OBJECT schemas, a natural question arises whether these OBJECT schemas could function in a way similar to Gruber’s (1965) Thematic roles, Fillmore’s (1968) deep cases, and later Jackendoff’s (1972) Thematic relations.

I will return to the significance of Thematic roles in image schemas in section 6. where I discuss examples of that relation.

2. A brief reminder of image schemas

Since the main goal of the present paper is to investigate the problem of a connection between relational image schemas and Thematic structure, it is appropriate to briefly present the most commonly discussed image schemas. The most comprehensive list of the most commonly

³ I deal here only with physical objects because all abstract entities are conceptualized in terms of physical objects (Szwedek 2011).

identified image schemas was presented by Hampe (2005: 2-3). The list includes mainly the image schemas proposed by Johnson (1987) and Lakoff (1987), but also individual contributions by Cienki (1997), Clausner and Croft (1999), Mandler (1992), Turner (1991), Gibbs et al. (1994), and Dodge and Lakoff (2005). Hampe commented that “[t]he image schema list has never constituted a closed set”, which is consonant with Johnson’s remark that “[t]here is clearly nothing sacred about 253 patterns versus 53 or any other number of patterns [...]” (1987: 126). To show the diversity of the most commonly discussed image schemas, here is the list collected by Hampe (2005: 2-3):

- (1) a. CONTAINMENT/CONTAINER, PATH/SOURCE-PATH-GOAL, LINK, PART-WHOLE, CENTER-PERIPHERY, BALANCE
- b. the FORCE schemas: ENABLEMENT, BLOCKAGE, COUNTERFORCE, ATTRACTION, COMPULSION, RESTRAINT, REMOVAL, DIVERSION.
- (2) a. CONTACT, SCALE, NEAR-FAR, SURFACE, FULL-EMPTY, PROCESS, CYCLE, ITERATION, MERGING, MATCHING, SPLITTING, OBJECT, COLLECTION, [MASSCOUNT], [SUPERIMPOSITION].
- b. UP-DOWN, FRONT-BACK.
- (3) a. INANIMATE MOTION, ANIMATE MOTION, SELF MOTION, CAUSED MOTION (Mandler 1992: 593-596), LOCOMOTION (Dodge and Lakoff, this volume).
- b. EXPANSION (Turner 1991: 171), STRAIGHT (Cienki 1998), RESISTANCE (Gibbs et al. 1994: 235), left-right (Clausner and Croft 1999: 15).

This list is not only an open set, as Hampe remarked, but what is more important, without some clearly defined criteria for image schema identification, the addition of individual schemas is only intuitive. To make the decisions about the image schemas clearer and less intuitive, I proposed a definition of the image schema based on my 2018 discussion of the OBJECT schema which is the only conceptually independent schema (Szwedek, 2018, 2019). It is also associated with a “particular type of perceptual experience” proposed in Grady’s (2005) condition on the definition of the image schema. He wrote that “certain schemas that are too general to be associated with any particular type of perceptual experience, or too rich to count as fundamental dimensions of perceptual representation must be ruled out” (2005: 35). In my hypothesis, this “particular type of perceptual experience” is the primeval sense of touch. Those two features, conceptual independence and perceptual experience, will be discussed in the next two sections.

3. The OBJECT image schema

In my 2018 paper, I argued that, with a few exceptions (e.g. Krzeszowski, 1991; Jäkel, 1995; Schneider, 1997; Szwedek, 2000; Santibáñez, 2002), little attention had been devoted to the OBJECT image schema, universally only mentioned among other schemas (e.g. Hampe, 2005). This is surprising because we live in the world of objects, the only entities we experience through our senses.

I argued that the OBJECT image schema is different from all other schemas, which are relational in nature (cf. Langacker, 1987) who wrote that in contrast to relations, ‘thing’ is conceptually independent). I also emphasised that the distinction between ‘objects’ and ‘relations’ is not new, though the former were discussed under different names and with different interpretations. For example, I suggested that the distinction can be found in Chomsky’s (1965) selectional restrictions mechanism in which nouns are independently characterized, while the description of verbs (representing processes) requires the presence of nouns defined by semantic features. I added that such semantic features of nouns appear more like properties of objects. For example, it is not the noun that is $\pm$ Animate, but its denotatum (a physical object, in this case an animate or inanimate entity). I also called on Beaugrande and Dressler’s (1981) proposal to view the ‘textual world’ as a configuration of concepts and relations. This distinction is in perfect agreement with Johnson’s (1987) statement that a schema consists of a small number of parts and relations, and also Langacker’s (1987: 183) distinction between ‘things’ and ‘relations’, the latter being further divided into ‘processes (represented by verbs) and ‘atemporal relations’ (e.g. prepositions). It must be emphasised that all these approaches view relations as opposed to some other entities: parts, concepts, or things. What we see in Chomsky’s proposal was explicitly expressed in Langacker’s description of ‘things’ as conceptually independent and ‘relations’ as conceptually dependent.

Another question concerning the OBJECT schema is its grounding in sensory perception. Following Grady’s (2005) condition, I argued that all physical objects share one inherent, fundamental property – density – experienced only through the primeval sense of touch (Szwedek 2018). In a number of earlier papers (e.g. Szwedek 2000, 2002, 2011), I demonstrated that touch is the most primeval sense in that

- a) it is the sense that develops earliest in the foetus ca. the 7th week of pregnancy (Chamberlain, n.d.) parallel to the development of the nervous system (also beginning to develop around the 7th week).

- b) it is the only whole body sense in opposition to the other, ‘telecommunicative’ senses (Pöppel and Edingshaus, 1994);
- c) it is the only sense with which we can experience density, the elemental property of all physical objects;
- d) the main ‘touching’ organs, hands and mouth, have the biggest neuronal representation in the brain (as the ‘homunculus’ pictures clearly show);

The above arguments led to the inevitable conclusion that if touch develops earliest of the other senses and in parallel to the nervous system, it is impossible that it would leave no imprint on the latter.⁴ I closed my argumentation on the fundamental nature of touch with the following words: “[W]e can close our eyes and not see, we can plug our ears and not hear, we can hold the nose and not smell, but we cannot stop touching or being touched by, for example, the air, the ground/floor, our clothes, etc., and therefore we hardly notice touching because it is always part of our bodily experience” (Szwedek, 2019: 12-14).⁵

Thus, touch is crucial in our sensory experience of density, the fundamental property of all physical objects NOT experienceable by vision,⁶ smell or hearing. The presentation of the OBJECT image schema can be summed up in two points:

- a) following the division into relations and entities (Johnson’s (1987) parts, Beaugrande and Dressler’s (1980) concepts, and Langacker’s (1987) ‘things’, we can conclude that if RELATIONS are conceptually dependent, the other entities, including the OBJECT schema, are conceptually independent. As Langacker put it: “Relations are conceptually dependent, i.e. one cannot conceptualize interconnections without conceptualizing the entities they interconnect” (1987: 215).
- b) following Grady’s suggestion (2005: 35), we can propose the following hierarchy of objects (cf. Langacker’s (1987: 135) partial hierarchy):

⁴ This led me to propose that some sort of primitive schemas develop in the prenatal period, as a result of interaction between two bodies, the foetus and the mother’s uterus, for example, OBJECT, CONTAINER, CONTACT, MOTION, FORCE, RESISTANCE, COUNTERFORCE, CYCLE, etc. (Szwedek 2019).

⁵ This paraphrases Wittgenstein’s adage that we are “unable to notice something – because it is always before [our] eyes” (1953: 30), identical to Johnson’s observation that because “force is everywhere, we tend to take for granted and overlook the nature of its operation” (1987: 42).

⁶ However, it is appropriate to add at this point that research on image schemas has so far concerned the postnatal period and was mainly based on vision, while our approach emphasizes the role of touch, the earliest sense to develop in the prenatal period, on which subject, to the best of my knowledge, literature is lacking.

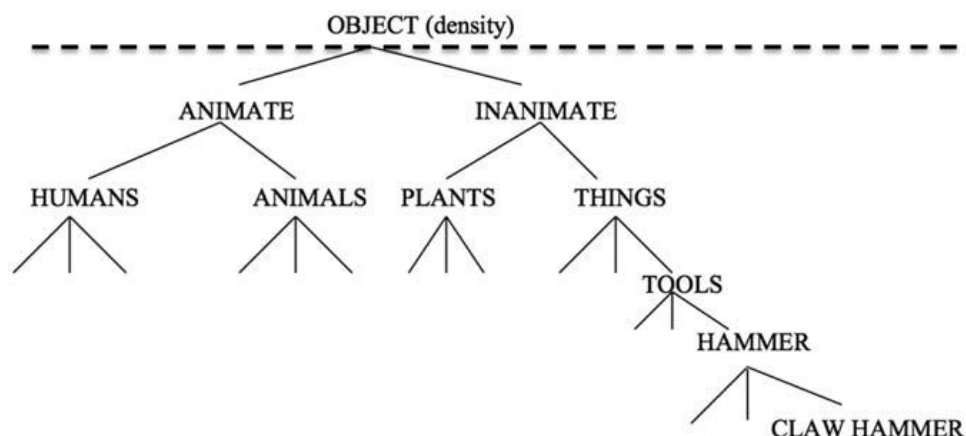


Fig. 1. A hierarchy of objects

The diagram shows that the OBJECT schema meets Grady’s criteria: it is the most ‘general’ entity, but not too general to be disqualified as abstract (or non-imagistic) because at the same time it is “associated with perceptual experience” of density through touch.⁷

In my 2019 paper, I proposed defining the OBJECT schema “as a mental representation of a physical object, whose fundamental property is density experienceable by touch, with ensuing boundedness, shape, size, etc.” (Szwedek 2019: 20).

As will be demonstrated in the next section, this definition is fundamental to the definition of the image schema.

4. A definition of the image schema

Until my 2019 paper, the possibility of formulating such a definition was questioned or even denied. For example, Clausner and Croft stated that “[o]ne can define image schematic domains only by enumeration” (1999: 21). I find this assertion fundamentally illogical – how can you enumerate anything if you do not know what it is that you want to enumerate?

I based my definition of the image schema on the definition of the OBJECT schema. I argued that the OBJECT schema is the most basic mental structure on the grounds that all physical objects share one elemental property of mass – density, experienced only through the primeval sense of touch. All other image schemas are relational in nature (e.g., MOTION, LINK, FORCES, etc.), and therefore their structure must contain one or more objects with

⁷ By ‘non-imagistic’, I refer to such domains as THOUGHT, DEATH and TIME, etc. that lack images (Lakoff and Turner, 1989: 94). Such domains, as well as, imagistic abstract domains, i.e. all non-physical domains (e.g. events like RACE) are conceptualized as objects as the ultimate source domain. I called this mechanism of metaphorization OBJECTIFICATION (Szwedek 2011).

which they relate. For example, MOTION involves at least one object, while CONTAINMENT is a relation between (at least) two objects. This essential link between the OBJECT and RELATIONS (cf. Langacker's (1987) 'things' and 'relations', and Johnson's (1987) 'parts' and 'relations') has brought me to formulate a definition of the image schema as "a mental structure with at least one OBJECT image schema which is a conceptually independent entity representing a physical object whose fundamental property is density experienceable by touch, with ensuing boundedness, shape, size, etc. (2019: 27).⁸

It is important to emphasize that the definition connects the image schema with perceptual experience (Grady, 2005), which is the essence of embodiment.

5. Thematic roles

Before an analysis of two representative examples of image schemas, process and atemporal relation, and Thematic roles in them, it is appropriate to briefly discuss the nature of the latter. As a definition, the *MIT Encyclopedia of the Cognitive Sciences* (1999; Wilson and Keil) opens the chapter on Thematic roles with the observation that "[g]rammatical studies, both traditional and contemporary, have recognized that formal distinctions involving the case or syntactic position of the arguments of a verb or other part of speech, correlated significantly with intuitive [my emphasis] semantic distinctions, involving the relations of those arguments to the action or state indicated by the verb".

It is quite surprising to discern the discrepancy between this definition based on intuitive semantico-syntactic configurations of arguments and verbs, and definitions of individual Thematic roles which are based on perception, that is of "nonlinguistic origin" as Langacker (1987) predicted, and consecutive categorization. The latter specification is already found in Gruber (1965) who defined Theme as an "entity which is in motion" (1965: 50) (my emphasis). Later definitions of other roles also refer to physical entities, for example, 'participants' (Agent, Theme, Affected Entity) and 'object' (Source). Thus, Agent is "a participant [...] doing or causing something", Patient (Affected Entity) "a participant [...] being affected by what happens to it" and Source the "object from which motion proceeds." The terms 'participant', and 'object' obviously refer to perceptible, physical entities. People very often perceive animate beings as "doing or causing something", conceptualizing them as

⁸ Notice that this definition embraces the OBJECT image schema itself with its own structure (SURFACE, PARTS, etc.), as well as all relational schemas.

a separate, convenient category which linguists labelled ‘Agents’. The identification of other roles proceeds in a similar manner.⁹ It is clear that within the framework put forward in the present paper, I have adopted the definitions of individual roles as proposed by EAGLES.¹⁰

An interesting summary of the history of Thematic roles since antiquity can be found in Kasper (2008). A good synopsis can also be found in Levin (2005) who clearly demonstrates the complexity of the problem of Thematic roles and the multitude of various proposals. The complexity seems to be greater than Levin suggests. For example, Dowty (1991) and Newmeyer (2010) agree that no consensus has been reached to delineate the set needed for natural language semantics. For text analysis, Beaugrande and Dressler (1980) proposed over 30 concepts, adding that “[i]n general, linguists’ typologies have fewer categories than ours (e.g. Fillmore 1968; Chafe 1970; Longacre 1976), while those in artificial intelligence have more (e.g. Wilks 1977a)” (1980: 111, fn. 16). Kasper (2008) points out that Gruber (1965) was the first to introduce the concept of Thematic roles in modern linguistics. Apart from extensive discussions of various roles like Goal, Location, Source and Agent, Gruber also introduced and explored the notion of Theme for the first time. He defined Theme as “[...] the entity which is in motion [...]. As seen, the theme may be in motion in a concrete or in an abstract sense, manifesting a change of position, possession, class membership, activity, etc.” (1965: 50). His work undoubtedly set the stage for all further research on Thematic relations.

In his 1968 paper, Fillmore introduced six ‘deep cases’, admitting that “additional cases will surely be needed” (1968: 24). The six basic cases were Agentive (A), Instrumental (I), Dative (D), Factitive (F), Locative (L), and Objective (O).¹¹

Jackendoff’s views on Thematic roles changed over time from Gruber’s essential list in his 1972 book to the expanded 1983 and 1990 versions in which he added, for example, Actor and Patient roles. He also showed that one lexeme may have two functions, as in the sentence *The car hit the tree*, where ‘the car’ is a Theme (“thing in motion”) and an Actor, and ‘the tree’ is a Patient and a Goal. Later modifications include, among others, such roles as Experiencer, Recipient, Benefactive (or Beneficiary), Possessor, Causee, and Comitative, or Affected Entity (or Patient).

⁹ I would hypothesize that the identification of particular roles depends on saliency and frequency.

¹⁰ EAGLES refers to = Expert Advisory Group on Language Engineering Standards; European Commission DG XIII programme, see <<http://www.ilc.cnr.it/EAGLES96/synlex/node62.html>>, DOA: June, 2020.

¹¹ Since Fillmore’s views are commonly known, a more detailed discussion of his ‘cases’ is not necessary for the purpose of the present paper.

Since it is not my aim here to discuss all these variants, for the purpose of the present paper, I have decided to use traditional, well-established and commonly accepted roles such as, for example, Theme, Agent, Source, Affected Entity, etc.

6. The Thematic structure of the MOTION and CONTAINMENT image schemas

The goal of the present section is to analyse the Thematic structure of MOTION and CONTAINMENT as examples of the image schema of temporal and atemporal relations.

6.1. The MOTION image schema

Before a more detailed analysis I wish to comment on the terminology regarding the MOTION schemas listed by Hampe (2005), i.e. INANIMATE MOTION, ANIMATE MOTION, SELF MOTION, CAUSED MOTION, and LOCOMOTION. It is quite clear that the terminology is wrong, and therefore misleading. It needs to be understood that MOTION as a process can be neither animate, nor inanimate, neither self nor caused. Somehow, linguists overlooked that any kind of motion is motion OF an object, be it animate, inanimate or of the self. It is only the objects within the MOTION schema that can be animate, inanimate, self moving, or caused to move. For example, ANIMATE MOTION is in fact motion of an animate object. Moreover, since only animate beings are capable of self-movement, ANIMATE MOTION is very similar to, if not the same as, the SELF MOTION schema. Likewise, there is a strong resemblance between INANIMATE MOTION and CAUSED MOTION, to the point that they are nearly identical, since, in order to move, inanimate objects must be caused to move. The remaining LOCOMOTION schema, proposed by Dodge and Lakoff (2005), is too rich (in Grady's terms). It includes such elements as "Mover, Gait (e.g., walk, run, jump), Speed, Effort, and Body Part." and, as the authors themselves admit, "motion descriptions that convey manner-related information, as well as those which convey locational information, both express image-schematic structure, albeit of different kinds" (Dodge and Lakoff, 2005: 68). Thus, interesting as their approach is, it is too broad and therefore outside the scope of the present paper. To conclude this section, I want to suggest that according to my definition (Szwedek, 2019), Hampe's MOTION image schemas are ultimately more concrete variations of the MOTION schema.

This means that it is possible to propose a hierarchy of verbs, as MOTION is more abstract than ANIMATE MOTION or INANIMATE MOTION, which in turn are more

abstract than ‘walk’, ‘run’ or any other process. As in the case of the OBJECT schema, there is a difference between MOTION and ‘walk’ in that the former implies a process of any physical object, while the latter involves only some animate objects within the ANIMATE MOTION schema, the schema that would require animate objects, those that would move by walking, flying, crawling and swimming. Each of those relations has its own image schema, however “too rich to count as fundamental dimensions of perceptual representation” (Grady, 2005: 35). It is only MOTION that is devoid of any specification of its objects, in contrast to, for example, animate objects with wings, or fins, or no extremities.

The MOTION schema, a fitting and easily understood example of a process, can be diagrammatically represented in the following way:

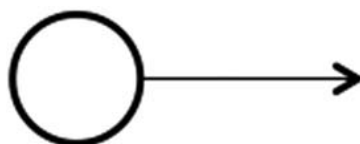


Fig. 2. The MOTION image schema

The circle represents an object, and the arrow represents movement.¹² This diagram is the simplest and most abstract representation of MOTION, neutral in comparison with such schemas mentioned by Hampe as ANIMATE and INANIMATE MOTION, or CAUSED and SELF-MOTION. Whether in the nominal or verbal form, MOTION or MOVE always simply ‘motion of X’ or ‘X moved’, where X is an object, functioning as a Theme and Source (perhaps also as an Agent or Natural Cause). Theme is defined as “a participant which is characterised as changing its position or condition, or as being in a state or position” and Source is defined as “object from which motion proceeds”.¹³

Fig. 1. shows that the OBJECT schema has two subcategories: ANIMATE and INANIMATE, both of which can be elements of the MOTION schema structure. For instance, if we analyse such simple sentences as *John moved* and *The chair moved*, what they have in common is that they both refer to physical objects¹⁴ experienceable by sensory perception (cf. Grady’s condition), and in both, the referents function as a Theme. They differ in that the referent of the first sentence is also an Agent defined as a “participant which the meaning of the verb specifies as doing or causing something, possibly intentionally”, and the

¹² This diagrammatic representation is used by other linguists, e.g. Johnson (1987), and Langacker (1987).

¹³ The descriptions of Thematic roles in this section have been taken from EAGLES, DOA: June, 2020.

¹⁴ I refrain here from discussing abstract entities that can move metaphorically.

referent in the other sentence is a Patient (Affected Entity) defined as “a participant which the verb characterises as having something happen to it, and as being affected by what happens to it”. It has to be added that in the second sentence the energy source of motion is not expressed, though as Mandler writes “[...] force is needed to cause the objects to move” (2012: 432).

Naturally, only animate beings can be an energy source. The energy source objects are represented as black circles (Szwedek, 2019). Thus, the sentence *John moved* can be depicted by the following diagram.



Fig. 3. MOTION of an ANIMATE OBJECT image schema

The image schema for the sentence *The chair moved* is a little more complex, involving “[...] force [...] needed to cause the objects to move” (Mandler, 2012: 432). Implicit in the sentence is that some force caused the chair to move.¹⁵ However, it is necessary to emphasise that any moving object has energy. This means that the energy of the moving chair is acquired from some other energy source. Thus, the image schema for situations expressed by the sentence *The chair moved* can be depicted as in Fig. 4, where the grey colour represents acquired energy to move.

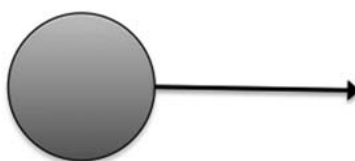


Fig. 4. MOTION of an INANIMATE OBJECT

Conceptually, the chair can function only as a Theme. However, if the energy is acquired, there must be a source from which the energy is transferred, be it an Agent or a Natural Cause. Fig. 5. illustrates this situation.

¹⁵ FORCE schemas are yet another group, with OBJECT (mass) and MOTION (velocity) as fundamental elements. However, to describe them in detail would require a separate and extensive study. We can only speculate that if OBJECT and MOTION are key elements, it is plausible that the Thematic roles within various ‘forces’ would be similar or the same as with MOTION.

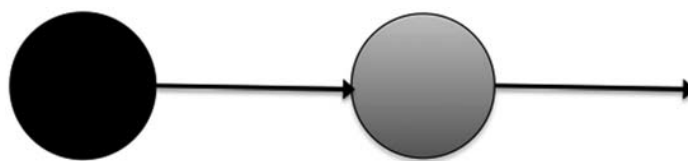


Fig. 5. Energy source and acquired energy objects in MOTION of an OBJECT

The reason that I used OBJECT rather than INANIMATE OBJECT in Fig. 5 is that animate objects can also be subjected to energy reception from another energy source as sentences *John moved the chair* and *John pushed Bill* demonstrate.¹⁶ The black circle represents the Source and Agent or Natural Cause, and the grey circle the Theme, Goal and Patient.

6.2. The CONTAINER image schema

One of the most common schemas discussed in literature is that of CONTAINMENT characterized by the IN-OUT relationship between a CONTAINER (see, for example, Johnson (1987: 21-23), Reddy (1997: The Conduit Metaphor), Lakoff and Johnson (1980: 29-32)) and a CONTAINED OBJECT.

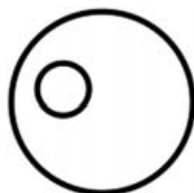


Fig. 6. CONTAINER schema.

It is one of a number of atemporal relations, well representing other spatial schemas expressed by spatial prepositions. The universality of containment was well described by Johnson (1987). He first referred to it as “an ordinary instance of imageschematic structure emerging from our experience” (Johnson, 1987: 21), and added that “[o]ur encounter with containment and boundedness is one of the most pervasive features of our bodily experience.” (1987: 21). He reinforced these statements by writing that “[f]rom the beginning, we experience constant physical containment in our surroundings (those things that envelop us).

¹⁶ Cf. Kotarbiński (1990 [1929]) clearly states that “[...] by a thing we do not understand only an inanimate block. On the contrary – there are things inanimate, as well as animate, [...] So much for the reduction of the category of objects to the category of things. (Kotarbiński, 1990 [1929]: 75; tr. A.S.).

We move in and out of rooms, clothes, vehicles, and numerous kinds of bounded space” (1987: 21).

Lakoff and Johnson (1980: 29-32) devoted a whole section to the discussion of ‘container metaphors’, discussing in detail Land Areas, Visual Field, as well as Events, Actions, Activities, and States as containers, illustrating their observations with many examples.

The relation of containment occurs between two objects, CONTAINER (or CONTAINER OBJECT as Lakoff and Johnson termed it when discussing the concept of race (1987: 31) and CONTAINED OBJECT. With reference to the race example they wrote that “[...] we view it [race] as a CONTAINER OBJECT, having in it participants (which are objects),¹⁷ events like the start and finish (which are metaphorical objects), and the activity of running (which is a metaphorical substance)”. (1987: 31).

The question is what Thematic roles those object schemas play in the relation under discussion. Taking into consideration definitions of Thematic roles, it is relatively easy to identify those roles as Theme and Location. Let me remind the reader that part of the definition of Theme is “a participant which is characterized as [...] being in a state or position” (EAGLES), while Location is defined, somewhat tautologically, as “[t]he Thematic role associated with the NP expressing the location in a sentence with a verb of location” (EAGLES). In consonance with these definitions, the CONTAINED OBJECT is Theme, and the CONTAINER is Location.

The description of CONTAINMENT would not be complete, if the EMPTY-FULL opposition were not mentioned.



Fig. 7. FULL-EMPTY schemas

These concepts can be used only with reference to the CONTAINER OBJECT. Having density as the fundamental property, all objects are three-dimensional. As language examples clearly indicate, the distinction is also applicable to solid objects, like rocks, or pieces of amber. The OED offers the following example: “1989 S. J. Gould *Wonderful Life* (1991); Soft parts can only be preserved, by a stroke of good luck, in an unusual geological context –

¹⁷ Hence my ‘circle in circle’ diagram, while Johnson (1987: 23) has an ‘x’ for CONTAINED OBJECT, which may give an impression that the circle and the ‘x’ are two completely different entities.

insects in amber [my emphasis], sloth dung in desiccated caves”, clearly indicating that solid objects are also interpreted as containers.

The two examples of different types of the image schema as defined in my 2019 paper show that OBJECT schemas are necessary components of relational schemas each with its own set of Thematic roles of OBJECTS.

7. Conclusions

The aim of the present paper is to show that the Thematic structure of language is inherited from the Thematic structure of image schemas. My argumentation is founded on my definition of image schema as “ mental structure with at least one OBJECT image schema conceptually independent and grounded in perceptual experience”. (Szwedek, 2019: 27). The definition is based on my argument (2000, and later works) about the unique character of the OBJECT and Langacker’s (1987) distinction between a conceptually independent ‘thing’ (my ‘object’) and conceptually dependent relations: processes and atemporal relations. The other pillar is the theory of Thematic roles. The analysis of the MOTION schema, which is processual in nature and atemporal CONTAINER schema, revealed that the processual schemas must have at least one OBJECT schema, while atemporal spatial relations must have at least two OBJECT schemas in their structure.

In sum, this paper has argued that the Thematic roles, so far derived intuitively from analyses of language structures, originate in image schemas, constituting a link between the mind and language, thereby providing a stable scaffolding for various syntactic structures.

References

- Beaugrande, Robert, de and Wolfgang Dressler. 1980. *Introduction to Text Linguistics*. London: Longman.
- Chamberlain, David. n.d. The fetal senses: A classical view.
(<http://schoolbiosynthesis.es/wp-content/uploads/2016/09/The-Fetal-Senses-AClassical-View.pdf>. DOA: 12 August 2016.)
- Chomsky, Noam. 1965. *Aspects of the Theory of Syntax*. Cambridge, Massachusetts: MIT Press.
- Cienki, Alan. 1997. Some properties and groupings of image schemas. In M. Verspoor, K. Dong Lee, and E. Sweetser. (eds.) *Lexical and Syntactical Constructions and the Construction of Meaning*. Amsterdam/Philadelphia: John Benjamins. 3-15.
- Clausner, Timothy and William Croft. 1999. Domains and image schemas. *Cognitive Linguistics*, 10, 1-31.

- Dodge, Ellen and George Lakoff. 2005. From linguistic analysis to neural grounding. In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin-New York: Mouton de Gruyter. 57-93
- Dowty, David. 1991. Thematic proto-roles and argument selection. *Language*, 67(3), 547-619.
- EAGLES = Expert Advisory Group on Language Engineering Standards; European Commission DG XIII programme.
<http://www.ilc.cnr.it/EAGLES96/synlex/node62.html>, DOA: June, 2020.
- Fillmore, Charles. 1968. "The Case for Case." In E. Bach and R. T. Harms (eds.), *Universals in Linguistic Theory*. New York: Holt, Rinehart, and Winston. 1-88.
- Gibbs, Raymond W. Jr.; Dinara A. Beitel; Michael Harrington; Paul E. Sanders. 1994. Taking a stand on the meanings of stand: Bodily experience as motivation for Polysemy. *Journal of Semantics* 11: 231-251.
- Grady, Joseph. 2005. Image schemas and perception: Refining a definition. In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin-New York: Mouton de Gruyter. 35-55
- Gruber, Jeffrey. 1965. *Studies in Lexical Relations*. PhD dissertation. MIT.
- Hampe, Beate. 2005. "Image schemas in cognitive linguistics. Introduction." In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin-New York: Mouton de Gruyter. 1-12.
- Hampe, Beate (ed.). 2005. *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin-New York: Mouton de Gruyter.
- Jackendoff, Ray. 1972. *Semantic Interpretation in Generative Grammar*. Cambridge, Massachusetts: MIT Press.
- Jackendoff, Ray. 1983. *Semantics and Cognition*. Cambridge, Massachusetts: MIT Press.
- Jackendoff, Ray. 1990. *Semantic Structures*. Cambridge, Mass: MIT Press.
- Jäkel, Olaf. 1995. "The Metaphorical Concept of Mind." In J. Taylor and R. MacLaury (eds.), *Language and the Cognitive Construal of the World*. Berlin-New York: de Gruyter. 197-229.
- Johnson, Mark. 1987. *The body in the mind. The bodily basis of meaning, imagination, and reason*. Chicago and London: University of Chicago Press.
- Kasper, Simon. 2008. *A comparison of 'Thematic role' theories*. Magister-Hausarbeit. Fachbereich Germanistik und Kunstwissenschaften der Philipps-Marburg: Universität Marburg.
https://www.academia.edu/9185151/A_comparison_of_Thematic_role_theories (DOA: May 10, 2020).
- Kotarbiński, Tadeusz. 1990 [1929]. *Elementy teorii poznania, logiki formalnej i metodologii nauk* [Elements of the theory of knowledge, formal logic and methodology of sciences]. Wrocław: Zakład Narodowy im. Ossolińskich.
- Krzeszowski, Tomasz. 1991. "Metaphor-metaphorization-cognition." *Biuletyn Polskiego Towarzystwa Językowego*, 43-45. 83-95.
- Lakoff, George. 1987. *Women, Fire, and Dangerous Things. What Categories Reveal About the Mind*, Chicago: Chicago University Press.
- Lakoff, George and Mark Turner. 1989. *More than cool reason: A field guide to poetic metaphor*. Chicago: University of Chicago Press.
- Langacker, Ronald. 1987. *Foundations of Cognitive Grammar, Volume I, Theoretical Prerequisites*. Stanford, California: Stanford University Press.
- Langacker, Ronald. 1991. *Foundations of Cognitive Grammar, Volume II, Theoretical Prerequisites*. Stanford, California: Stanford University Press.
- Levin, Beth. 2005. *Semantic Prominence and Argument Realization II: The Thematic*

- Hierarchy: A Window into Semantic Prominence (Course 123 synopsis).
<https://web.stanford.edu/~bclevin/lisa05thier.pdf> (DOA: May 12, 2020)
- Locke, J. 1894 [1690]. Book II Of Ideas Chapter IV Idea of Solidity 1. *An Essay Concerning Human Understanding*. Oxford: Clarendon Press.
- Mandler, Jean M. 1992. How to build a baby: II. Conceptual Primitives. *Psychological Review* 99: 587-604.
- Mandler, Jean M. 2012. On the Spatial Foundations of the Conceptual System and Its Enrichment. *Cognitive Science* 36 (2012) 421–451.
- Newmeyer, Frederic. 2010. On comparative concepts and descriptive categories: A reply to Haspelmath. *Language*, 86(3), 688-695.
- Pöppel, Ernst and Anna-Lydia Edingshaus. 1994. *Geheimnisvoller Kosmos Gehirn*. München: C. Bertelsmann Verlag.
- Reddy, Michael. 1979. The conduit metaphor: A case of frame conflict in our language about language. In A. Ortony (ed.), *Metaphor and Thought*. Cambridge: Cambridge University Press. 164-201.
- Santibáñez, Francisco. 2002. The Object-Image Schema and Other Dependent Schemata. *Atlantis* XXIV-2, 183-201.
- Schneider, Hans Julius. 1997. Metaphorically created objects: 'real' or 'only linguistic'? In B. Debatin, T.R. Jackson and D. Steuer (eds.), *Metaphor and Rational Discourse* Tübingen: Max Niemeyer Verlag. 91-100.
- Szwedek, Aleksander. 2000. Senses, perception and metaphors (of OBJECT and OBJECTIFICATION). In S. Puppel and K. Dziubalska – Kołaczyk (eds), *Multibus Vocibus de Lingua* Poznań: Dziekan Wydziału Neofilologii Uniwersytetu im. Adama Mickiewicza. 143-153.
- Szwedek, Aleksander. 2002. Objectification: From Object Perception To Metaphor Creation. In B. Lewandowska-Tomaszczyk and K. Turewicz (eds.), *Cognitive Linguistics To-day*. Frankfurt am Main; Peter Lang. 159-175.
- Szwedek, Aleksander. 2011. The ultimate source domain. *Review of Cognitive Linguistics* 9.2. 341–366
- Szwedek, Aleksander. 2018. The OBJECT Image Schema. In P. Żywicznyński, M. Sibierska, W. Skrzypczak (eds.), *Beyond Diversity: The Past and the Future of English Studies*. Berlin: Peter Lang, 57-89
- Szwedek, Aleksander. 2019. The Image Schema: A Definition. *Styles of Communication* 11/1, 9-30.
- Turner, Mark. 1991. *Reading Minds. The Study of English in the Age of Cognitive Sciences*. Princeton, NJ: Princeton University Press
- Wilson, Robert A. and Frank C. Keil (eds.) 1999. *The MIT Encyclopedia of the Cognitive Sciences*. Cambridge, Massachusetts – London, England. The MIT Press.
- Wittgenstein, Ludwig. 1953. *Philosophical Investigations*. (Translated by G.E.M. Anscombe). Oxford: Basil Blackwell.