ANNALES
UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA
LUBLIN – POLONIA
VOL. XXX, 2 SECTIO FF 2012

IWONA OSMAŃSKA-LIPKA
Uniwersytet Warszawski

Elements of Gestalt Psychology in American Cognitive Linguistics

Elementy psychologii postaci w amerykańskim językoznawstwie kognitywnym

> The Gestalt-Theorie is more than a theory of perception; it is even more than a mere psychological theory. (Koffka 1922)

The aim of this paper is to show some distinguished elements of Gestalt Psychology in Cognitive Linguistics. I also wanted to show how influential is Gestalt Psychology in the field of Cognitive Linguistics. There are laws and principles which operate both on perceptual an linguistic levels. Visual perception, thinking and language are merging phenomena, they are multidimensional thus fascinating.

COGNITIVE LINGUISTICS

Cognitive Linguistics is an approach to language that originated in the late seventies and early eighties in the work of American researchers: George Lakoff (1980), Ronald Langacker (1987) and Leonard Talmy (1988), who are nowadays considered the founding fathers of the enterprise. The first wave of cognitive linguists came in the second half of the 1980s, among them were the early collaborators, colleagues and students of the key figures, e.g. Gilles Fauconnier (1985), Mark Johnson (1980) and Mark Turner (2002). At the same time, also European researchers took up the ideas of a new school of language and enriched it by introducing new theories.

Cognitive Linguistics is not a single theory but rather a cluster of different approaches and theories that might overlap, complement or even compete with each other.

Aspects of cognition that are of interest to cognitive linguists include: Cognitive Grammar (Ronald Langacker 1987), Image Schema (Mark Johnson 1987), Prototype Theory and Radiality (Eleanor Rosch 1973, William Labov 1973, George Lakoff 1987, 1999, Mark Johnson 1999), Mental Spaces (Gilles Fauconnier 1985), Conceptual Metaphor and Metonymy (George Lakoff and Mark Johnson 1980), Conceptual Blending (Gilles Fauconnier and Mark Turner 2002), Force Dynamics (Leonard Talmy 1988).

1.1. Cognitive Grammar

Cognitive Grammar is an approach to language developed by Ronald Langacker in the 1970s. The central ideas were introduced in a two-volume seminal *Foundations of Cognitive Grammar* (Langacker 1987a, 1991a). The basic assumption of Langacker's model is that language is a result of general cognitive processes and thus it follows the same principles as other aspects of the human cognitive system. In this respect, grammar should be treated in the broad sense, as a part of the whole system. In Langacker's approach, he refers to Gestalt Psychology and notices analogies between linguistic structures and aspects of visual perception (Langacker 1987: 122).

Langacker (2008: 67) states that language is a symbolic system and should be viewed holistically. There is no distinction between syntax and lexicon, because grammar itself is meaningful. The grammar consists of so called symbolic assemblies, which are the unification of grammar, sound and meaning. Three kinds of mental entities exist: phonological structures, semantic structures and symbolic relations between them. It should be emphasized that there is a direct association between phonological and semantic structures. A symbolic unit consists of a semantic unit, which defines one pole and a phonological unit that defines the other pole. Syntax is no longer considered the central component of grammar, although Cognitive Grammar does not deny its existence. Instead, syntax itself is viewed as inherently symbolic. The central place in Cognitive Linguistics and therefore in Cognitive Grammar is taken by meaning. The way people conceive, understand and portray situations in the world is subjective; different observers may describe the same situation in alternate ways.

Langacker introduces certain dimensions of construal: prominence, specificity and perspective. The first level of prominence includes two especially important facets: profiling and the focal prominence of relational participants. According to *A Glossary of Cognitive Linguistics* (Evans 2007: 172), profiling in Cognitive Linguistics is "the conceptual 'highlighting' of some aspects of a domain. Specifically, profiling is the process whereby an aspect of some base is selected. For example, the expression *elbow* profiles a substructure within the larger structure ARM, which is its base." Another important aspect of prominence pertains to pro-

filing relations between participants. The most prominent (focal) participant in a profiled relationship is the trajector (TR), the secondary focal participant is called the landmark (Evans 2007: 172). The trajector-landmark organization reflects the more general perceptual phenomenon of figure-ground organization, derived from Gestalt Psychology. Although there is a similarity between the concepts of trajector-landmark and figure-ground, Langacker subsumes figure-ground alignment under perspective rather than prominence. He argues that figure-ground is independent of focus of attention, therefore it is distinct from foreground-background perspective. Nevertheless, some linguists (e.g. Lee 2001) do not share Langacker's view and propose their own approaches.

1.2. Image Schema

Image schemas are associated with our bodily interactions with the world, therefore they are considered embodied prelinguistic structures of experience. They are recurring dynamic patterns of our interactions with the external world; they provide structure and coherence to our experience (Johnson 1987: xiv). One of the first linguists who developed the theory within cognitive semantics, was Mark Johnson (1987), but afterwards image schemas have appeared highly important in developmental psychology and also in all cognitive sciences. Image schemas are fundamental to our conceptual system, they are not images, they are 'precategorial', or in other words, preconceptual structures. As the term "schema" suggests, they are not detailed but abstract concepts derived from embodied experience, e.g. *thing* is much more schematic than *book*. Although fundamental and prelinguistic, image schemas are not innate structures. According to the developmental psychologist Piaget (1929), image schemas are emergent, because they emerge through interactions with the world. Any interaction with the external world involves sensory and perceptual experience during early childhood. Image schemas provide a concrete basis for abstract concepts, they serve as the source domain in metaphoric mappings. Abstract thoughts lack physical properties common to objects, that is why they need those physical properties of objects to be expressed and understood. Image schemas are highly schematic gestalts. They have internal structure but emerge like a coherent whole. This phenomenon will be explored in the third chapter.

1.3. Prototype Theory and Radiality

Prototype Theory was introduced in 1973 by the American psychologist Eleanor Rosch and then developed by others scientists like Lakoff (1987), Hampton (1991) and Lakoff and Johnson (1999). The fundamental assumption underlying the theory is that every living being categorizes. And "most categorization is automatic and unconscious, and if we become aware of it at all, it is only in prob-

lematic cases. In moving about the world, we automatically categorize people, animals and physical objects, both natural and man-made" (Lakoff 1987: 6). Categorization is an inseparable process of biological construction, common to every living being: amoebas, animals and humans. In the case of a human being, it is a consequence of the embodiment and neural structures of the mind.

1.4. Mental Spaces Theory

Fauconnier's Mental Spaces Theory (1985) is a reaction to the truth-conditional model of sentence interpretation in formal semantics. From the perspective of formal semantics a sentence like *In this painting the girl with blue eyes has green eyes* involves a contradiction. The Mental Spaces Theory supplies a solution by introducing mental spaces. In this case *the girl with blue eyes* (trigger) designates REALITY SPACE, while *the girl with green eyes* (target) forms PAINTING SPACE. "The trigger and target exist in two distinct 'mental spaces', one space being (the speaker's current reality), which contains the trigger, the other being the painting, which contains the target. An expression such as *in this painting* can therefore be considered to be 'a space builder' " (Lee 2001: 99).

Mental spaces are pervasive in human thought and language and they are construed in the moment of thinking and speaking.

1.5. Conceptual Metaphor Theory

Until 1980 metaphor was viewed as a stylistic means used in literature, especially in poetry. It has changed after the book *Metaphors We Live By* by George Lakoff and Mark Johnson was published (1980). They propose a completely different approach and perspective to metaphor, putting themselves at odds with most of the Western philosophical tradition. Lakoff and Johnson see metaphor as pervasive in our conceptual system, not only in language but also in our thought. Conceptual metaphor refers to the understanding of one idea, or conceptual domain, in terms of another. For example, the metaphor LOVE IS A JOURNEY serves to structure the target domain LOVE in terms of the source domain JOURNEY, which means that we begin to think and talk about love in terms of journeys. The source domain is a more concrete domain (JOURNEY) and the target domain is more abstract (LOVE). Such correspondences between the source and the target domains are called mappings.

According to Lakoff and Johnson (1980), we can distinguish three most distinctive kinds of conceptual metaphors: structural metaphors, orientational metaphors and ontological metaphors. Structural metaphors are "cases where one concept is metaphorically structured in term of another" (Lakoff and Johnson 2003 [1980]: 14). Orientational metaphors are based on spatial orientation: up-down, in-out, central-peripheral, active-passive etc., for example HAPPY IS UP, SAD IS

DOWN. It should also be underlined that orientational metaphors based on spatial orientation may vary from culture to culture, different cultures differently conceptualise abstract notions like time. The third kind of a conceptual metaphor, an ontological metaphor, is a metaphor in which an abstraction (emotion, idea etc.) is represented as something concrete, such as an object, substance, container, or person. Ontological metaphors are based on our experiences with physical objects, first of all with our own bodies.

As metaphors pervade our conceptual system, they form a coherent system of metaphorical concepts and expressions. Metaphorical concepts form a single system based on subcategorization, where metaphors can stand in a schema-instance relation. The systematicity of metaphorical concepts enables us to comprehend one aspect in terms of another by showing only carefully selected features of the concept. It highlights some notions and hides others. For instance, in the metaphor ARGUMENT IS WAR, the battling aspect of arguing is highlighted, whereas the cooperative aspect is lost.

It should also be emphasised that metaphor is a neural phenomenon. Metaphorical mappings appear to be neural maps in the brain. The conceptual metaphor theory developed over the years, which resulted in a new level of metaphor analysis, called deep analysis, being discovered.

1.6. Conceptual Metonymy

Metonymy is a conceptual operation, mechanism or process which involves a shift of a conceptual entity within the same cognitive domain (matrix). Conceptual Metonymy is omnipresent, irreplaceable and indispensable. It is not a matter of language, first of all, it structures our thoughts and attitudes. Metonymic concepts are parts of the ordinary way we think, act and talk. They are also pervasive in culture, art and religion.

Metonymy and metaphor are both conceptual operations but metonymy functions differently from metaphor; in the case of metonymy, we are in the same cognitive domain, while metaphor involves a mapping across domains.

1.7. Conceptual Blending Theory

The theory of Conceptual Blending (Conceptual Integration) derives from Conceptual Metaphor Theory and Mental Spaces Theory. It was proposed in 1993 and then developed by Gilles Fauconnier and Mark Turner (2002). According to Fauconnier and Turner (2002: v), Conceptual Blending is a great mental capacity that made us human beings, what we are today. It is also the dynamic process, of which we are not aware.

Conceptual Blending is an integration network which consists of two or more input spaces, a generic space and a blended space (the blend). Each input space is

a mental space, not a domain of knowledge (as in conceptual metaphor theory). The generic space provides abstract information to both (or all) the input spaces; elements in the generic space are mapped onto input spaces according to their counterparts. The blend is "the mental space which results from conceptual integration, giving rise to emergent structure" (Evans 2007:11). It should be noted that not all elements from the inputs are mapped to the blend.

Conceptual Blending is a general, basic and ubiquitous cognitive operation, central to human thought and language. It has played a major role in human history and might be responsible for the emergence of art, religion, science and language.

1.8. Force Dynamics

Force Dynamics is a semantic category that "relates to our experience of how physical entities interact with respect to force, including the exertion and resistance of force, the blockage of force and the removal of such blockage." (Evans 2007: 83). The concept was introduced by Leonard Talmy in 1981 and since that time it has gained a good deal of attention in the field of cognitive linguistics. According to Talmy, "all more complex force-dynamic patterns is the steady-state opposition of two forces" (2000: 413). Consequently, two kinds of entities exist: 'Agonist' and 'Antagonist', where the agonist receives the focal attention and the antagonist opposes the agonist. Opposing here means either overcoming the force or failing to overcome it.

GESTALT PSYCHOLOGY

Gestalt theory was the outcome of concrete investigations in psychology, logic, and epistemology. It had a pervasive effect on many different areas such as learning, ethics, and social psychology and it has also made a great impact on Cognitive Linguistics, which is interested in the relation of language and mind. At first sight it seems that Gestalt Psychology and Cognitive Linguistics belong to two different fields, but in fact they relate closely to each other.

Gestalt is the German word for 'form' and in the context of Gestalt Psychology it means 'unified whole' or 'configuration'. The essential point of Gestalt is an assumption that the whole is different (more) from the sum of the parts. It leads to the statement that the operational principle of the brain is holistic, parallel, and analog, with self-organizing tendencies.

The concept of Gestalt was first introduced by Christian von Ehrenfels (1859–1932), a philosopher, musical composer and performer. He used the concept of 'form quality' (Ehrenfels *Gestaltqualitaten* 1890), which was a larger unit, that did not inhere directly to the elements from which it was derived. This explanation was still atomistic as "form quality" was another element different from the other elements. Ehrenfels partly based his ideas on philosophies of Goethe (In:

Wildgen 1989) and Kant (1783). These theories influenced Max Wertheimer and his research on apparent movement (Wertheimer 1912), so-called stroboscopic movement or phi phenomenon. The explanation of apparent movement was a major breakthrough in Gestalt Psychology as it was no longer considered an illusion. It seemed to be a proof that perceptual facts do not consist of "independent local sensations" (Köhler 1969: 37) but they are rather organized wholes and we perceive experiences in a way that calls for the simplest explanation.

The birth of Gestalt Psychology was not easy, as it stood in opposition to classical psychology, that is, behaviorism (Thorndike 1903, Watson 1914), introspectionism (Wundt 1902, Titchener 1908), and association (Wundt 1896). Gestalt theory arose as a reaction to the prevalent theory of the time: atomism (Dalton 1808, Rutherford 1911).

The scientists who greatly contributed to the development of Gestalt, especially in the United States, were Max Wertheimer (1880-1943), Kurt Koffka (1886–1941) and Wolfgang Köhler (1887–1967). They were called 'The Big Three', although they worked independently, they pushed similar agendas. When the Nazis came to power in Germany, many scholars were forced to flee. Wertheimer, Koffka and Köhler moved to the USA, where they continued their research. Koffka was the first scholar who introduced Gestalt Psychology to America. His *Principles of Gestalt Psychology* (1935) became the 'bible' for Gestalt psychologists.

2.1. Laws and principles

Gestalt psychologists developed laws and principles that govern human perception:

- Law of Figure/Ground (Rubin 1915, Koffka 1935),
- Law of Prägnanz (good form) (Wertheimer 1923, Koffka1935),
- Law of Proximity (Wertheimer 1923, Koffka 1935),
- Law of Similarity (Wertheimer 1923, Koffka 1935),
- Law of Good Continuation (Continuity),
- Law of Closure (Wertheimer 1923, Koffka 1935),
- Law of Common Fate,
- Emergence (Koffka, Lehar),
- Reification,
- Multistability,
- Invariance.

2.1.1. Law of Figure/Ground

It is a general dual characteristic of perception first emphasized by Rubin. When a total field is so structured that different portions exhibit varying degrees of integration, the most highly articulated ones are called 'figures', while the sim-

pler and more homogenous areas are ‘grounds’. In ordinary perception, what is ground for one figure will be a figure on another ground (Hartman and Poffenberger (2006: 310–311).

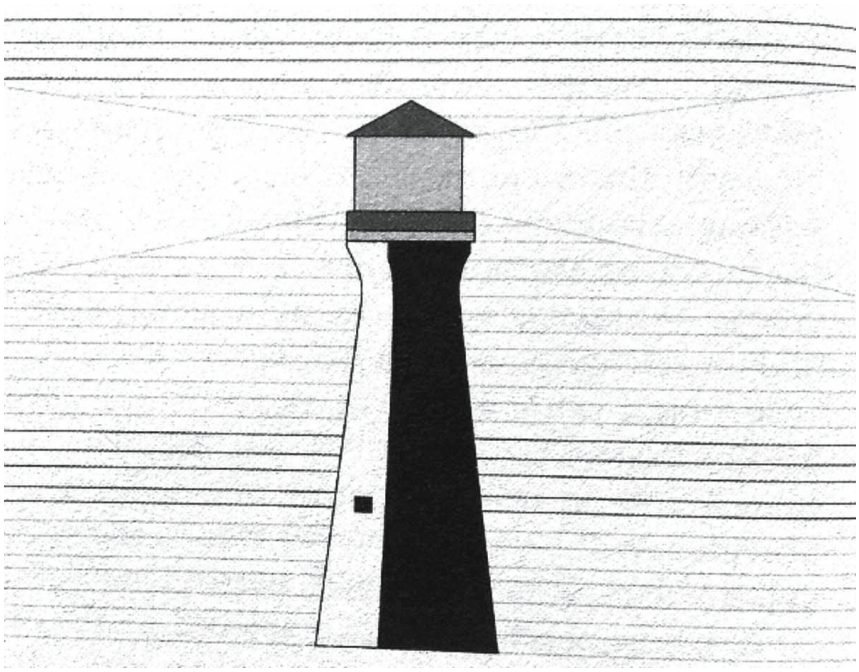


Figure 1. Figure-ground organization. In the picture above the figure is the lighthouse and the ground consists of black and grey horizontal lines. (Evans 2007: 80)

The distinction between figure and ground was introduced by Rubin (1915). The larger figure is called the ground; the smaller, seen upon or within the larger one is the ‘figure’. In the case of ambiguous figures, the same field parts may be perceived either as the figure or ground. The figure and ground are mutually dependent on each other. The part which is more solid and better remembered is the figure. Considering ambiguous figures, the ground parts seem to be simpler and of greater uniformity than those of the figure. The difference between figure and ground appears also in colour. The field which is the figure looks more coloured than the same field being ground (Koffka 1935: 186). Figure-ground articulation is dynamic, there are factors and laws that determine its organization: orientation, relative size, enclosing and enclosed area, density of energy and simplicity of resulting organization.

According to orientation, there are two main directions in space, the horizontal and the vertical, and these two directions have a great influence on the

process of organization, making it easier than in other directions (Koffka 1935: 191). These foundings are consistent with the theory of embodiment in Cognitive Linguistics.

The factor of relative size (also known as the principle of smallness) states that smaller field parts more often become figures; the larger, the ground. Density of energy is greater in the figure than in the ground. The last factor, simplicity of resulting organization, is a direct consequence of the law of Prägnanz. It means that the resulting shapes in organization will be as simple as possible.

2.1.2. Law of Prägnanz/good Gestalt

It is the most general law of configurations. The term means 'precision' in English. It is a tendency to form as simple figure as possible in certain conditions. It is one of the most fundamental laws in Gestalt Psychology. Szewczuk (1951: 146), in his book *Teoria postaci i psychologia postaci*, mentions that Köhler considered the law of Prägnanz the universal principle in the Universe. The law applies not only to physical but also mental processes; it concerns both individuals and whole societies.

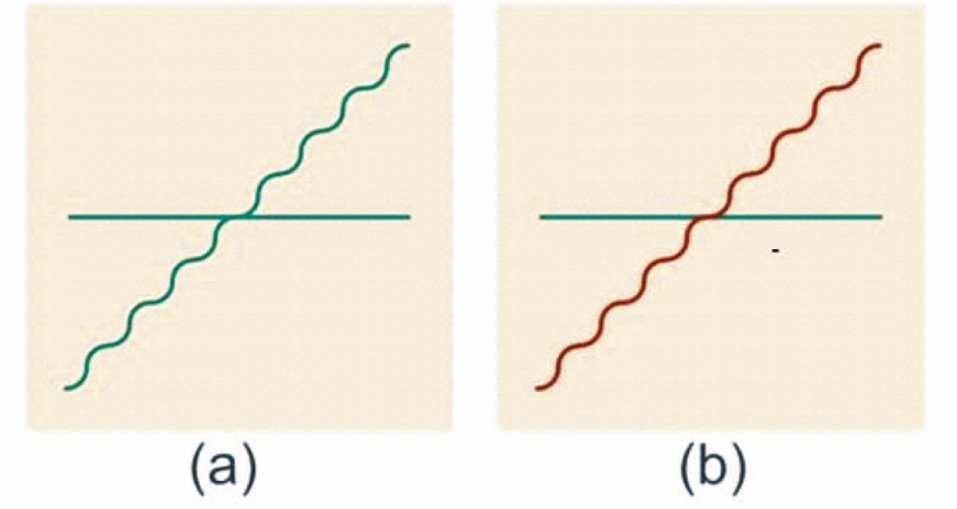


Figure 2. Law of Prägnanz

The dominant percepts in Figure 2a and 2b are instances of the good Gestalt principle: elements tend to be grouped together if they are parts of a pattern which is a good Gestalt (Todorovic (2008), Scholarpedia, 3(12): 5345)

Prägnanz means symmetrical, simple, regular, orderly, balanced, unified, coherent etc as possible in given conditions.

2.1.3. Law of Closure

The term was introduced by Wertheimer (Wertheimer 1923: 83). It was considered one of the basic principles of organization, including not only perceptual but also mental organization. In visual perception it is a tendency to enclose a space by completing a contour and ignoring gaps in the figure. In a broader sense, imperfect wholes, like memories, thoughts and actions tend toward complete or closed forms. Closure is considered a special dynamic variant of Prägnanz (Hartman and Poffenberger (2006: 308–309).

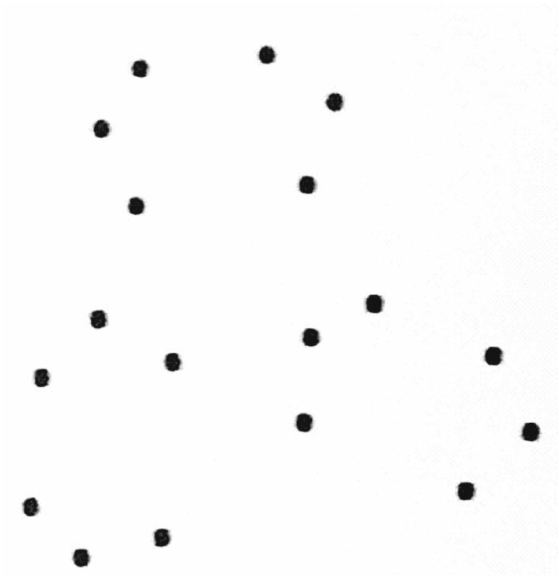


Figure 3. Law of Closure

We perceive these figures as complete although they are imperfect forms (Lehar 2003: 47).

2.1.4. Law of Proximity

Elements that are closer together are perceived as a coherent object. The principle applies also to auditory organisation.

We perceive dots, which are close together, as coherent objects (Wertheimer 1923: 73).

2.1.5. Law of Similarity

Objects with the same attributes like colour, brightness, size or shape are perceived as part of the same form. It should be remarked that this principle holds

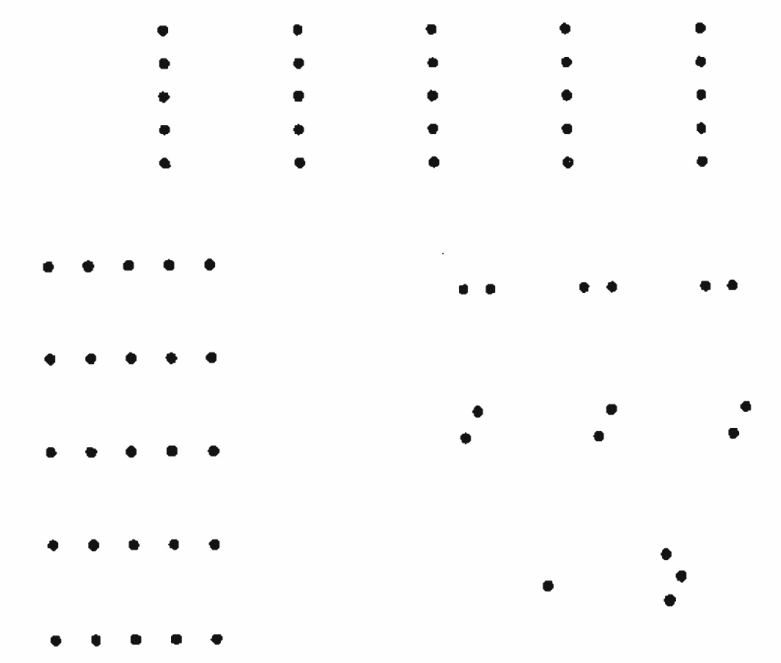


Figure 4. Law of Proximity

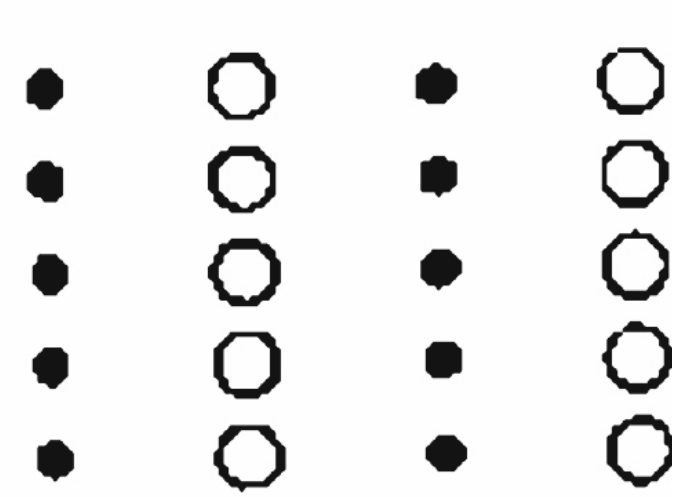


Figure 5. Law of Similarity

also for auditory experience. “Maintaining a constant interval, the beats may be soft and loud.” (Wertheimer 1923: 74)

We perceive white and black dots similar in terms of colour (white dots form lines as well as black dots form lines) and shape (all dots form a square) (Wertheimer 1923: 77).

2.1.6. Law of Good Continuation

This law describes a tendency for smooth continuity of contour to be more important than discrete or irregular contours.

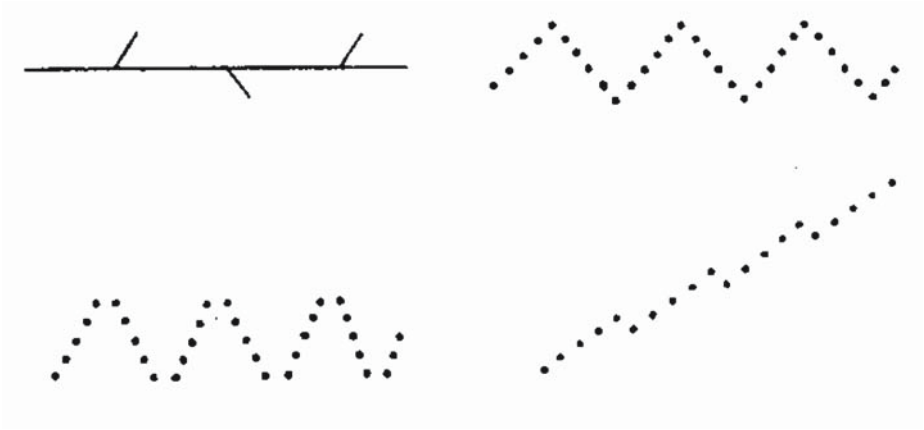


Figure 6. Law of Good Continuation (Wertheimer 1923: 81)

2.1.7. Law of Common Fate

If some objects are subjected to the same motion, we tend to see them as one unit. If, for example, there is a picture with a well-camouflaged object, such as a military vehicle, it is difficult to detect when it is stationary. Once it starts moving, it will be immediately recognised and perceived as a unitary figure, clearly segregated from its background.

2.1.8. Emergence

This principle is considered one of the most significant contributions of Gestalt theory (Lehar 2003: 51). Our visual perception is able to recognize entities of which no visual data are included in the input.

The dog is perceived despite the fact that much of its parameter is missing (Lehar 2003: 48).

Figure 7. Emergence

2.1.9. Reification

Reification is regarding something abstract as a material thing (L *res* thing); it is "a filling – in of a more complete and explicit perceptual entity based on a less complete visual input" (Lehar 2003: 51).

In Figure 8 A the triangle is filled-in perceptually, there are visual edges in places where no edges are present in the input. What is more, the illusory triangle is filled in with a white, which seems to be brighter then the background. In Fig. 8 B, C and D the illusory percepts take the form of a three-dimensional volume.

2.1.10. Multistability

The principle, as Lehar states (Lehar 2003: 51), seems to be direct evidence for multistability in the brain. It appears that vision is a dynamic process, not a sequential one from input to percept. Multistability concerns reversible figures, some of them being very famous, e.g. face/vase illusion introduced by Rubin (1958) or the Necker cube (1832).

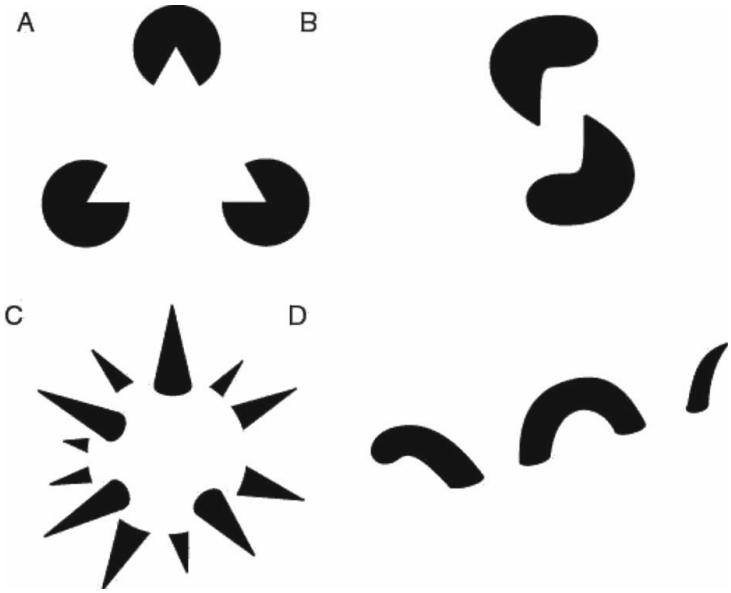
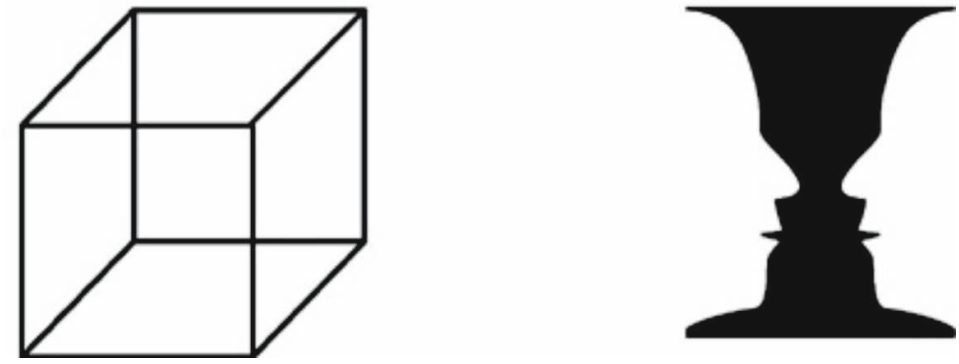


Figure 8. A: the Kanizsa triangle. B: Tse's volumetric worm. C: Idesawa's spiky sphere. D: Tse's "sea monster" (Lehar 2003: 50)



a **b**

Figure 9. The Necker cube and Rubin's faces/vase illusion

In Figure 9b the picture will be recognized either as a vase or two faces. After a while, a figure will appear to shift to the alternative organization. The shift is sudden and even if we try to 'hold' one image, it will definitely change (Lehar 2003: 52).

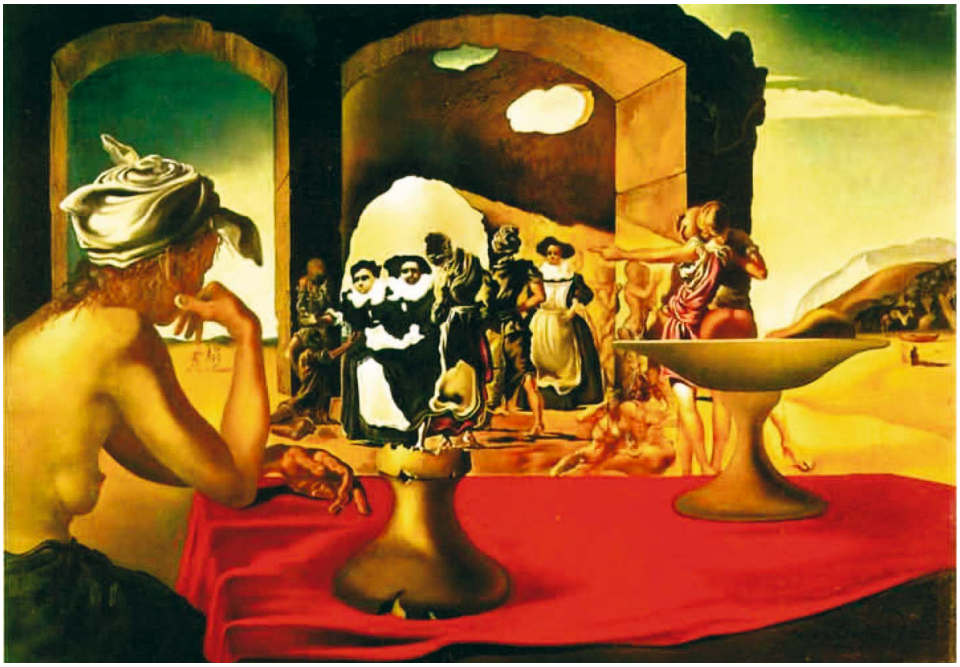


Figure 10. Salvador Dali *The slave market and disappearing bust of Voltaire*

In addition, multistability has been a fascinating phenomenon for many artists (Salvador Dali, Charles Allen Gilbert) and it is also used in advertising.

The composition flips back and forth between two contradictory images (Maddox 1995: 69).

2.1.11. Invariance

In case of invariance, regardless of the position of the object, it can be still perceived as the same object.

2.1.12. Gestalt laws in combination

We can apply more than one Gestalt law to an image. It means that some of them are compatible whereas others compete against each other. Pedroza (2004) concludes that Gestalt grouping laws do not act independently but influence each other, so that the final perception is a combination of all laws acting together.

2.2. Isomorphism

It should be underlined that Gestalt theory includes much more than perception and Gestalt laws and principles. One of less known notions is *isomorphism* in Gestalt Psychology, developed by Köhler. The term isomorphism means equality

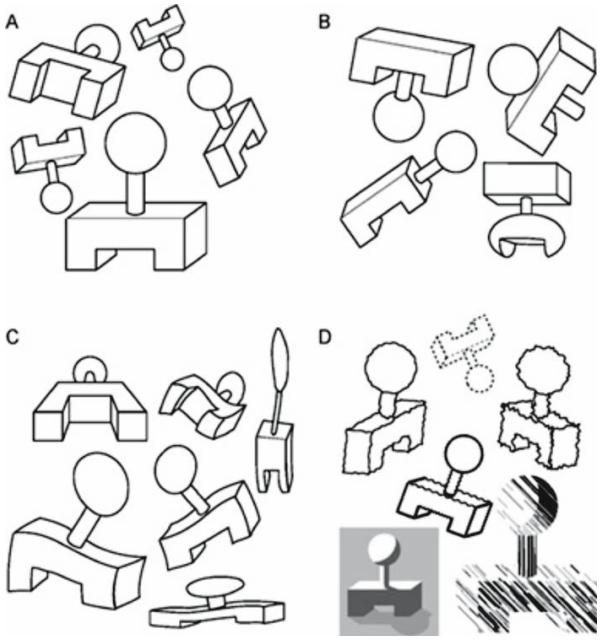


Figure 11. Invariance. (Lehar 2003: 53)

or sameness of form. In mathematics isomorphism is a one-to-one correspondence between the elements of two systems; in Gestalt Psychology, it is similarity of structures in particular systems. The theory of isomorphism was first pronounced by Wertheimer, after his famous experiment on the phi phenomenon (Wertheimer 1912), then it was carefully elaborated by Köhler (1920); Koffka (1935) also contributed to the theory. Köhler (1920: 193) stated that "motion of the atoms and molecules of the brain are not fundamentally different from thoughts and feelings".

Briefly, the theory of isomorphism assumes that the properties of mind and consciousness are a direct consequence of electrochemical interactions within the physical brain so mental activities are phenomenal manifestations of physical processes. The theory of isomorphism has its reflection in a neural theory of metaphor.

2.3. The takete and baluma experiment

Another phenomenon that has neurological basis is naming the objects and events in the world. Köhler conducted psychological experiments (Köhler 1929) in which he showed two figures of different shapes, one of them named 'takete' was jagged and the other 'baluma' had a rounded shape. Most people answered without hesitation that the figure with rounded contours was 'baluma' and the

jagged one ‘takete’. In 2001, Ramachandran and Hubbard repeated Köhler’s experiment, changing the names of stimuli for ‘kiki’ and ‘bouba’. The test was conducted with English and Tamil speakers and showed that 95% to 98 % chose the more rounded shape as ‘bouba’ and the jagged one as ‘kiki’. “The reason is that the sharp changes in visual direction of lines in the right-hand figure mimics the sharp phonemic inflections of the sound kiki, as well as the sharp inflection of the tongue on the palate” (Ramachandran & Hubbard 2001b: 19). Ramachandran and Hubbard propose the existence of synaesthetic maps in the brain or a kind of ‘sensory-to-motor synaesthesia’.

The non-arbitrariness between phonological and semantic structures was underlined by Langacker in Cognitive Grammar.

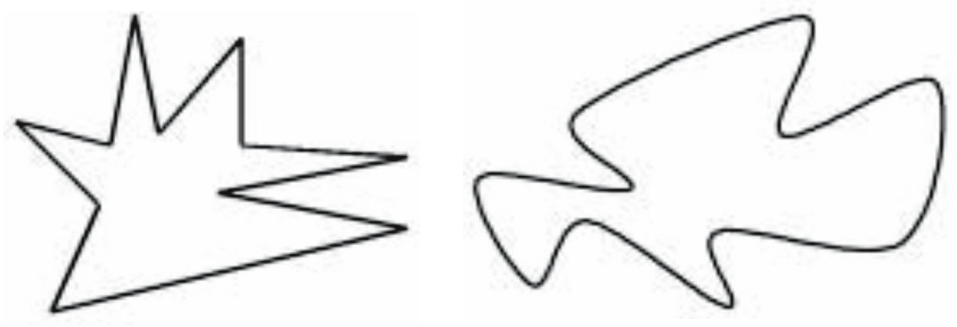


Figure 12. Demonstration of kiki and bouba

Because of the sharp inflection of the visual shape, subjects tend to map the name kiki onto the figure on the left, while the rounded contours of the figure on the right make it more like the rounded auditory inflection of bouba (Ramachandran and Hubbard 2001: 19).

ELEMENTS OF GESTALT PSYCHOLOGY IN AMERICAN COGNITIVE LINGUISTICS

Cognitive Linguistics is the study of the mind through language and the study of language as a cognitive function. Gestalt Psychology is a theory of mind and brain which proposes that the operational principle of the brain is holistic, parallel, and analog. Gestaltists claim that the whole is greater than the sum of its parts, which seems to be fundamental in science nowadays. Some of Gestalt laws and principles, such as figure-ground distinction and *Prägnanz*, are employed in Cognitive Linguistics.

3.1. The holistic view

To begin with, the holistic view of Gestaltists seems to be remarkably important in Cognitive Linguistics. It states that the sum of elements or parts is more than all of these elements gathered together. According to Gestalt Psychology, things, elements or entities, which are explored separately, mean less than the whole. The discovery is clearly noticeable in metaphors and idioms. Although every word in a sentence might be comprehensible, the meaning of the whole is more difficult to grasp. The theory implies that 'entities' belong to the 'the whole', therefore they should be discussed as complete wholes. Simultaneously, the concept of 'the whole' might include the knowledge, assumptions, experience, perception and linguistic heritage of people.

3.1.1. Experiential gestalts

In conceptual metaphors, domains of experience are organized as gestalts. For instance, in the metaphor LOVE IS WAR, a basic domain of experience like love is conceptualised and defined in terms of another basic domain of experience like war. Lakoff and Johnson (1980, Lakoff 1987) call these basic domains of experience 'experiential gestalts'. Experiential gestalts are structured wholes within our experience that "represent coherent organizations of our experiences in terms of natural dimensions (parts, stages, causes, etc.)" (Lakoff and Johnson 1980: 117). For Lakoff and Johnson (2003 [1980]: 117), natural kinds of experience rise out of our bodies and interactions with our physical environment and with other people. These include mental capacities, perceptual and motor apparatus; moving, manipulating objects; and cultural, social and religious factors. Concepts like LOVE, TIME, IDEAS "require metaphorical definition, since they are not clearly enough delineated in their own terms to satisfy the purposes of our day-to-day functioning" (Lakoff and Johnson 2003 [1980]: 118). Experiential gestalts involve also rituals, for example religious rituals, which are metaphorical and/or metonymic.

3.1.2. Idioms as gestalts

The holistic view pertains also to idioms, many of which are clearly based on conceptual metaphors such as TIME AS A SUBSTANCE, TIME AS A PATH, LOVE AS WAR or UP IS MORE. Lakoff (1977: 4) mentions idioms as "cases where the meaning of the whole is fixed by conventions of the language as being greater than the meaning of the parts. In fact, it is often the case that idiom chunks come to have meanings they do not otherwise have by virtue of being parts of idioms." Such examples as *a blue-eyed boy* and *kick the bucket* should be treated holistically, their parts cannot be decoded in isolation.

We can find idioms which are also metaphors or metaphor systems, for example *carrot and stick, rock the boat*, *spill the beans*, *ring a bell*. Those idioms

originated from culture, customs, tradition or even superstitions. They are 'dead', conventionalised in modern language, e.g. the expression *spill the beans* "may come from the time when the Ancient Greeks used to vote at elections by putting beans into a jar. The number of 'yes' and 'no' votes was kept secret until the beans were 'spilled' out of the jar" (Welton 2004: 9).

3.1.3. Conceptual Blending

Conceptual Blending is itself an example of the Gestalt principle that the whole is more than the sum of its parts. "The crucial insight of Blending Theory is that meaning construction typically involves integration of structure that gives rise to more than the sum of its parts" (Evans and Green 2006: 400). The blend functions as a gestalt as it contains information that is not provided by any of the input spaces. The blend is something more than its parts, which is clearly visible in the metaphoric blend *That surgeon is a butcher.* What should be emphasized is that language and thought are not additive. "In other words, meaning construction cannot rely solely upon 'simple' conceptual projection processes like structuring one conceptual region in terms of another, as in the case of conceptual metaphors, or establishing connectors between counterparts in mental spaces" (Evans and Green 2006: 402). In the input spaces of the blend *That surgeon is a butcher* there is no single trace that suggests the pejorative meaning of the whole. Yet, we understand its meaning at once without addition of other elements. It is a proof that the meaning of the whole is prior to the meanings of its component parts.

The cognitive operation of Conceptual Blending is inevitably driven by the principle that the whole is more than the sum of its parts, which is even more striking in visual perception, where input spaces of the blend do not necessarily give rise to the emergent structure of that blend and a new structure is created.

3.2. Figure and Ground

Furthermore, the concept of figure and ground in perception has influenced Cognitive Linguistics. Some theorists (Evans and Green 2006, Ungerer and Schmid 1996) consider it a very influential Gestalt principle, as the human mind seems to need to separate a dominant shape ('figure') from the background ('ground'). The same rule applies to the linguistic level. Evans and Green (2006: 17) compared two sentences:

- The cat is on the chair.
- The chair is under the cat.

Most English speakers will agree that the first sentence is an appropriate description, whereas the other, although perfectly grammatical, sounds 'odd'. The above example proves that "we have a tendency to focus our attention on certain aspects of a visual scene. The aspect we focus on is something about which we

can make certain predictions" (Evans and Green 2006: 18). '*The cat'* is the figure about which the human mind makes predictions that it moves, produces sounds and performs some other acts. These predictions are in accordance with human knowledge and organization of perception.

Evans and Green (2006) stress that it is a striking fact that language reflects perceptual organisation in the segregation of the spatial scenes. It is very well marked in cognitive approach to syntax:

• The bike is near [the house].

• ?[The house] is near the bike.

(Adapted from Evans & Green 2006: 69)

In the first sentence *the bike*, which is the figure, precedes the preposition *near*, while the reference object (the ground) *the house*, follows the preposition. The other example seems odd because it violates the figure-ground segregation and the Gestalt principle of smallness.

3.3. Context

From the figure-ground distinction the concept of context emerges. Context is highly important both in Gestalt Psychology and Cognitive Linguistics as it frames meaning. In visual communication the human visual system alternates between (usually two) options. It is clearly visible in the case of ambiguous figures (Gestalt law of multistability). The same process occurs at a language level, where perception selects more appropriate meaning. Considering the example taken from Ungerer and Schmid (2006: 43), we do not imagine a woman with a German shepherd but rather with a small lapdog.

• He opened the door to face a pretty young woman with a dog in her arms.

At this level it should be emphasized that the mechanism responsible for multistability seems to be different in visual perception. In ambiguous sentences we might focus our attention on one meaning, whereas in ambiguous figures it is usually highly impossible to hold our attention on one figure for a long time. There is always a shift between a figure and ground.

3.4. Prägnanz as a 'prototype gestalt'

Some researchers (Ungerer and Schmid 1996) claim that the fundamental principle of Gestalt perception is the law of Prägnanz (German for *conciseness*), which says that human beings tend to order their experience in a regular, orderly, symmetric, and simple manner. It plays an important role in categorization and goodness rating, where 'good examples' of a category are 'good gestalts' with a high degree of Prägnanz. First of all, the objects are perceived as integral wholes, but their parts are crucial in establishing a prototypical gestalt. Gestalt principles are not reduced only to shape, color and other visual attributes, but also include

functions of a particular part of an object. "If a gestalt is organized according to the gestalt principles and includes the functional parts of an item in functionally balanced proportions, it may be regarded as a 'prototype gestalt'" (Ungerer and Schmid 1996: 41). For example, the prototype gestalt of a teddy bear, besides its typical shape and brown colour, evokes the impression of softness and indicates its main function, that it is a toy hugged by a child (Ungerer and Schmid 1996: 37).

A cognitive model is a good gestalt if it is easy to remember and use. Cognitive structure is organized in terms of good gestalts because it maximizes cognitive efficiency (Lakoff 1987: 538). In radial categories, a concept of a good gestalt does not only depend on the prototypical center, but on overall cognitive organization. The principle of a good gestalt is global for grammatical constructions. "To be a good gestalt, a construction must fit well into the linguistic and conceptual system as a whole" (Lakoff 1987: 539).

The notion of a good gestalt also appears in Conceptual Metonymy. Considering metonymy as a reference-point phenomenon (Langacker 1993), there are a number of cognitive and communicative principles in order to account for the selection of a vehicle for metonymic relationships. These principles might be divided into: Human experience, Perceptual selectivity, Cultural preferences and Communicative principles (Evans and Green 2006: 319). Among principles of Perceptual selectivity, there is GOOD GESTALT OVER POOR GESTALT.

3.5. Closure

Another well-known Gestalt principle, explored in Cognitive Linguistics, is closure, which is a tendency to produce 'closed' rather than 'open' figures. It can be observed in sentences and discourses which are supposed to be syntactically and meaningfully complementary. If given information is insufficient or if there is lack of information, human beings tend to the law of closure, strive for meaning.

3.6. Image schemas as schematic gestalts

Beate Hampe's research on image schemas (Hampe 2005) shows that they are highly schematic gestalts which integrate information from multiple modalities. They are internally structured and highly flexible. "This flexibility becomes manifest in the numerous transformations they undergo in various experiential contexts, all of which are closely related to perceptual (gestalt) principles" (Hampe 2005: 2). Albertazzi (2000: 16-17) distinguishes the following Gestalt schemas that structure cognitive space:

1. PROFILE / BASE

– there are four relations that operate within this scheme: inclusion, coincidence, separation and proximity,

2. SCANNING

– trajectory and landmark,

– two types of scanning: 'sequential', where the focus is on the progressive change of one situation into another (e.g. 'falling'), and 'additive', "where all events are considered as coexistent and simultaneous (e.g. 'fallen')" (Albertazzi 2000:17),

3. VIEWPOINT

– the spot chosen for observation of the scene (figure and ground; orientation; horizontal and vertical axis),

4. DISTRIBUTION OF ATTENTION

– the modes of considering the scene (ways of considering the scene),

5. FORCE DYNAMICS

– the forces exerted by the elements of the scene on each other.

The gestalt schemas never appear in isolation, but some of them may be overridden by others.

Image schemas often consist of more complex aspects than can be analyzed separately. For example, "a container schema has the following structure: an inside, a boundary, and an outside. This is a gestalt structure, in the sense that the parts make no sense without the whole" (Lakoff and Johnson 1999: 32). Another example is a SOURCE-PATH-GOAL schema, which consists of a starting point or SOURCE, a destination or GOAL and a series of contiguous locations in between which relate the source and goal. (Evans and Green 2006: 185). "Like all complex image schemas, the PATH schema constitutes an experiential Gestalt: it has internal structure but emerges as a coherent whole" (Evans and Green 2006: 185).

3.7. Isomorphism and neural theory of metaphor

There is an analogy between the Gestalt Theory of isomorphism and neural theory of metaphor. Although Köhler (1920: 193) mentions atoms and molecules as elements of the brain instead of neurons and synapses, the essence remains the same. Conceptual Blending is not the only neural phenomenon, other processes like Conceptual Metonymy or Conceptual Blending also have their reflection in neuronal system.

To conclude, Cognitive Linguistics includes some elements of Gestalt Psychology, which are of great importance, not only to Cognitive Linguistics, but all cognitive sciences. What is more, some scientists (Lehar 2003) state that Gestalt laws and principles have been underestimated so far and consequently the whole theory should be given careful consideration.

REFERENCES

Special Studies

Albertazzi L. (2000) "Which semantics?" In: Albertazzi L. (2000) *Meaning and Cognition: A Multidisciplinary Approach*. Amsterdam: Benjamins. (pp. 1–24).

Arnheim R. (1992) "The Two Faces of Gestalt Theory". In: Arnheim R. (ed.), (1992) *To the Rescue of Art: Twenty-Six Essays*. Berkeley: University of California Press. (pp. 206–214).

Arnheim R. (1992) "What is Gestalt Psychology". In: Arnheim R. (ed.), (1992) *To the Rescue of Art: Twenty-Six Essays*. Berkeley: University of California Press. (pp. 200–205).

Croft W. & Cruse D.A. (2004). *Cognitive Linguistics*. Cambridge UP.

Ehrenfels C.V. (1890) "On 'Gestalt Qualities'". English translation of "Uber 'GestaltqualiUiten'", *Vierteljahrsschrift fur wissenschaftliche Philosophie*, 14, 1890, 249–292.

Evans V. (2007) *A Glossary of Cognitive Linguistics*. Edinburgh: Edinburgh University Press.

Evans V. & Green M. (2006) *Cognitive Linguistics: An Introduction*. Mahwah, NJ and Edinburgh: Lawrence Erlbaum Associates/Edinburgh University Press.

Fauconnier G. (1985) *Mental Spaces: Aspects of Meaning Construction in Natural Language*. Cambridge, Mass.: MIT Press.

Fauconnier G. (1997) *Mapping in Thought and Language.* Cambridge: Cambridge University Press.

Fauconnier G. (2007) "Mental Spaces". In: Geeraerts D. and Cuyckens H. (ed.), (2007) *Oxford Handbook of Cognitive Linguistics*. Oxford University Press. (pp. 351–376).

Fauconnier G. & Turner M. (2002) *The Way We Think: Conceptual Blending and The Mind's Hidden Complexities*. New York: Basic Books.

Geeraerts D. "Introduction: A rough guide to Cognitive Linguistics". In: Geeraerts D. (ed.) (2006) *Cognitive Linguistics: Basic Readings*. Berlin: Mouton de Gruyter. (pp. 1–28).

Geeaerts D. & Cuyckens (2007) "Introducing Cognitive Linguistics" In: Geeaerts D. & Cuyckens (2007) *The Oxford Handbook of Cognitive Linguistics*. Oxford University Press. (pp. 3–21).

Hampe B. (2005) *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter.

Hampton J. (1991) "The Combination of prototype concepts". In: P. Schwanenflugel (ed.) *The Psychology of Word Meanings*. Hillsdale, NJ, England: Lawrence Erlbaum Associates. (pp. 91–116).

Hartmann G.W. & Poffenberg A.T. (2006 [1935]) *Gestalt Psychology: A Survey of Facts and Principles*. The Ronald Press Company. New York.

Johnson M. (1987) *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*, Chicago: University of Chicago.

Jung C.G. (1981) *The Archetypes and The Collective Unconscious*. Princeton: Princeton University Press.

Koffka K. (1935) *Principles of Gestalt Psychology*. New York: Harcourt, Brace, and Comp., London: Kegan Paul, repr. 1963.

Köhler W. (1947) *Gestalt Psychology: An Introduction to New Concepts in Modern Psychology*, New York: Liveright Publishing Corporation.

Köhler W. (1969) *The Task of Gestalt Psychology*. Princeton, New Jersey Princeton University Press.

Kovecses Z. (2005) *Metaphor in Culture: Universality and Variation*. Cambridge University Press.

Lakoff G. "Linguistic Gestalts". In: Beach W.A., Fox S.E., Philosoph S. (eds.), *Papers from the Thirteenth Regional Meeting, Chicago Linguistic Society*, April 14–16, 1977, Chicago Linguistic Society, University of Chicago, Chicago, Illinois 1977. (pp. 236–287).

Lakoff G. (1987) *Women, Fire and Dangerous Things: What Categories Reveal About the Mind*. Chicago: University of Chicago Press.

Lakoff G. & Johnson M. (2003 [1980]) *Metaphors We Live By*. Chicago: The University of Chicago Press.

Lakoff G. & Johnson M. (1999) *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought*. New York: Basic Books.

Langacker R.W. (1987a) *Foundations of Cognitive Grammar Vol. 1: Theoretical Prerequisites*. Stanford: Stanford University Press (1991a) *Foundations of Cognitive Grammar Vol. 2: Descriptive Application*, Stanford: Stanford University Press.

Langacker R.W. (1999) *Grammar and Conceptualization*. Berlin; New York: Mouton de Gruyter.

Langacker R.W. (2006) "Introduction to Concept, Image, and Symbol". In: Geeraerts D. (2006). *Cognitive Linguistics: Basic Readings*. Berlin: Mouton de Gruyter. (pp. 29–67).

Langacker R.W. (2008) "Cognitive Grammar as a Basis for Language Instruction". In: Robinson P. and Ellis N.C. (2008) *Handbook of Cognitive Linguistics & Second Language Acquisition*. Routledge Taylor & Francis. (pp. 66–88).

Lee D. (2001) *Cognitive Linguistics: An Introduction*. Oxford, New York: Oxford University Press.

Lehar S. (2003) *The World in Your Head*. New Jersey: L. Erlbaum Publishers.

Maddox C. (1995) *Salvador Dali: 1904–1989: ekscentryk i geniusz*. Köln: Benedikt Taschen.

Mulder W. de (2007) "Force Dynamics". In: Geeaerts D. & Cuyckens (ed.) (2007) *The Oxford Handbook of Cognitive Linguistics*. Oxford: Oxford University Press. (pp. 294–317).

Sommer E. (ed.) (2001) *Metaphors Dictionary*. Detroit: Visible Ink Press.

Szewczuk W. (1951) *Teoria postaci i psychologia postaci*. Warszawa: Naukowe Towarzystwo Pedagogiczne.

Talmy L. (1988). Force Dynamics in Language and Cognition. *Cognitive Science* 12: 49–100.

Talmy L. (2000). *Toward a Cognitive Semantics – Vol. 1*. The MIT Press.

Taylor J.R. (2002) *Cognitive Grammar*. Oxford: Oxford University Press.

Ungerer F. & Schmid H.-J. (1996) *Introduction to Cognitive Linguistics*. London: Longman.

Welton J. (2004). *What did you say? What do you mean? An illustrated guide to understanding metaphors*. London and Philadelphia: Jessica Kingsley Publishers.

Wertheimer M. (1923) "Laws of Organization in Perceptual Forms". In: Ellis W. (ed.) (1938) *A Source Book of Gestalt Psychology*. London: Routledge & Kegan Paul. (pp. 71–88).

Wertheimer M. (1938) "Gestalt Theory". In: Ellis W. (ed.) (1997) *A Source Book of Gestalt Psychology*. London: Routledge & Kegan Paul. (pp. 1–11).

Wildgen W. (1998) "The History and Future of Field Semantics. From Giordano Bruno to Dynamic Semantics". In: Albertazzi L. (ed.) (2000): *Meaning and Cognition: A Multidisciplinary Approach*. Amsterdam: Benjamins. (pp. 203–226).

References quoted after other sources

Berlin B. & Kay P. (1969) Basic Color Terms: Their Universality and Evolution. Berkeley: University of California Press. In: Ungerer F. & Schmid H.-J. (1996) *Introduction to Cognitive Linguistics*. London: Longman.

Goethe J.W. (1772). In: Wildgen W. (1988) "The History and Future of Field Semantics. From Giordano Bruno to Dynamic Semantics". In: Albertazzi L. (ed.) (2000): *Meaning and cognition. A multidisciplinary approach*. Amsterdam: Benjamins.

Köhler W. (1920) *Die physischen Gestalten in Ruhe und im stationären Zustand. Eine naturphilosophische Untersuchung*. In: Luchins A.S. & Luchins E.H. (1999) *Isomorphism in Gestalt Theory: Comparison of Wertheimer's and Köhler's Concepts*.

Köhler W. (1929) *Gestalt Psychology*. New York. In: Ramachandran V.S & Hubbaard E.M. (2001b) *Synaesthesia: A window into perception, thought and language*.

Piaget J. (1929) The child's conception of the world. London: Routledge & Kegan Paul.

Wertheimer M. (1912) *Experimental Studies on the Seeing of Motion*. In: Köhler W. (1969) *The Task of Gestalt Psychology*. Princeton, New Jersey Princeton University Press.

Wildgen W. (2005) *The relevance of dynamic systems theory for cognitive linguistics. Interdisciplinary Themes in Cognitive Language Research Symposium*. University of Helsinki and FiCLA November 25–26, 2005.

Wittgenstein L. (1953) *Philosophical Investigations*. New York: Macmillan. 1980. *Culture and value*, trans. P. Winch. Chicago: University of Chicago Press. In: Croft W. & Cruse D.A. (2004). Cognitive Linguistics. Cambridge UP.

Internet sources

Kant I. (1783) *Prolegomena*. http://www.webexhibits.org/causesofcolor/ref/Kant.html. *[Accessed January 2009]*.

Koffka K. (1922) Perception: An introduction to the Gestalt-theorie. http://psychclassics.yorku.ca/Koffka/Perception/perception.htm. [Accessed November 2008].

Köhler W. (1959) *Gestalt Psychology Today*. American Psychologist, 14. (pp. 727–734). http://psychclassics.yorku.ca/Kohler/today.htm.

Lehar S. (1992) *Gestalt Isomorphism and the Primacy of the Subjective Conscious Experience: A Gestalt Bubble Model*. Submitted: Behavioral and Brain Sciences September 1999, under review. http://cns-alumni.bu.edu/pub/slehar/webstuff/bubw2/bubw2.html. [Accessed January 2009].

Luchins A.S. & Luchins E.H. (1999) *Isomorphism in Gestalt Theory: Comparison of Wertheimer's and Köhler's Concepts*. http://www.gestalttheory.net/archive/luch_iso1.html. [Accesssed December 2008].

Pedroza C. (2004) *Visual Perception: Gestalt Laws*. The Encyclopedia of Educational Technology, San Diego State University. http://coe.sdsu.edu/eet/articles/visualperc1/start.htm. [Accessed February 2009].

Ramachandran V.S & Hubbaard E.M. (2001b). *Synaesthesia: A window into perception, thought and language. Journal of Consciousness Studies*, 8, No. 12, 2001. (pp. 3–34). http://cbc.ucsd.edu/pdf/Synaesthesia%20-%20JCS.pdf. [Accessed February 2009].

Saussure F. de. *Course in General Linguistics*. http://en.wikipedia.org/wiki/Course_in_General_Linguistics#The_Sign. [Accessed January 2009].

Todorovic D. (2008), Scholarpedia, 3(12):5345. http://www.scholarpedia.org/article/Gestalt_principles [Accessed December 2008].

http://en.wikipedia.org/wiki/Charles_Allan_Gilbert [Accessed December 2008].

http://thedali.org/exhibits/highlights/slave_market_with_the_disappearing_bust_of_voltaire.php [Accessed February 2009].

SUMMARY

The paper is a presentation of American Cognitive Linguistics, Gestalt Psychology and their common elements. The first part concerns Cognitive Linguistics on American ground, the birth, basic assumptions and the main theories of its early phase. The second part introduces the notion of Gestalt Psychology, its birth, laws and principles governing human perception. The third part is a summary of the previous two parts and is a presentation of distinguished elements of Gestalt Psychology in Cognitive Linguistics.

STRESZCZENIE

Niniejsza praca jest prezentacją amerykańskiego językoznawstwa kognitywnego, psychologii postaci (*Gestalt*) oraz ich elementów wspólnych. Część pierwsza dotyczy językoznawstwa kognitywnego na gruncie amerykańskim, przedstawione zostały narodziny, założenia i główne teorie jego wczesnej fazy. Rozdział drugi przedstawia nurt psychologii postaci, jej powstanie, podstawowe założenia, prawa i zasady rządzące percepcją człowieka. Część trzecia stanowi podsumowanie dwóch poprzednich części i prezentuje wyodrębnione elementy psychologii *Gestalt* w językoznawstwie kognitywnym.