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Chapter

Cognitive Semiotics and Conceptual Blend: A Case Study from *The Crying of Lot 49*

Marta Silvera-Roig

Abstract

Cognitive semiotics has been defined by the linguist Jordan Zlatev as "the need to unify or at least to 'defragment' our world-views, the need to come to terms with increasingly higher levels of dynamism and complexity". If we consider, as it is clear from the second cognitive revolution, when embodiment claimed its leading role, that meaning emerges from the constant interaction of body-brain-environment, we need to redefine the field that asks "what is meaning and how does it emerge." New theories about metaphors as neural nodes and image schemas would shed light over the emergence of meaning in human communication, and, to do so, the study of conceptual blends as essential cognitive tools and as an integrative theory should be put in the center of the debate. In words of Brandt and Brandt, "blends occur as signs and are therefore a natural subject of cognitive semiotics". Here, we will represent the emergence of meaning in a blend from the highly dynamic and complex narrative *The Crying of Lot 49* by Pynchon and propose a conceptual story (or mental space sequence of the story) of the mentioned blend.

Keywords: cognitive semiotics, conceptual metaphor, conceptual blend, biopoetics, Pynchon

1. Existing models: conceptual metaphor theory and conceptual blending theory

One of the most influential treatises of cognitive linguistics, and thus cognitive semiotics, is *Metaphors We Live By* by George Lakoff and Mark Johnson, where the foundations of the conceptual metaphor theory are laid ([1], pp. 18–19). Lakoff, along with other linguists [2–5], extracts evidence of everyday conventional linguistic expressions to argue the existence of metaphorical relationships or mapping between conceptual domains (or idealized cognitive models) in the human mind. One of the objectives of this theory is to point out the metaphorical mappings between domains and how these guide human thinking and behavior, as it is reflected in its application in literature [5], philosophy [6, 7], mathematics [8], and even politics [9].

According to this theory, in a conceptual metaphor, we understand a domain in terms of another: CONCEPTUAL DOMAIN (A) IS CONCEPTUAL DOMAIN (B). These two domains receive the name of source domain and target domain. Examples of source domains are travel, war, food, or plants, and examples of target

domains are ideas, theories, love, or life. Langacker [10] calls the domains rooted in direct human experiences as basic domains and those considered as abstract non-basic domains. One of the most important characteristics of the conceptual metaphor is that even our most abstract knowledge has a direct hook on our human experience. The central core of the conceptual metaphor theory is based on the fact that the metaphor is not a property of individual linguistic expressions and their meanings but of the conceptual domains. In principle, any concept from a source domain (where the literal meaning of the expression lies) can describe a concept in the target domain [11].

In Lakoff's words, regarding the conceptual metaphor LOVE IS A JOURNEY, what constitutes the metaphor is not a word or an expression, it is the ontological mapping between conceptual domains from the source domain of travel to the target domain of love. Metaphors are not just a characteristic of language but of thought and reason. Language is secondary. The mapping is primary in that the use of language of the source domains is limited and creates patterns for the concepts of the target domain. The mapping is conventional, since it is a fixed part of our conceptual system, one of the conventional ways of conceptualizing love relationships [3]. A conventional metaphor is, therefore, a recurring conceptual mapping between two domains. The mapping is asymmetric: the metaphorical expression outlines a conceptual structure in the target domain, not in the source domain. Cross-domain mapping involves two types of correspondences: epistemic and ontological. The ontological correspondences are maintained between elements of a domain and elements from another domain; epistemic correspondences are correspondences between element relations in one domain and element relations in another domain. As exemplified by Lakoff [2] in the metaphor ANGER IS HEAT ON A FLUID, the correspondence between the source domain "heat of fluid" and the target domain "anger" is ontological, while the correspondence between "when fluid in a container is heated beyond a certain limit, pressure increases to point at which container explodes" and "when anger increases beyond a certain limit, 'pressure' increases to point at which person loses control" is epistemic.

According to the principle of invariance, image schemas (mental patterns of our bodily experience which provide structure to other experiences) that characterize the source domains are mapped into target domains. This metaphorical mapping preserves the cognitive topology (the structure of the image schema) of the source domain in a consistent fashion with the structure of the target domain. According to Lakoff (as cited in [12]), the principle of invariance does not guarantee that, for example, in the scheme CONTAINER, interiors are mapped on interiors, exteriors on exteriors, and edges on edges. Therefore, to correctly understand the principle, it is important not to think of mappings as algorithmic processes that begin with a structure of source domain and end with a target domain structure. Instead of this, we must understand the principle of invariance in terms of limitations in fixed correspondences: the interiors of the source domain correspond to the interiors of the target domain, and the exteriors of the source domain correspond to the exteriors of the target domain, etc. Therefore, according to Lakoff [3], the structure of the image scheme of the target domain cannot be violated: there will be no cases in which, for example, the interior of a source domain is mapped on the exterior of a target domain. In addition, according to the principle of invariance, the inherent structure of the target domain limits the possibilities of mapping. For example, in the metaphor ACTIONS ARE TRANSFERS, our inherent knowledge tells us that actions do not continue to exist after they are made (if, for example, we give someone a kick, that kick exists at the moment it is given). In this metaphor our actions are conceptualized as objects that are transferred from one person to another, but we know (as part of our knowledge about the target domain) that an

action does not persist after occurring. Thus, in the source domain, there is the action of giving (in which that who receives the object owns it after being given), but this cannot be mapped on the target domain since according to its inherent structure, this object does not exist once the action has finished.

Although many conventional or everyday metaphors are based on the daily human experience, novel metaphors are not (and some conventional metaphors either). Croft and Cruse [13] suggest that even conventional metaphors require a *blending* of richer structures than the structure of the image schema between source domain and target domain and add that the difference between conventional metaphor and novel metaphor is only a difference of degree. For this reason, the study of novel, more complex, and creative metaphors (such as the ones found in narratives) is of vital importance to understand the depths of conceptual metaphors and conceptual blends. In *The Crying of Lot 49*, several possible scenarios are activated by the reader. The projection of all of them at the same time creates a juxtaposition of mental spaces (or frames), thus creating a new one where all of them are competing possibilities: if we consider a blend as an essential and unique tool of human cognition, the ability to recognize the mentioned juxtaposition is the recognition of the blend itself.

Considered a fundamental theory of cognitive linguistics, conceptual blending [14] is no match for the conceptual metaphor theory but presupposes it [15]. While conceptual metaphors operate with two domains and correspondences between them and is a permanent structure, blending operates with four mental spaces that are partial and temporal representational structures. Nevertheless, the latter has an element of conventionality, as explained by Fauconnier and Turner that "dynamically, the input spaces and the blends under construction employ structure of more stable, elaborate and conventional conceptual structures" ([14], p. 115).

Blending spaces are like the domains of the conceptual metaphor but more partial. They add to these domains a generic space that represents what the source and target domains have in common and a blended space where selected conceptual materials from the mental spaces combine to form a new structure. As described by Grady et al., "in a metaphorical blend, the prominent equivalents of the input spaces are projected into one element of the blended space – they 'merge'. A single element from the blend corresponds to an element in each of the spaces" ([15], p. 114). However, and as the most important feature, the blended space not only contains a selection of properties from each input domain: it also contains new conceptual material arising from a blend elaboration based on encyclopedic knowledge.

In our case study, a mental space functioning as a generic space is the solution to a mystery: as the narrative is activated, the plot guides us through an expected resolution (a common expectation of conventional stories). Each possibility presented to us is a temporal mental space, and the blended space is where the new meaning emerges: here we are confronted with four inputs that are four different explanations of a "same reality," and the blended space is the interpretation problem itself, the impossibility of a resolution. This awareness of the problem with pondering different interpretations of reality might be at the core of what makes us unique as humans and the evolutionary precursor of language itself.

2. Embodied semiotic processes are complex processes

The relationship established by semiotician René Thom between topology, biology, and semiotics penetrated in some branches of structural semiotics and semio-linguistics in the 1980s. The catastrophe topology was interpreted and applied as a model in the semiotic analysis, thus translating constituents of grammar into logical formats. Even if this application caused epistemological

problems, it also contributed to the "epistemological naturalization" of the semiotic framework:

> *Meaning was already seen as 'deeper' than its manifested phenomenon; now it was more drastically separated from language and discourse, and conceived as grounded in the biological nature, i.e. the cognitive neurobiology of the human mind. Here, meaning is what happens in the naturally pre-structured mind of persons when they actively or passively perceive or conceive some entity, or when they express something and 'mean' what they express. ([16], p. 220).*

As Lakoff and Johnson [7] affirm, our conscious processes are built on functions that serve to control our embodied minds and movements in space, hence, the structural characteristic of the metaphor and its biological hook in narratives. On the other hand, also feelings represent both mental and bodily states, and their processes take place through innate provisions. For this reason, an approach that assumes that human experiences are closely linked to certain specifications of the embodied mind is an integrative approach, in contrast to the classical semiotic models that presuppose an approximation of abstract language to interpretation, without specifying how emotion, perception, cognition, and actions are part of a psychophysical totality [17]. Besides, as explained in *The Whole Creature* by Wheeler [18], emergent complexity is the heart of both natural and cultural systems, which are semiotic processes.

That being said, can blend theory help us to discern how different mental spaces in the conceptual, prelinguistic mind are able to make new meanings emerge, considering not only the dynamically functioning culture and biological constraints but also the emotional states that are now considered by neuroscience a game changer? What is more, if meaning in the pre-structured mind—as Brandt calls it—is at the preconceptual and conceptual levels influenced by emotions as new studies suggest [19], are the existing models enough to explain meaning emergence? Embodied semiotic processes are complex processes, and the models representing their mechanisms should be inclusive to begin with.

3. Complexity and conceptual blending

Chaos theories speak of a deterministic (paradoxically) chaos; since there is order in the disorder, there is a profound—though sometimes inaccurate—connection between all systems at all levels of its dynamic. According to Gregersen [20], there are, however, differences between chaos theories and complexity theories. Complexity studies try to understand the principles that guide complex systems in order to try to explain how structures are self-organized and ordered without a conscious control organizing the process. These structures arise, are maintained, and develop in a process driven by local agents within the system, and the twists and distortions of this agents produce, very often, consequences that affect the entire system. Complexity theories try to understand these rules of order propagation in "real-world" systems, both natural and social.

Both research on complexity and chaos theories deal with nonlinear processes in which small and simple inputs can generate larger and complex outputs. It is easy to think here in the different dynamics produced by the image-schema relations and the most complex blends both in oral everyday language and in narratives as self-organized systems: while the various trajectories of chaotic systems are highly contingent on the exact values from the initial conditions, complex self-organized systems may arise from a wide variation of initial conditions.

What do we mean by the nonlinearity of a system? Said in a very simple way, particular effects cannot be assigned with particular causal components because all the components interact with each other. Here, we can easily see an example of what we find in conceptual blending: inputs do not only give place to a blended space, they do it dynamically for their interaction, which is continuous and subject to change (different interpretations through time, emotional states of the mind activating the blend, and the type of context which surrounds it are all variables that influence the emergence of meaning). We can differentiate blends in their material expression and even describe how they function—old and new hermeneutic theories about meaning construction cannot be ignored—and the conceptual blending model offers a description of the different parts conforming to them. However, one can only see that we are at the doors of something bigger.

Could this lack of equilibrium explain the poetic vibrance and esthetic experience of the macro-blend we will describe later in this paper? Cognitive semiotics should include this kind of questions in its quest. The highest levels of complex self-organized systems, despite arising from local and simple initial conditions—"never ignoring, of course, the' bottom-up 'effects of parts on wholes which depend for their properties on the parts being what they are" ([21], p. 191)— continue to influence the lower levels, and these over others. In this way, the whole is greater than the sum of the parts: the blended space is not just the sum of the different inputs that conform to it.

In *The Way We Think*, Fauconnier and Turner [22] attribute this characteristic of the blended space to the emergence of meaning in the blend integration model; thus, new meanings are the imaginative products of blending, whether simple or complex, and they are not predictable in the ways that evoke them. The mapping schemes, however, are predictable in the forms of language used to evoke them that are explained in the description of the blend model itself as described by Turner and Fauconnier. The meaning of "the whole" is not predictable from the meaning of the parts, but the mapping scheme of "the whole" is predictable from the mapping schemes of the parties. That is how the blending process is described: this compositional aspect of the forms is an exceptionally ingenious, useful, and efficient characteristic of the forms that guide meaning. This must be proven, however, in studies designed from neuroscience in all kind of forms of human communication, and not just in linguistic constructions made ad hoc.

4. Meaning in postmodern narratives: the approach to cognitive semiotics from biopoetics

Living beings are organized as immensely complex dynamic hierarchies where immensity is defined in an infinite number of possibilities too broad to cover and whose complex nature implies that they, as we have mentioned before, cannot be modeled in a reductionist way. Biological hierarchies reach these immense complexities through chaotic emergency processes [23]. The visible characteristics of postmodernism are closely linked to this immeasurable breadth that is living: the nonlinear dimension of existence. The unpredictable nature of dynamic systems and the inability to determine or establish a stable origin mark the postmodernist literature—this paradigmatic shift towards disorder was analogous in literature and science [24].

According to Katherine Hayles [25], dealing with complex self-organized systems, chaos is a precursor to order, and not the opposite: from chaos spontaneous emergency emerges and dissipative structures arise from systems far from equilibrium [26]. In the words of Lotman [27], "self-organization processes in

far-from-equilibrium conditions correspond to a delicate interplay between chance and necessity, between fluctuations and deterministic laws. We expect that near a bifurcation, fluctuations or random elements would play an important role, while between bifurcations the deterministic aspects would become dominant". We must notice that chaos differs from real arbitrariness in that the first one contains deep coding structures called strange attractors. Where real arbitrariness systems show no discernible patterns when mapped in the phasic space, chaotic systems trace complex patterns on it. For Guerra [28], the poetic text as a complex adaptive system is the richest unit in information and affordances. Therefore, the high order of complexity of the text can be seen as a cognitive biocultural motivation to investigate the complex human poetics as life sciences (dynamic niche that occupies now, after its emergence in the second revolution of cognitive sciences, biopoetic studies). The complex patterns found in *The Crying of Lot 49* can be described through the consistent image-schema relations motivated by emotions [29], the pervasive conceptual metaphors [30], and conceptual blends. Once the models from cognitive linguistics meet biopoetic concerns with the necessity of including complex theory ideas, we will be able to describe the patterns found in the blends. The example we refer to in this paper is a representation of the different blends in the narrative sharing blended spaces as spaces of impossibility.

Meaning integration models operate under the idea that language does not contain meaning but that we access the latter through the former. Thus, language is the product, not of a structural system separated from the brain but of general cognitive processes with which the human mind conceptualizes experience, called embodied understanding by cognitive linguistics [6]. This way, the conceptual metaphors and blends offer the basis of a literature theory rooted in cognitive linguistics. Such as Freeman [31] declares, literary texts are the products of the cognitive minds and their interpretations, the products of other cognitive minds in the context of the physical and sociocultural worlds in which they have been created and read, and there is a need to include these dimensions in the existing models.

Fauconnier and Turner [22] explain in *The Way We Think* that human beings have the most effective abilities for meaning construction and, therefore, for the creation of the most elaborated forms (language, art, music, mathematics, etc.). By themselves, forms are hollow, but they do contain the potential that can be unfolded in dynamic and imaginative ways. Behind the form there is the human power to construct meaning, and the operations found at the heart of meaning are identity, integration, and imagination. Identity has to do with recognizing similarity or equivalence, which is an imaginative and complex unconscious task; identity and opposition and similarity and difference are accessible through consciousness after an elaborated process. Integration consists on finding identities and oppositions; it is part of a much more complex process of conceptual integration, with dynamic and structural properties and operational restrictions. Identity and integration cannot account by themselves the meaning of imagination. Even in the absence of external stimuli, the brain can carry out imaginative simulations: the imaginative processes are always functioning, even in the simplest meaning constructions ([22], pp. 5–6). In fact, when we approach a poetic text, as Burke [32] notices, these processes are active during all the phases of the "literary reading loop," that is, during pre-reading, post-reading, and no-reading of a literary text. According to Burke's oceanic mind theory, the reading process of a literary text highlights the relevance of the unconscious affective cognition and implicit memory (which takes place together with the conscious cognitive emotion and explicit memory).

The integration models proposed in *The Way We Think* [22] depend on what organizing frames or related elements get projected into the blended space and

which of them becomes the dominant one. One may distinguish four types of blends or networks of an increasing level of complexity: simplex networks, mirror networks, single-scope networks, and double-scope networks. In my analysis in this paper, I will only refer to the most complex network, the double-scope network. A double-scope network is one in which two or more input spaces have different frames, and a combination of these frames becomes the organizing frame for the blend. Double-scope blending can resolve clashes between inputs that differ fundamentally in content and topology, and this is considered an essential tool for human creativity. In the example of this paper, I will show what Turner calls double-scope story, in the form of a four-scope story. "Running two stories mentally, when we should be absorbed by only one, and blending them when they should be kept apart, is at the root of what makes us human" [33]. Here, we will see how three stories clash together to create uncertainty: the stories function, epistemically, as possibilities.

5. Biopoetics

Biopoetics integrates studies of complex semiotic systems, such as the literary system, evolutionary psychology, and cognitive sciences, from the essentially dynamic theoretical framework of the complexity sciences. One of its objectives is to explain how narratives arise from (and reinforce) the adaptive features of being human. As Marshall [34] states, the universality of narratives suggests an important adaptive objective in human evolution. Some of the hypotheses regarding this suggest that narratives prepare us for specific situations and they contribute to our ability to predict or understand thoughts, feelings, motives, and reactions of others (what psychologists call theory of mind) and to understand that others may perceive something differently from us. Understanding that others may not perceive something as we do is a very complex and sophisticated mental operation, and narratives train us in the notion that many misunderstandings and dissonances arise from this fact. Therefore, narratives meet our needs as an ultra-social species, helping us manage the abundant interpersonal interactions of our daily life. Thus, as Guerra [35] affirms, the importance of biopoetics lies in the fact that it is a primary theory of metacognition. Biopoetics aims to investigate the morphodynamics of natural and artistic language, and of any semiotic system, as a complex bio-social adaptive system. Paradoxically, in this biocultural evolution, academics and artists are experientially located in a metacognitive scaffolding; in the words of Guerra "we are what we make as 'us', more properly, I am what I make as 'us'" ([35], p. 849).

In my thesis, *Biopoetics, cognition and emotion: conceptual integration and emergence in Thomas Pynchon's "The Crying of Lot 49"* [30], I established an approach from biopoetics to the spatial organization of the poetic act. Thus, I proposed that action in space motivates nuclear metaphors and blends that make possible the construction of new meaning. From spatial image schemas, the mental spaces that construct concepts such as entropy and emotion are our basis to observe the cognitive-affective organization of the narrative system. In the thesis I presented a list of 131 conceptual metaphors of the analyzed linguistic metaphorical expressions, a classification according to their target domain and corresponding source domain, the metaphorical focus, and the mappings between source and target domains. This part served as the scaffolding to explain how the conceptual metaphors behave and evolve in the course of the novel and the four-scope story in which several mental spaces projections create a new space of emerging meaning. I will present the mentioned blends in the next section [36].

6. Blend analysis

In the following, I present the narrative context of the blend together with references to the conceptual metaphors (in capital letters) that guide meaning: In the sixth chapter, the main character Oedipa Maas has lost the ones who could have help her in her search for meaning, her psychiatrist is mad, her husband is under the effects of LSD, her lover Metzger is now with an underage girl, and Driblette, the director of the play, has died. For this reason, Oedipa keeps on feeling she is lost: LOST IS BEING ALONE (235).[1] Oedipa attends then to Driblette's funeral; Driblette has committed suicide by drowning in the Pacific. Besides his tomb, Oedipa tries to communicate with him: PROTEIN IN AN OBJECT OEDIPA TRIES TO REACH (240), WINGED SHAPE IS AN OBJECT INSIDE QUIESCENCE, QUIESCENCE IS AN OBJECT INSIDE PROTEIN (239, 240, 243). Oedipa waits for some information to get out from the earth, but nothing happens. In the labyrinth where information dwells (the reason why Driblette added two lines about Trystero in the theater play), also dwells the reason of his suicide: LABYRINTH IS A CONTAINER FOR INFORMATION (248). Again, information's meaning is unreachable.

The possibility of having found something real in Trystero is, for Oedipa, STUMBLE ONTO A DREAM, ONTO A NETWORK OF COMMUNICATION, ONTO ALTERNATIVE TO EXITLESSNESS, ONTO ALTERNATIVE TO THE ABSENCE OF SURPRISE. However, there exist three equally possible alternatives: that it all is a hallucination, a plot, or that she is imagining there is a plot. When these four mental spaces are projected in the blend, as we can see below, we find that Oedipa is, in the blended space, in a void, EMPTY SPACE IS A DIFFICULT SITUATION (262) (**Figure 1**).

In the blend, the four elements of the inputs have the same potential to be real, but each mental space changes regarding the idea Oedipa has about them: reality, hallucination, plot, or imagining a plot. In the selective projection, these four ideas about the mental spaces projected in the blend create a new one: a void. Oedipa feels lost: ORIENTATION IS AN OBJECT OEDIPA LOSES (266). All around her is flat and vast, without mountains or borders, and the limits of San Narciso have disappeared: SAN NARCISO IS A LOST OBJECT, THE RESIDUE OF SAN NARCISO IS INSIDE OEDIPA (268, 269). This way, SAN NARCISO IS A BOUNDLESS CONTAINER (270). Without borders for the land or for Pierce's legacy, the continent is a continuum: AMERICA IS A LEGACY (272). As in the beginning with the tower, the disappearance of borders and frontiers constructs a feeling of disorientation. Trystero is coded information in the legacy: TRYSTERO IS ENCRYPTED INFORMATION (276); a conspiracy, TRYSTERO IS A PARANOIA AGAINST OEDIPA (279): or something Oedipa found by chance, TRYSTERO IS AN OBJECT (398) FOUND BY OEDIPA (280). The waiting of Oedipa becomes now the waiting for the end of symmetry between the possibilities of the inputs in the previous blend. Oedipa is not able yet to decipher information: OEDIPA IS INSIDE A COMPUTER WITH ENDLESS ONES AND ZEROES (296). Behind the city streets, there is concealed meaning, CITY STREETS ARE A HYEROGLYPH (297), either meaning or just the earth: CITY STREETS ARE A HIDING PLACE FOR MEANING (298, 299), CITY STREETS ARE A HIDING PLACE FOR EARTH (298, 300). Thus, all that Oedipa has experienced can have a relevant meaning or just what it seems, and she does not understand any of them: REALITY OF EVENTS

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[1] The number of each conceptual metaphor mentioned alludes to the numbers in the original list created in my thesis [28]. Please refer to the document in order to check the linguistic metaphorical expressions of each conceptual metaphor and their conceptual mappings.
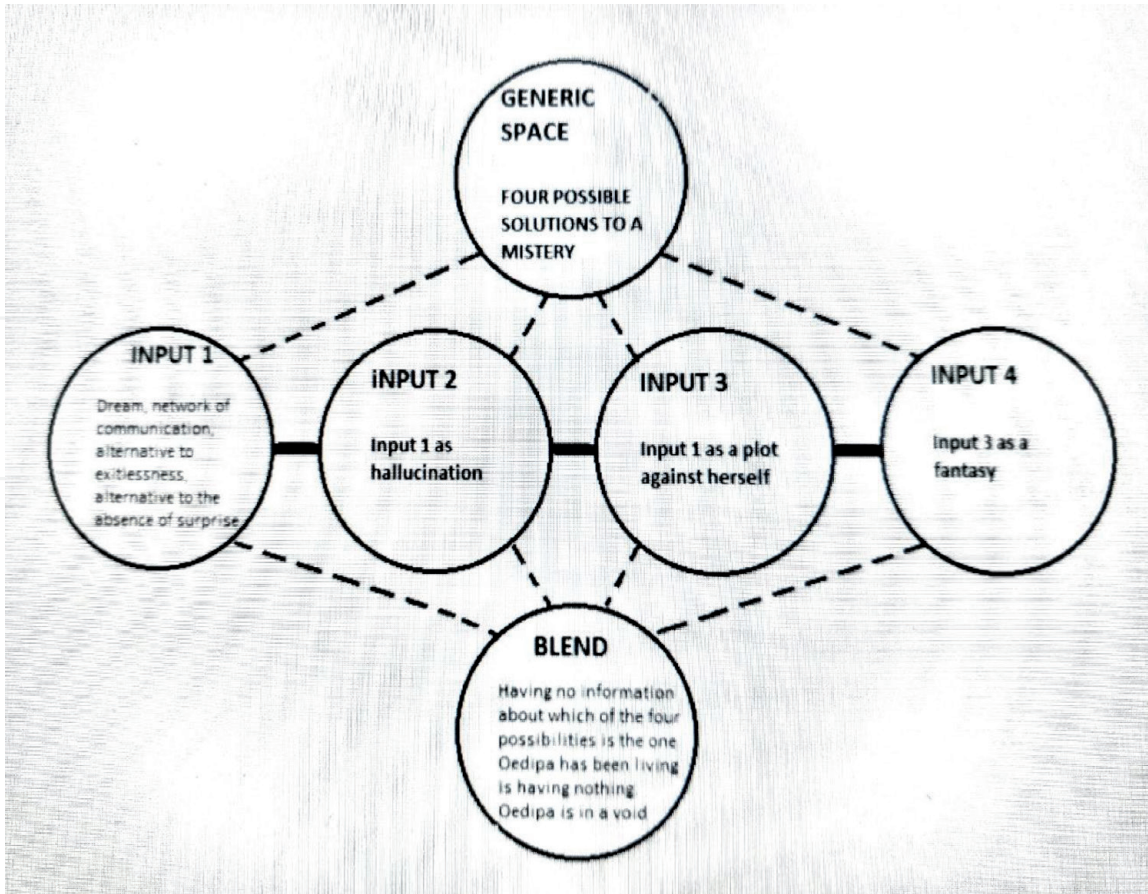
Figure 1.
Double Scope Blend ([30], p. 397).

ARE ARRANGED ONES AND ZEROES (304). If Trystero does not exist, Oedipa is then in a state of paranoia: OEDIPA IS AN ENTITY INSIDE ECSTASY, ECSTASY IS A CONTAINER MOVING AROUND PARANOIA (305, 306, 307). If there is no Trystero in America, BEYOND AMERICA IS TRYSTERO OR AMERICA (308, 309), then there is just America. In the case that the last option is the real one, Oedipa can only live in it as someone separated from a world she does not understand. For Oedipa, the possibility of a hidden meaning she cannot reach is better than reality. At the end of the novel, Oedipa goes to the auction of the stamps lot, where she is told that someone very interested in getting them is going. Oedipa sits and waits.

7. Concluding remarks

Meaning integration is essential in order to understand human cognition, and narratives are highly complex poetic acts in which new relations and meanings can emerge. If we consider the literary text to be a poetic act, a dynamic open auto-organized system which is dissipative, embodied, situated, distributed, and synergic, the theoretical approaches to it must be inclusive and dynamic. The theories applied, conceptual metaphor and conceptual blend, are valuable models to study poetic acts as a basic feature of what makes us humans. As we can read in the article *Making Sense of a Blend* (Brandt and Brandt), "the method is to slow down our imagination so we can describe how a meaning is arrived at cognitively, from a phenological perspective" ([11], p. 242).

By integrating in an interactive continuum mind-body-world, we can recognize the biological and evolutionary anchor of our thoughts, creativity, and imagination: the biological anchorage of meaning. Further studies in cognitive semiotics are needed to conform to the theoretical background for this ambitious enterprise.

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References

[1] Zlatev J. Cognitive semiotics: An emerging field for the transdisciplinary study of meaning. Public Journal of Semiotics. 2012;**4**(1):2-24

[2] Lakoff G. Women, Fire and Dangerous Things: What Categories Reveal about the Mind. Chicago: The University of Chicago Press; 1987

[3] Lakoff G. The contemporary theory of metaphor. In: Ortony A, editor. Metaphor and Thought. Cambridge: Cambridge University Press; 1993. pp. 202-251

[4] Lakoff G, Johnson M. Metaphors We Live By. Chicago: The University of Chicago Press; 1980

[5] Lakoff G, Turner M. More than Cool Reason: A Field Guide to Poetic Metaphor. Chicago: The University of Chicago Press; 1989

[6] Johnson M. The Body in the Mind: The Bodily Basis of Meaning, Reason and Imagination. Chicago: University of Chicago Press; 1987

[7] Lakoff G, Johnson M. Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought. Nueva York: Basic Books; 1999

[8] Lakoff G, Núñez R. Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being. Nueva York: Basic Books; 2000

[9] Lakoff G. Moral Politics: What Conservatives Know That Liberals Don't. Chicago: University of Chicago Press; 1996

[10] Langacker RW. Foundations of Cognitive Grammar, Volume 1. Theoretical Prerequisites. Stanford: Stanford University Press; 1987

[11] Brandt L, Brandt PA. Making sense of a blend: A cognitive-semiotic approach to metaphor. Annual Review of Cognitive Linguistics. 2005;**3**(1):216-249

[12] Geeraerts D, editor. Cognitive Linguistics. Basic Readings. Berlin: Mouton de Gruyter; 2006

[13] Croft W, Cruse DA. Cognitive Linguistics. Cambridge: Cambridge University Press; 2004

[14] Fauconnier G, Turner M. Blending as a central process of grammar. In: Goldberg A, editor. Conceptual Structure, Discourse, and Language. Stanford: Center for the Study of Language and Information; 1996. pp. 113-129

[15] Grady J, Oakley T, Coulson S. Blending and metaphor. In: Gibbs R, Steen G, editors. Metaphor in Cognitive Linguistics. John Benjamins: Ámsterdam; 1999. pp. 101-124

[16] Brandt PA. La Charpente modale du sens. In: Pour une sémio-linguistique morphogénétique et dynamique. Aarhus/Ámsterdam: Aarhus University Press/John Benjamins; 1992

[17] Grodal T. Embodied Visions: Evolution, Emotion, Culture, and Film. New York: Oxford University Press; 2009

[18] Wheeler W. The Whole Creature: Complexity, Biosemiotics and the Evolution of Culture. London: Lawrence and Wishart; 2006

[19] Jiménez-Ortega L et al. Effects of reader's facial expression on syntactic processing: A brain potential study. Brain Research. 2020:1736

[20] Gregersen NH. From Complexity to Life: On the Emergence of Life and Meaning. Oxford: Oxford University Press; 2003

[21] Peacocke A. Complexity, emergence, and divine creativity. In: Gregersen NH, editor. Complexity to Life: On the Emergence of Life and Meaning. New York: Oxford University Press; 2003

[22] Fauconnier G, Turner M. The Way We Think. New York: Basic Books; 2002

[23] Scott AC. The Nonlinear Universe: Chaos, Emergence, Life. Berlín, Heidelberg: Springer-Verlag; 2007

[24] Guerra J. La naturaleza creativa del tiempo en el paradigma del caos: una relectura de T. S. Eliot [Tesis doctoral (microficha)]. Madrid: Universidad Complutense de Madrid; 1992

[25] Hayles NK. Chaos Bound: Orderly Disorder in Contemporary Literature and Science. Ithaca: Cornell University Press; 1990

[26] Prigogine I, Stenders I. Order out of Chaos. University of Michigan: Bantam Books; 1984

[27] Lotman YM. Universe of the Mind: A Semiotic Theory of Culture. London & New York: I. B. Tauris & Co Ltd.; 1990

[28] Guerra J. What cognitive sciences as an interdisciplinary framework can contribute to the study of literature in general and of Edgar Allan Poe's literary texts in particular. In: Estévez Fuertes N, Llácer Llorca EV, Olivares Pardo MA, editors. Genius and Psicosis in Edgar Allan Poe. New Interdisciplinary Perspectives. Valencia: Servei de Publicacions de la Universitat de València; 2010

[29] Silvera-Roig M. Image schemas as emotional attractors in the crying of lot 49. Journal of Comparative Literature and Aesthetics. 2019;**42**(3):44-68

[30] Silvera-Roig M. Biopoetics, cognition and emotion: Conceptual integration and emergence. In: Thomas Pynchon's "*The crying of Lot 49*". 2016. Available from: http://hdl.handle.net/10553/18017

[31] Barcelona A. Clarifying and applying the notions of metaphor and metonymy within cognitive linguistics: An update. In: Dirven R, Pörings R, editors. Metaphor and Metonymy in Comparison and Contrast. Berlín: Mouton de Gruyter; 2000. pp. 207-277

[32] Burke M. The neuroaesthetics of prose fiction: Pitfalls, parameters and prospects. Frontiers in Human Neuroscience. 2015;**9**:442

[33] Turner M. Double-scope stories. In: Herman D, editor. Narrative Theory and the Cognitive Sciences. Stanford: Center for the Study of Language and Information; 2003. pp. 117-142

[34] Marshall I. Stalking the gaps: The biopoetics of haiku. Mosaic (Winnipeg). 2013;**46**(4):91-107

[35] Guerra J. Cognitive Poetics and Biocultural (con)figurations of life, Cognition and Language towards a theory of socially integrated science. Pensamiento. 2011;**254**(67):843-850

[36] Pynchon T. *The Crying of Lot 49*. London: Vintage; 1966