

### Beyond meaning: Peirce's interpretant as a meta-semiotic condition for communication

Lukianova, Natalia; Fell, Elena

Veröffentlichungsversion / Published Version

Zeitschriftenartikel / journal article

#### Empfohlene Zitierung / Suggested Citation:

Lukianova, N., & Fell, E. (2015). Beyond meaning: Peirce's interpretant as a meta-semiotic condition for communication. *ESSACHESS - Journal for Communication Studies*, 8(1), 151-176. <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-458986>

#### Nutzungsbedingungen:

Dieser Text wird unter einer CC BY-NC Lizenz (Namensnennung-Nicht-kommerziell) zur Verfügung gestellt. Nähere Auskünfte zu den CC-Lizenzen finden Sie hier: <https://creativecommons.org/licenses/by-nc/4.0/deed.de>

#### Terms of use:

This document is made available under a CC BY-NC Licence (Attribution-NonCommercial). For more information see: <https://creativecommons.org/licenses/by-nc/4.0>

## Beyond meaning: Peirce's interpretant as a meta-semiotic condition for communication

Professor Natalia LUKIANOVA  
Tomsk Polytechnic University, Tomsk State University  
RUSSIA  
lukianova@tpu.ru

Doctor Elena FELL  
Tomsk Polytechnic University  
RUSSIA  
elena.fell@ntlworld.com

**Abstract:** In Bergsonism, we come to a halt when it comes to communication because it involves static immobile elements such as concepts and words, which, for Bergson, make it impossible to gain an adequate understanding of each other's nature. Peirce offers an epistemological model, where the immobility of a linguistic sign is dissolved in semiosis. Peirce's concept of interpretant, reflecting the dynamic relation of the subject, object and the sign that is being interpreted, offers a model of cognition that is based on the dynamism of meaning making, which provides a foundation for communication as a meaning making process, a case of duration in its own right.

**Keywords:** Peirce, Bergson, interpretant, semiosis, communication

\*\*\*

*Au-delà de la signification: l'interprétant de Peirce comme condition méta-sémiotique de la communication*

**Résumé:** En examinant la philosophie de Bergson, nous éprouvons des difficultés à trouver une fondation théorique pour une communication réussie. Selon Bergson la communication comporte des éléments immobiles, les concepts et les mots, qui rendent impossible la compréhension adéquate de la nature humaine d'autrui. Peirce propose un modèle épistémologique permettant de dissolver l'immobilité d'un signe linguistique dans la sémiose. La théorie de l'interprétant de Peirce prend en compte la relation dynamique du sujet, de l'objet et du signe interprété. Elle implique un

*ESSACHESS. Journal for Communication Studies*, vol. 8, no. 1(15) / 2015: 151-176  
eISSN 1775-352X

© ESSACHESS

modèle cognitif basé sur le dynamisme de la formation de la signification. C'est ce modèle qui fournit une base pour la communication considérée comme processus de la formation de la signification et qui peut être vu comme un type de la durée bergsonienne.

**Mots-clés:** Peirce, Bergson, interpretant, sémiologie, communication

\*\*\*

### **1. Foreword: from Bergson's duration to Peirce's semiosis**

Bergson made a major contribution to philosophy by highlighting the role of temporality in ontological and epistemological processes, opposing duration and intuition to static symbolic constructs such as concepts which crystallise, distort and misrepresent real being. However, Fell notes that Bergson's theory brings us to a halt when it comes to explaining metaphysical foundations for successful communication. We can communicate our thoughts and feelings only if we crystallise them in linguistic constructs, but by doing so we distort and misrepresent the essence of what we want to communicate.

Peirce's notion of interpretant may offer a possibility of reconciling our need for static linguistic constructs with the dynamism of reality represented by these constructs. By introducing the term "interpretant" Peirce singles out the dynamic element in the relations between the sign and the person who perceives it. He thus offers a foundation for lessening the opposition between the complexity and dynamism of phenomena on the one hand and the apparent simplicity and inertness of a sign on another: as Eco claims, a sign can only be understood in the process of it being interpreted in communication. Thus a sign (a static linguistic construct) can exist as such only in the dynamism of interpretation.

As for the metaphysical predisposition for successful communication in general, the former can be constructed via Lukianova's reading of Peirce's Sign Theory, or Semiotic. Exploring the notion of interpretant further, she focuses on the following aspect of the term "interpretant", namely the disposition or readiness of the perceiver to respond to a sign.

Following Eco, Lukianova extends Peirce's notion of interpretant beyond considerations of meaning associated with concrete communication situations. For Lukianova, the interpretant is a meta-semiotic construct, which conditions intra-cultural communication inasmuch as it carries the communication potential for cultural narratives which in turn underlie effective intra-cultural communication.

By bringing dynamics into the heart of the process of signification Lukianova, following Peirce and Eco, makes further steps towards dissolving the immobility of a sign and restoring the dynamism of communication. According to Lukianova, an interpretant should be considered not only as a category of semantics but as a central category of semiotics, which includes syntactics and pragmatics.

Rather than continuing with the analysis of a sign and its relation to the perceiver as Peirce does, Lukianova focuses on semiosis as a process of the development of a sign in communication. She notes that Peirce's semiotics is founded on the notion of a sign, but its main object of enquiry is not a sign and its nature but semiosis as the process of the evolution of the sign in communication. Thus semiosis can be understood as the process of constructing meaning which involves the correlation of an object and its representation. This process is based on the fact that the perceiver is familiar with the represented object that can be imagined and can appear as a mental representation of something, an idea that has an imagined material outline. The formation of this idea is a creative process (as proposed by Bergson), the process that involves constructing semiotic reality using signs taken in their dynamic relation to the interpreter.

Accepting the idea that the functionality and realisation of a communicated sign, despite its apparent static appearance, is actualized in a creative process, Fell suggests that successful communication is metaphysically possible within the framework of Bergson's theory of duration and intuition provided we accept that what we are able to achieve in successful communication is not a replica of one's mental processes in another person's mind but a new understanding of reality that is constructed in the incessant flow of ontological and epistemological creation.

## **2. Bergson: the dynamism of conscious processes**

In his theory of lived time—duration—Bergson effectively highlights the dynamism of conscious processes, whereby human consciousness is presented as essentially temporal, involving processes rather than static components. In Bergson's terms, conscious processes, the life of consciousness can be described as heterogeneous duration, with the term "duration" reflecting the temporality of mental states and "heterogeneous" meaning that the multiplicity of thoughts and feelings is a multiplicity of a special kind. Heterogeneity is a non-numerical multiplicity whose parts cannot be singled out spatially (whether in reality or in imagination) and analysed as separate units. However, the heterogeneity of conscious life consists of elements that can be individualised, so that they retain their distinctive identity but are fused with other elements.

Bergson often uses a musical piece to illustrate heterogeneity. A note's musical meaning is determined by its position in the musical sequence and its relation with the rest of the notes which have no clear internal boundaries and flow into one another whilst music is played. Extracting a note from the continuity of sounds that makes the melody and is playing it in isolation, or playing the notes in a different order would destroy the melody but it would also destroy the musical identity of the notes severing the multiple connections between them.

Speaking in the Bergsonian terms, human consciousness is structured in the same way as a musical piece. However, there is a problem with the way we normal-

ly understand states of consciousness, and this problem is reflected in our common use of the terms “more” and “less” in relation to the intensity of our emotions. “More” and “less” are spatial terms, so they imply spatial relations between states of consciousness that we may be referring to: something that is “more” is greater in magnitude than something that is “less”, so what is “more” can be regarded as a container for “what is less”. Bergson maintains therefore that what we mistakenly take to be a change in magnitude in a sensation or a feeling really is a change in quality. When we think that we experience the same feelings that differ in intensity, we in fact experience different feelings altogether: the life of consciousness entails qualitative, not quantitative changes, as stated in Chapter 1 of Bergson’s *Time and Free Will* (Bergson, 1910, p. 1–74).

Bergson refutes the idea that the self endures through time preserving itself as some stable, nodal structure. The dynamic self *is* time as it seizes conscious processes as they *are* and integrate them into its own being. To summarise,

Psychological duration is not a succession of clearly defined and mutually external units but a heterogeneous continuity of qualitatively diverse successive phases ontologically bound with one another. There is no distinction between the duration itself and its content, and processes that constitute duration constitute embodied time in their ceaseless emergence (Fell, 2009, p. 15).

### 3. Apprehending one’s own self in intuition

Dispensing with the habitual view of a stable selfhood and replacing it with a model of an ever changing, evolving self, Bergson reviews our perception of epistemological processes and divides them into the perception of the outside features of an object and the perception of an object originating from within.

Due to the practical rationality of everyday life we access the world, other people and our own selfhood from the outside and divide the world up mentally into static fragments that are easily comprehensible and stable. These fragments are then rearranged again and we gain a complete picture which we need for being able to orientate ourselves in the world and act upon it. This also gives us our habitual understanding of the self and conscious states as materialized and set out in space. The space here is a homogeneous space which contains our explicit recognition of things, people, their relative positions, as well as the relation between our own conscious states, as laid out simultaneously in a medium that unites them all.

However, this conception of the world, people and one’s own self as aspects of a homogenized space, albeit practically useful, is a simplified, one-sided, and therefore distorted representation of reality. What matters here for Bergson is that when we communicate with other people at this level, we do not address them as they really are but as they appear, their selves edited and reworked in our rational analytical interpretation. The real people that we deal with and talk to remain out of our reach.

The solution seems to be offered in the alternative mode of conceiving the world, other people and the self by accessing them epistemologically from within. This way of conceiving reality involves grasping reality as a durational process that consists of a multiplicity of states that do not exist in separation but permeate one another.

We are able to access the duration of our own selfhood in this way, and understanding what is involved in this should provide an entry point for accessing other selves in a similar way. For Bergson, we can access the duration of our own conscious processes by diverting our attention away from spatial pointers that we use for orientation in the outside space. Distracted from this practical orienteering, we abandon externality with its prescribed clarity and, drifting away from it, intuit our own undefined and unhindered thoughts and feelings from within, becoming acquainted with the original, unedited content of our psyche.

This primary experiencing of the self is highly valued in Bergsonism because it gives one the view of his or her genuine self. This happens in dreams, in inattentive perception of sounds and in other situations where the self is relaxed and detached from the external world insofar as it does not coordinate its fleeting elements with reference points in the external world, at the pre-reflective stage of consciousness.

In intuition, the self is experienced as heterogeneous in composition—inasmuch as it involves different feelings, memories and perceptions—but is felt, without these differences being explicitly noted, as a continuous flux of interconnected processes. At the heart of this intuition is an awareness that “[t]here is a succession of states, each of which announces that which follows and contains that which precedes it” and that “[n]o one of them begins or ends, but all extend into each other” (Bergson, 1999, p. 25).

Intuiting ourselves in these terms involves letting our consciousness fix its attention on the immediate experience whereby we do not try to name our current state or reflect on the past, however immediate, and without anticipating the future, however proximate. Our conscious awareness then temporally coincides with the actual being of our psyche and follows emotions and sensations as they unfold. For Bergson, this is the only way we could access duration, which “can be presented to us directly in an intuition” and “can never ... be enclosed in a conceptual representation” (Bergson, 1999, p. 30).

It is not easy to counteract the usual way of dealing with our own self, but if we succeed, we are rewarded with the manifestation of our own uniqueness and exclusivity. We gain a view of ourselves where we are not measured or judged against superimposed criteria and where our value as inimitable individuals is not betrayed by external standardisation.

#### 4. Practical impossibility of understanding another person

As seen from the previous discussion, the intuitive perception of one's own self, which gives one the understanding of his or her real nature, is achievable in principle if not in everyday experience. It would naturally follow that successful communication with others should involve intuitive knowledge of other selves too, inasmuch as intuitive knowledge could help us achieve adequate perception of other people. Can Bergsonism offer a model of ultimate communication—an ontological bonding that we can perhaps find between family members or members of the same religious or ethnic groups? And if we can arrive at such a model perhaps it can supply a principle of inclusion that could be extended to wider groups of people dissolving cultural or religious boundaries? Disappointingly, however, Bergson's model of intuition stands in the way of any successful communication rather than aiding it.

The problem with the pre-reflective mode of the self's existence, when its duration is unbound and evolves spontaneously, is that such a self, if it were not able to harness and define its sense of experience, would live an isolated life without involvement in language or society (Bergson, 1910, p. 137 – 138). The function of language in its regular forms serves to divide up experience into manageable facts concerning both world and self, and relations between them. Whilst purely temporal, de-spatialised existence of duration would remain an inner occurrence that takes place in our inner conscious life, linguistically expressed facts about it belong to the external medium modelled as homogenized space. The clarity of this spatialization and externalization of the self is the necessary basis of communication between people.

This has a difficult consequence, as far as a Bergsonist would be concerned, as by means of regular communicative practices we cannot know another individual in any kind of adequate, sufficient, and complete terms. To intuit the subjective states of someone else (at the same level that one has intuitive knowledge of one's own states) would mean knowing all of the other person's psychic experiences, insofar as their individual character is dependent on their relation to the whole. Having a complete intuitive knowledge of somebody would mean, in effect, being that somebody as it would necessarily involve living through all his or her experiences.

Bergson's theory of duration and intuition, then, leaves us with a disappointing result. Heterogeneous duration accounts for the complexity and continuity of psychological reality, and intuition is a process in which duration is recognized for what it is. Whilst this might appear to hold out the possibility of an ultimate intimate bonding in communication if it could be achieved, the problem is that, as we have just seen, intuiting someone else would involve a complete identification with that person. If such an intuitive grasp of another mind were possible, it would involve a collapse of two individuals into one.

It seems, then, that Bergson's theory of duration and intuition, instead of offering a model of perfect communication contradicts the very idea of communication as a social phenomenon. People could have perfect relationships if they communicated at

the level of intuition, but in order to communicate at all, they must misrepresent their own and other people's nature because communication requires conceptualization.

### **5. Peirce: the dynamics of meaning-making**

Bergson's theory of duration and intuition, whilst illuminating the nature of human selfhood emphasising and explaining the specificity of the self's dynamism, nevertheless leads us to a cul-de-sac as soon as we question its capability to accommodate human interactions. Forced out of its boundaries set in Bergson's key texts, the duration and intuition theory creates metaphysical obstacles in the way of allowing a theoretical framework able of accommodating both the heterogeneous nature of uniquely structured selfhood and human hope for fulfilling communication, where people genuinely and happily engage with each other's unedited character.

The realisation that Bergsonism takes its followers to this dead-end can result in one of the two outcomes: we can either accept the metaphysical impossibility of genuine communication or question the validity of Bergson's philosophy—and this would be the readers' first reaction. On the second thought, one would want to investigate the problem further by examining closely processes involved in linguistic interactions—notably, Bergson does not do any of that as his discussion of language does not progress beyond the claim that concepts crystallize and immobilise reality.

Concepts, words are at the heart of the communication problem in Bergsonism: we need language and words to communicate but it is the words that distort our real thoughts and feelings, ultimately misrepresenting us to each other. To progress in this investigation we need to examine the relation between words and what they signify to listeners or readers—the need to resolve the communication problem in Bergson thus leads us to semiotics inasmuch as semiotics deals with meaning-making of signs and symbols.

In semiotics, broadly speaking, we have a choice of two major directions of investigation indicated by Saussure and Peirce, and it is the latter's theory of semiosis that we will draw on whilst investigating the issues of meaning acquisition in the context of communication.

Saussure offers a two-part (dyadic) model of the sign, according to which, a sign is composed of a signifier and the signified (Saussure, [1916] 1983). He extensively analyses signification—the relationship between the signifier and the signified (Saussure, 1983, p. 67), but his analyses tend towards greater and greater abstraction of the analysed elements at the expense of neglecting the role of individuals that perceive signs and communicate with each other using signs. Also, his methodological model treats signs and the relations between them as static abstractions making it difficult to apply his methodology, which traditionally belongs to linguistics, to the study of communication.



Peirce, on the other hand, suggests a triadic model of a sign that takes into account the dynamism of the process of signification and the role of a perceiving subject. In his theory, the form which the sign takes is reflected in the concept of the representamen; an object is the object to which the sign refers, and an interpretant is the sense made of the sign, which emerges in the dynamic engagement of the perceiver with the sign that he or she comprehends. The relationship between the representamen, the object and the interpretant is dynamic; this relationship is characterised as semiosis understood as interaction between all three (Peirce, 1931-58, 5.484).

Peirce's theory of semiosis, which accounts for dynamism in signification and the role of the perceiver, seems to be a convenient starting point for our investigating deeper layers and undercurrents of communication, whilst at the same time maintaining the Bergsonian position which puts forth movement and change found in all processes of being including communication.

Eco's development of Peirce's semiotics will be especially useful here. Eco emphasises Peirce's interest in the dynamism of the functioning of signs and uses his ideas to investigate communicative processes. Eco notes that Peirce is predominately interested in the dynamics of the life of signs without considering their involvement in communication. As far as Eco is concerned, semiotics should consider all cultural phenomena as communication facts (Eco, 2004, p. 43-44) as he is almost ready to equate culture with communication. Eco expands Peirce's usage of semiosis demonstrating that semiosis is founded on social relations and cannot be abstracted from communicating individuals (Guillemette & Cossette, 2006), (Eco, 2004, p. 257).

## **6. The role of an interpretant in semiosis**

An interpretant, one of the three interrelated parts of a sign, is the most distinctive and innovative element of Peirce's theory. By introducing the interpretant into semiosis Peirce makes it central to the content of the sign, to signification: a sign signifies only when it is being interpreted. The sign (as part of the tri-part Peircean sign) is the signifier, e.g. an utterance or a written word; the object corresponds to whatever is signified and an interpretant refers to the degree of understanding that we have of the relation between the sign and the object. In one of his definitions of a sign Peirce refers to an interpretant as the effect that a sign has upon a person (Peirce, 1998, Vol. 2, p. 478).

The interpretant primarily refers to the understanding of a relation between a sign and an object but it can also be understood as the development of the original sign which enhances our understanding of the object that the original sign signifies. According to Peirce, the sign determines an interpretant but this determination is not causal and is similar to the way the sign signifies its object. The sign determines an interpretant, for example, smoke (sign) determines an interpretant sign of fire (its

object) by using certain features that shape our understanding such as the physical connection between fire and smoke.

According to Peirce, any instance of signification involves a sign-vehicle (some particular feature through which signs signify their objects), an object and interpretant. The object places constraints on the sign that could signify it and limits the features that the sign can use for signification. Thus the sign signifies the object only through some of the object's features and focusing our attention on some features of the object/sign relation.

The dynamic nature of signification is reflected in Peirce's early account of signs as infinity of signs that precede other signs and follows them. In this account interpretants are presented as further signs, and signs as interpretants of earlier signs. A sign determines an interpretant, and interpretant is itself a sign, and this inevitably seems to lead to the concept of infinite semiosis.

To illustrate this point, we can think of a chain of signs where interpretants are also signs that determine other interpretants, and where there is a first and a last sign. The last sign has no interpretant as it terminates the semiotic process. If it did not terminate the semiotic process it would not be the final interpretant as it would be a sign that would generate another interpretant and the process would continue. But establishing the final sign is problematic: in order to be a sign in the Peircean sense, it must determine an interpretant, so the final sign must determine an interpretant in order to be a sign, and if it determines an interpretant it cannot be final.

Establishing a first sign is equally problematic. Any sign (in order to be a sign) must be an interpretant of a preceding sign but a first sign cannot be the interpretant of a previous sign because if it were, the preceding sign would be the first sign. Allowing a first sign which is not the interpretant of an earlier sign, or a last sign with no interpretant, would conceptually jeopardise the ontological status of signs in the semiotic process.

This has an effect on all other links of the semiotic chain. If the final sign does not generate an interpretant and fails to be a sign because of it, then it has also failed to be an interpretant, since a valid sign is supposed to act as the interpretant of the previous sign. This means that the previous sign has failed to generate a valid interpretant and fails to be a valid a sign, and so on, until the entire semiotic chain collapses. So if we want to preserve the semiotic chain we should not consider this chain as finite, as having a definite beginning (first sign) and a definite end (last sign). In order for the chain to be a valid semiotic chain of signs and interpretants, we must allow for an indefinite semiotic process whereby signs generate further signs *ad infinitum*.

But what of the object that stands behind the semiotic process? Peirce divides objects into two major groups: immediate objects and dynamic objects. The immediate object is the object of the sign as we understand it at some given point in the semiotic process, and the dynamic object is the object of the sign as it stands at the

end of the semiotic process. The immediate object corresponds to an interim understanding of the object, and the dynamic object is the object in its completeness, and the semiotic process tends towards our complete understanding of it.

The dynamic object, the “object as it really is” (Ransdell, 1977, p. 169) is the original object that generates and drives the semiotic process. The purpose of semiosis is to reach a complete understanding of the dynamic object. The immediate object is “what we, at any time, suppose the object to be” (Ransdell, 1977, p. 169), an incomplete, provisional representation of the dynamic object generated at an interim stage in a sign chain.

Ransdell highlights the difference between the dynamic object and the immediate object pointing out that

[T]he immediate object may involve some erroneous interpretation and thus be to that extent falsely representative of the object as it really is, and, second, because it may fail to include something that is true of the real object (Ransdell, 1977, p. 169).

The semiotic chain progresses towards the final stage of reaching out to the real object, and different interpretants are formed along the way. Peirce singles out three types of interpretants corresponding to three different ways in which we relate a sign to an object: the immediate interpretant, the dynamic interpretant and the final interpretant:

The [Dynamic] Interpretant is whatever interpretation any mind actually makes of a sign. [...] The Final Interpretant does not consist in the way in which any mind does act but in the way in which every mind would act. That is, it consists in a truth which might be expressed in a conditional proposition of this type: “If so and so were to happen to any mind this sign would determine that mind to such and such conduct.” [...] The Immediate Interpretant consists in the Quality of the Impression that a sign is fit to produce, not to any actual reaction (Peirce, 1958, Vol. 8. 315 (1909)).

Peirce’s three types of interpretants are linked to his three grades of clarity, or levels of understanding, introduced in his 1878 article, “How to Make Our Ideas Clear” (Peirce, 1982, Vol. 3, p. 257–275). It is possible to understand the first grade of clarity as one’s having an unreflective grasp of a concept in everyday experience; the second grade of clarity, as corresponding to having a general definition of that concept or ability to provide such a definition. The third grade of clarity may correspond to our understanding of the practicality of the object as is clarified in Peirce’s statement of the pragmatic maxim:

Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object (Peirce, 1982, Vol. 3, p. 266).

Thus for Peirce, a complete understanding of a concept entails familiarity with it based on regular encounters with that concept, ability to have a general definition of it, and knowing what consequences one might expect from that concept's effects on the world.

These grades of clarity, pragmatically defined, merge with Peirce's semiotic as he introduces three types of interpretants which correspond to these three grades of clarity whereby one's readiness to use or interpret a sign is followed by logical analysis and pragmatic analysis associated with the final interpretant (Peirce, 1958, Vol. 8, 185 (1909)).

Thus for Peirce, the first grade of clarity corresponds to the immediate interpretant, the second grade of clarity corresponds to the dynamic interpretant, and the third grade of clarity, to the final interpretant. Lukianova reminds that the increasing clarity reflected in different interpretants, means for Peirce the evolution of the relationship between the interpreting subject and the interpreted object, from implicit familiarity with the object (immediate interpretant) via logical definition (dynamic interpretant) towards pragmatic clarification (final interpretant).

The immediate interpretant, which Lukianova associates with the first grade of clarity, is a general schematic understanding of the sign/dynamic object relationship, an indistinct imagery corresponding to phenomena which the given sign could refer to. It seems that the immediate interpretant corresponds to the schema of the sign extracted from its content, "all that is explicit in the sign apart from its context and circumstances of utterance" (Peirce, 1958, Vol. 5.473 (1907)). Atkin notes that the immediate interpretant is marked by lack of analysis and critical reflection on the object, which comes later in the process of semiosis. Our recognition of grammatical relations between words and sentences could be an example of an immediate interpretant, if sentences are taken as signs (Atkin, 2013).

The interpretation of a sign corresponding to the dynamic interpretant gives an incomplete understanding of the dynamic object. The immediate object of a sign in a sign chain consists of previously made interpretations. The dynamic interpretant, along with previous dynamic interpretants, constitutes the immediate object and corresponds to our partial understanding of the dynamic object.

The final interpretant corresponds to a complete and true understanding of the dynamic object, potentially reachable at the end of enquiry and shared by those who took part in the enquiry (Hookway, 1985, p. 139). Ransdell shows that in the case of the final interpretant, the dynamic object and the immediate object coincide (Ransdell, 1977, p. 169–170).

## **7. Peirce and Bergson: connection points**

An unsympathetic critic could say that the Peircean theory is unlikely to provide a solution for a problem arising in Bergsonism without both theories clashing and

without either of them undermining each other. Take, for example Peirce's denial of intuition as "a cognition not determined by a previous cognition of the same object" (Peirce, 1982, Vol 2, p. 193), which directly contradicts Bergson's treatment of intuition as the only way of an adequate familiarity with the object. Also, the general pragmatic orientation of Peirce's epistemology clashes with Bergson's preference for disinterested knowledge which accesses the object as it is, rather than selecting its practically useful features. Indeed, combining Peirce's theory of semiosis with Bergson's theory of duration and intuition may not seem possible even though Peirce extensively explores the dynamic nature of semiosis.

However, both Peirce's and Bergson's epistemologies investigate the same issue—cognition—albeit considering it from different angles and using different terms and approaches. The dynamism of semiosis (Peirce) does not contradict Bergson's principle claim that duration permeates all being and all processes because they also include the process of meaning making—semiosis. Bergson examines perception at length in *Matter and Memory* (Bergson, 1991) but his analysis of getting to know something by analysis or intuition (*Introduction to Metaphysics*, (Bergson, 1999), *Time and Free Will* (Bergson, 1910) is not so detailed. He states that in analysis, we dismantle and then reconstruct the object of enquiry, whilst in intuition we grasp its essence immediately. Bergson does not offer a detailed analysis of linguistic interactions, and so Peirce's account of meaning making in semiosis could be said to complement Bergson's account of getting to know something rather than contradicting it. Moreover, we claim that Peirce can do more than merely complementing Bergson's epistemology—it can restore duration as a valid feature of epistemology, something that Bergson fails to do as he fails to acknowledge analysis as a process and a case of duration.

The reason why Bergson prefers intuition to analysis is because according to him, intuition provides the genuine knowledge of a process whereby someone knowing an object coincides with that object's being and also with the being of the knowing agent. Thus the epistemological model that Bergson accepts is ultimately a tri-part process consisting of three concurrent processes that coincide temporally, existentially and physically, so that they can be considered three sides of one and the same process, a tri-part identity of the same phenomenon. These sides are (1) the being of the object, (2) the being of the subject, and (3) the knowledge that the subject has of the object. Only unreflective modes of self-perception, such as dreams and daydreaming can accommodate the state of affairs where all three fully coincide and are concurrent. This is not possible when we rationally reflect on our selfhood and is even less possible when we perceive other people and communicate with them.

In this Bergson disregards the fact that analysis, rational perception, is also a process and as such is a creation of something new, a case of duration. Rather than bringing his epistemology to the dead-end stating that conventional knowledge does not coincide with the object, Bergson could have proposed an epistemological process that evolves as duration with its object being its source, its impetus that gene-

rates knowledge as something new rather than accepting only the type of knowledge which duplicates the object and does not move away from it. In fact, Bergson here creates an obstacle in the way of knowledge acquisition inasmuch as knowledge acquisition is a process.

Whilst criticising analysis, Bergson becomes prejudiced against it to the point of ignoring that this process is continuous duration, like any other process, and that it can be considered as the process of creation. This can be done by liberating oneself from the view of analysis that Bergsonism creates, rather than rehearsing Bergson's claim that analysis distorts the object of enquiry, and exploring the Peircean account of the meaning making process of semiosis which presents knowledge acquisition (or analysis in the Bergsonian terms) as duration and creative process—if we want to use Bergson's terminology in order to indicate that despite of using different terms and different approaches, Bergson's and Peirce's discourses are not incompatible and can be engaged in a constructive dialogue. Other correlations between some Bergsonian and Peircean terms can demonstrate this mutual compatibility—see Table 1 below.

The dynamic object can be said to correspond to Bergson's duration, as both refer to an object as it is and reflect the dynamic nature of reality. The difference between duration and dynamic object mainly amounts to the difference in the philosophers' respective approaches to the real object: whilst Bergson merges the ontology of the object with epistemology, whereby the being of duration is bound with its own awareness of itself in intuition, Peirce does not discuss the object perceiving itself as it is considered as perceived only by the subject, from outside. Also, whilst duration can only be adequately comprehended from within by itself, the dynamic object can be eventually comprehended by the subject, hence Peirce offers a more positive view on communication.

Peirce's immediate object can be correlated with an object accessed in analysis as Bergson understands it. Both refer to an incomplete object accessed by our consciousness and /or erroneously perceived object. However, Bergson does not consider this to be a step towards an even better understanding of the object because for him, adequate understanding given in intuition and inadequate understanding given in analysis are qualitatively different phenomena and one cannot be a step leading towards another. For Peirce, incomplete understanding and adequate understanding are phases of one and the same process, semiosis, and he accounts for degrees in understanding whereby our comprehension improves and leads towards its completion. Here Peirce incorporates a greater progressive dynamism in the process of perception and comprehension than Bergson does.

Peirce's immediate interpretant, the a priori knowledge of schemas and grammatical structures that facilitates our understanding of concrete eventualities, meta-knowledge, would, in the Bergsonian terms be the result of our memories of previously accessed structures including motor memories that correspond to the skills of dealing with structures and schemas. We can add that this sort of familiarity with

the object would be instinctive or intuitive, even only at the outset of the encounter with the object.

**Table 1.** *Peircean and Bergsonian terminology*

<b>Peircean term</b>	<b>Bergsonian term</b>	<b>Comments</b>
The dynamic interpretant	Knowledge we gain in analysis.	For both, this is incomplete knowledge.
The final interpretant:	Intuition is adequate knowledge for Bergson, so final interpretant corresponds to the final stages of analysis.	Adequate knowledge, which for Bergson must be disinterested but has ultimate pragmatic value for Peirce.
Signs, symbols are essential for cognition.	For Bergson, symbols and concepts are crystallised representations of reality which they misrepresent.	For Peirce, all knowledge is symbolic; Bergson considers concept free epistemology.
Thought-signs	Thoughts can be indistinguishable as part of heterogeneous duration or crystallised in concepts.	
Infinite Semiosis	This term corresponds to the Bergsonian analysis but could correspond to a new Bergsonian term of epistemological duration.	This term is central for engaging both philosophies.
Sign-Vehicles (object features through which sign signifies)	In Bergsonian terms, this would correspond to those sides of an object that our mind selects for perception.	The term sign-vehicle encapsulates the relationship between the sign and the object, whilst Bergson emphasises the subjective nature of perception.

The dynamic interpretant more or less corresponds to Bergson's knowledge that we gain in analysis. For both, this constitutes incomplete knowledge which, for Peirce will improve as semiotic process progresses, but not as far as Bergson is concerned, because no level of analytic knowledge can afford the qualitative change from incomplete to complete knowledge, hence Bergson does not entertain the idea that knowledge can be improved in the course of analysis.

The final interpretant is the closest Peircean term that describes ultimate, adequate knowledge, but it corresponds to Bergson's analysis, not intuition. It is also important to note that the final interpretant for Peirce involves a social dimension as "it is the interpretant we should all agree on in the long run" (Hookway, 1985, p.139). Whilst Bergson dissociates adequate knowledge and communication, Peirce brings them together indicating that a meaning making process is essentially the process entailed in communication. Their attitude towards signs and symbols is different: whilst both would agree that signs, symbols and concepts are essential for cognition, for Peirce, all knowledge is symbolic whilst Bergson considers concept free epistemology based on the intuitive grasp. Consequently, for Peirce all thoughts are signs, hence the term thought-signs, whilst Bergson would divide thoughts into those that are indistinguishable parts of the heterogeneous duration and those that have been singled out and verbalized. Infinite semiosis is the key term in Peirce that correlates with Bergson's idea of duration which is an unceasing continuity and demonstrates that the meaning making process is a valid case of such unceasing continuity.

It is important to note the philosophers' treatment of the term sign. The term sign is a key Peircean concept, a nodal structure that links and marks semiotic eventualities. A sign is a joint that links fragments of the semiotic process; all parties participating in semiosis, subject, object, and other subjects are joined together by a sign. Bergson would not dispute that, but whilst Peirce presents the sign as a positive, meaning making element that contributes to communicative processes, Bergson's attitude towards signs is negative. "Nowhere in Bergson's work is the sign/symbol as fully fleshed out" (Ardoin & Gontarski, 2013, p.55), however, for Bergson, analysis is primarily symbolic, and a sign is something that stabilises reality making it palatable for rational comprehension.

Focusing on more detailed elements of the Peircean philosophy, the term sign-vehicle referring to the features of the object through which a sign signifies, in Bergson, corresponds to those sides of an object that our mind selects for perception. But whilst the Peircean sign-vehicle encapsulates the relationship between the sign and the object, Bergson emphasises the subjective nature of perception; here both refer to the utilitarian, practical side of the object, the side that is relevant to the perceiver but differ in the attitude towards this: Bergson refutes practicality as leading towards the misrepresentation of reality whilst Peirce indicates that a successful practical engagement with an object is evidence of this object being adequately conceived.

### **8. Semiosis as a case of duration**

A brief survey of the terms used by Peirce and Bergson reveals that although both philosophers develop their own lines of investigation separately from one another they inadvertently focus on the same features and even come to the same conclusions, even though their evaluations of those conclusions largely differ. We argue that Peirce's theory of semiosis can be made to contribute to further develop-



ment of Bergsonism by offering an alternative view on the process of perception and meaning making, which can liberate the inquirer from the constraints imposed on this by Bergson. Once these constraints are lifted, it becomes evident that knowledge acquisition and communication are each a case duration which, using the Bergsonian language, prolongs the process of being.

For Peirce, the process of semiosis is never-ending but entails within itself certain stops portrayed as the immediate interpretant, dynamic interpretant and final interpretant. These interpretants reflect degrees of clarity of the meaning of the object which becomes “clearer” for the one who interprets the object. Accordingly, each interpretant reflects the degree of clarity (understanding, one’s competence, one’s certainty that one’s opinion is correct) relative to the object of interpretation: implicit familiarity corresponds to the immediate interpretant, logical determination corresponds to the dynamic interpretant, and pragmatic clarification, to the final interpretant.

The final interpretant is the conclusive moment determined at the end of interpretation, an idea that becomes the norm, the idea that determines opinions and human behaviour, contributes to the formation of the fabric of social and cultural reality. The role of the final interpretant is that this interpretation which the majority of participants of the communication process accept as true is a final opinion which emerges as the result of enquiries that are included in communication processes. The final (normal, eventual, or last) interpretant and the concept of dynamic object are closely related because, in fact, they are two aspects of the same epistemological process. Consequently, the final interpretant becomes a purposefully generated result which is not a proper sign, because it is the ultimate result of interpretation that the inquirer should achieve after a sufficient investigation of the sign.

### **9. Eco: the creative process of meaning making.**

In order to account for all elements that are involved in the meaning making process in communication, we will draw on Eco’s communication model, where communication between people includes the same essential elements as the process of communication between mechanisms with the addition of lexical codes when it comes to human interactions.

The model of the communicative process between mechanisms (and people) includes: a source (any really existing object, which is involved in communication); sender (transmitting device that can send a signal); signal (something that is transmitted from a transmitter via a communication channel); channel (any device capable of transmitting signals); receiver (which converts the signal into a message); message (a set of signs); addressee (a properly configured device that is capable to initiate a change in the situation upon receiving a message); noise (interference emerging in the communication channel that may distort the physical characteristics of the signal), and the code.

In human interactions, a sender combines the information source (brain) and the transmitter (articulation apparatus) and a message is the system of signified elements i.e. the meaningful form to which the recipient has given meaning on the basis of some specific code.

As far as Eco's theory of communication is concerned, the last element, code, is very important as it makes communication possible by establishing a correspondence between the signifier and the signified. Lexical codes contribute to various connotative meanings which may be shared only by some addressees whilst others would not understand them, so lexical codes can often play the role of noise and cause difficulties in communication. The code contained within a particular communication situation retains its central meaning which was indicated previously in a preceding communication situation. In particular communication difficulties may arise during the stages of receiving the message and interpreting it.

Developing his own idea of communicative modelling, Eco claims that standard models of communication offered by previous information theories do not adequately describe the actual processes of communication (Eco, 2005, p. 14) because they neglect the complexity and diversity of communicative situations: the simultaneous participation of the plurality of codes and sub-codes, different sociocultural circumstances, etc.

In Eco's theory, a concrete message appears as a blank form, a formula that can be filled with different meanings, so the notion of meaning becomes the central concept in Eco's communication model. We can, in this context, investigate meaning creation as consisting of the formation of personal meaning; coordination of meaning (s); creation of a common, shared meaning; creation of a jointly acceptable meaning. Here we also take on board Klyagin's view of communication as interaction between agents involving exchange of information and meaning taking place in the context of complex social systems and maintaining the sustainability and reproduction of those systems (Klyagin, 2007, p. 44).

#### **10. Meaning making in a dialogue: understanding and misunderstanding**

We will now analyse concrete examples of meaning making in communication focussing on two communication situations represented by two different dialogues and following the evolvement of meaning as it occurs whilst communicating parties pursue their own communication goals.

In the first communication situation Anne, after failing her driving test, is telling her grandmother all about it. This conversation leaves Anne frustrated but a talk with her friend Maria (the second communication situation) that takes place later, makes her feel much better. We will focus on the dialogical exchanges entailed within these communication situations.

## Dialogue 1.

- Grandmother: "Are you okay, sweetie? You seem upset."  
 Anne: "Granny, I failed my driving test today."  
 Grandmother: "Oh dear. Here you are, have a cup of tea and some cake."  
 Anne: "It was awful! I was so nervous and kept stalling, then my indicator flicked off misleading other drivers, and then I nearly ran someone over on a pedestrian crossing. I will never be able to drive! My life is ruined forever."  
 Grandmother: "Calm down, you'll be alright. It's not a big deal. Nothing last forever."

## Dialogue 2.

- Maria: "Hi, are you ok?"  
 Anne: "I failed my driving test."  
 Maria: "Oh no. Tell me what happened."  
 Anne: "I was so nervous to start with, and struggled to start the car. It kept stalling. Then five minutes into the test my indicator flicked off. The examiner said it was misleading other drivers and was a major mistake."  
 Maria: "Yeah, I failed my first test because of a really silly mistake."  
 Anne: "And then I nearly ran someone over who was on a pedestrian crossing."  
 Maria: "But you did not, that's what matters."  
 Anne: "I will never be able to drive!"  
 Maria: "Yes you will. I felt the same way when I failed my test. If you want we can have a practice together."  
 Anne: "Thanks."

In Dialogue 1, the grandmother really responds only to the word "forever". She indicates that she does not see a test failure as a problem and does not accept the dramatic nature of the situation, nor does she understand what this situation means for her granddaughter. Her words "nothing lasts forever" is not just an abstract phrase, as grandmother speaks here of her own experience. This point in the dialogue marks the moment of misapprehension after which, if the dialogue progresses further, the misapprehension will escalate. The grandmother's phrase "nothing lasts forever" is a monologue about her own life, not a response to her granddaughter's concerns.

We can see here the effect of semantic communication barriers: each communication agent acts and expresses herself according to her nature, her state of mind and what she expects from the conversation. The driving test failure is for Anne is not only a practical problem, it is a problem of her identity, which “is always linked with the problem of the possibility of existence of one continuous human being, combining various self-images” (Lukianova & Fell, 2015, p.523.), and being a competent driver is one of the self-images that are required for balancing Anne’s overall identity.

Cultural shifts between generations affect the grandmother’s and granddaughter’s understanding of the situation at hand and interfere with their mutual understanding. Studies conducted in the U.S. and Germany (which probably represent a wider spread of the trend) demonstrate that .

[W]omen are increasingly being ascribed more masculine features, such as competence and dominance. At the same time, there has not been a corresponding decline in ascribing them feminine features, such as empathy and willingness to help others (Tank & Prinzing, 2014, p. 99).

The grandmother’s failure to understand Anne’s concerns stems in part from the difference in cultural expectations that their respective societies (that differ in time) have in regard to a young lady, as Tank and Prinzing’s observation suggests. Whilst Anne suffers because she failed to assert herself as a competent and self-assured person, her grandmother whose worldview was formed in a different era is unable to understand Anne’s position.

However, despite Anne’s frustration, the dialogue with her grandmother does not constitute a complete communication breakdown. There is a bond between both women, and this bond deeply underlies their entire existence. Even if they do not share the understanding of the significance of the driving test failure, they share their belonging to the same family; they have known each other for a long time. They are people with a common interest of wishing success for each other, even though they may differ in the understanding of what that would constitute that success. Their meeting is thus not a dispensable event. It is an event that reinforces the deeper layers of their communicative relation, and the grandmother offering a piece of cake is both practical and symbolic act of rehearsing and maintaining their special relationship. Thus their dialogue, which includes Anne’s disappointment, creates another phase in their relationship, an afternoon spent together, new reality, totally in accordance with Bergson’s view of duration and the evolvement of the processes of being which in communication amounts to the formation of new meanings.

The duration of communicative situation begins before the actual dialogue takes place. Anne is upset and she is looking for support from the person who is her close family member. The grandmother, on the contrary, is relaxed, content and enjoys having a conversation with her granddaughter. These preconditions of the dialogue can be understood as implicit knowledge—the possibility of the sign to be transmitted or the possibility of its existence in communications. It is understood that the pure possibility of the sign to entail this readiness is the experiencing of the sign, considered as the first step in the existence of the sign in the communication system, that is, as a minimum level of semiotic interpretation. This is reflected in the emotional state of the young woman, her mood and in the relaxed, unhurried movements of the grandmother: two conflicting immediate interpretants are being generated here.

The immediate interpretant suggests only the possibility of the existence of the sign in communications, but it is important to note that the aims of interpretation are already being determined at this stage. As we can see, these aims are different for each participant as Anne seeks support, and the grandmother wants a quiet chat over a cup of tea. The transition from the immediate interpretant to the dynamic interpretant (generating intermediate meaning) occurs virtually instantaneously here at the logical definitions stage, which begins at the start of the dialogue with Anne uttering the key phrase "I failed my driving test".

The process of the logical definition is the transition from the internal state to the external expression of one's thoughts. Anne starts talking, the grandmother replies and in the process of the dialogue a dynamic interpretant is generated. This is no longer a vague cloud of implicit meanings but some definite meaning, which participants correlate with their own prior general knowledge. This process is subjective and, given the disparity of the participants' communication aims (formed at the first stage), we can see how misunderstanding between the grandmother and her granddaughter develops. The word "forever" uttered both by grandmother and granddaughter takes on a different meaning in their respective utterances depending on the significance that they attribute to it subjectively.

Further on, in the process of pragmatic clarification the reality of the communicative situation is formed and this is manifested as the final interpretant. This is the idea that becomes a rule which determines the communicant's approach to his or her further actions. The generating of the final interpretant is the result of a communicative act which, in our case constitutes two different final interpretants. One of them, manifested as Anne's dissatisfaction with the conversation with her grandmother, makes her turn to her friend Maria for support.

In Dialogue 2 Anne finds the understanding she needs. Again, the communicative situation starts with events that precede the actual dialogue, at the time when the girls arrange to have a meeting. Here lexical codes are fundamentally different from the first situation as most of the codes are shared by both participants who are young females of the same age group. This situation generates its own immediate interpre-

tants and it turns out that even before the dialogue per se takes place, we can talk about the internal coinciding of meanings.

In Dialogue 2 the communicating parties' communication objectives coincide and this creates a unified semantic space, which contributes to the creation of other conditions for the formation of the dynamic interpretant. Anne's phrase "I failed my driving test!" receives an emotional support from her friend. The dynamic interpretant in this case appears as a single semantic field shared by both. Externally, this is expressed in phrases of support, emotional empathy, practical advice. We can imagine a further development of the dialogue where both friends analyse Anne's mistakes that made her fail the test, thus creating further dynamic interpretants.

Further on, in the process of creating the final interpretant, the relation between meaning and representamen takes the form of a fixed pattern, a new meaning is formed, the value of the interpretant for this situation is determined, the mode of actions associated with this situation is set and allows achieving the goal that was set by communicating parties. Anne's friend's offer to help with the next attempt to pass the test can be seen as the result of the communication process in Dialogue 2, the true interpretation of meaning and the genuinely creative, new element of the process of being in the Bergsonian terms.

## **Conclusion**

A person enters the process of communication as a unique person, and is recognised by another person—a partner in dialogue—also as a unique person. Whilst conducting a dialogue, we act as if we read the other person, and the extent of the success of that reading regulates the process of communication, as the measure of accuracy of the reading of another person determines the success of communication.

The course of getting to know another person several processes take place: the emotional evaluation of our interlocutor, an attempt to understand the structure of his or her actions, working out our own strategy aimed at changing our own behaviour in accordance with the other person's actions.

Eco stresses the difference between denoting, (*denotare*) and signifying (*significare*)—between denotation and meaning, that is, between a reference to something and signifying something (Eco, 2005, p. 307). Thus two types of analysis of a communicative act are possible here: the analysis of the formation of denotative values (Eco) and analysis of the sequence of the creation of meanings (Peirce).

The first process accounts for the following elements:

The specificity of the intellect of those who communicate;

Unequal knowledge of the subject of conversation (for a young lady, a driver's license is an integral part of life nowadays);

Different lexicon and thesaurus (experience of a grandmother, the minimalism of youth);

Lack of a common understanding of the communication (the significance of obtaining a driving license for further life, the importance of it for a social status and so on.)

Cultural and age differences, etc. (Maturity and young age in Dialogue 1).

These elements have a direct impact on the process of creating new meanings that, according to Peirce's theory of degrees of clarity, appear as a sequence of meanings progressively emerging in communication situations. These new meanings are intermediate results of some communication, interpretants. The interpretant is an effect made on the perceiver by the sign, something that is being made in the mind of the interpreter, so interpretant can equated with meaning.

The first degree of clarity is implicit knowledge, which corresponds to the immediate interpretant. This is a type of transmitting signs into some stable transferability, which indicates a potentiality, ability. The second degree of clarity is a logical definition corresponding to the dynamic interpretant as any consequence, actually produced by the sign per se. The third degree of clarity, pragmatic clarification, corresponds to the final interpretant. In practice, this result translates into the influence that the sign produces on the communication partner.

The above analysis demonstrates that Peirce's theory of symbiosis can resolve the Bergsonian communication problem and that it can also contribute to the further development of Bergsonism as a theory that explores the dynamic nature of phenomena. Instead of seeking communication which would be the duplication of some one else's conscious life in our own, we can suggest a view of communication which entails creation of new meanings and inspirations.

#### *Note*

This paper has addressed the current volume's theme, Symbolic Communication, in the following way: The authors initiated a philosophical study of ways in which symbols, broadly conceived, either impede or facilitate genuine, fulfilling communication between people. Whilst creating an unlikely, yet successful, dialogue between Bergson and Peirce, the authors searched beneath the surface of a mere transmission of meanings via concepts and words, in an attempt to uncover deeper layers of shared meanings that underpin conceptual exchanges.

This study was supported by The Tomsk State University Academic D.I. Mendeleev Fund Program in 2015. Prof. Natalia Lukianova took part in this study in 2015.

This study was completed as part of the research project "Youth's Portrait" of the Future: Methodology of Investigating Representations" funded by the Russian Humanitarian Scientific Fund. Grant Number 15-03-00812a. Prof. Natalia Lukianova and Dr Elena Fell took part in this study.

## References

### *Key original texts*

- Bergson, H. (1910). *Time and Free Will: An Essay on the Immediate Data of Consciousness*. London: George Allen and Unwin.
- Bergson, H. (1964). *Creative Evolution*. London: Macmillan & Co Ltd.
- Bergson, H. (1999). *An Introduction to Metaphysics*, transl. T. E. Hulme. Indianapolis/Cambridge: Hackett Publishing Company.
- Bergson, H. (1991). *Matter and Memory*, transl. Nancy Margaret Paul and W. Scott Palmer. New York: Zone Books.
- Calvo, M. G., & Lang, P. J. (2004). Gaze patterns when looking at emotional pictures: Motivationally biased attention. *Motivation and Emotion*, 28, 221–243.
- Carretie, L. Hinojosa, J. A., Martin-Loeches, M., Mecado, F., & Tapia, M. (2004). Automatic attention to emotional stimuli: Neural correlates. *Human Brain Mapping*. 22, 290–299. doi:10.1002/hbm.20037.
- Eco, U. A. (1976). *Theory of Semiotics*. Bloomington: Indiana U.P.
- Peirce, C. S. (1992). *The Essential Peirce / Charles S. Peirce*. – V. 1: Selected philosophical writings (1867–1893). Bloomington: Indiana University Press.
- Peirce C. S. (1998). *The Essential Peirce / Charles S. Peirce*. V. 2 : Selected philosophical writings (1893-1913). Bloomington: Indiana University Press.
- Peirce, C. S. (1931-58). *Collected Writings* (8 Vols.) (Eds) Charles Hartshorne, Paul Weiss & Arthur W Burks. Cambridge, MA: Harvard University Press.
- Peirce, C.S., (1958). *The Collected Papers*. Volumes 7 & 8. Arthur Burks. (Ed.) Cambridge M.A.: Harvard University Press.
- Peirce, C.S., 1982- *The Writings of Charles S. Peirce: A Chronological Edition*. Volumes 1–6 and 8. Eds. Peirce Edition Project. Bloomington I.N: Indiana University Press.
- \*\*\*
- Антонова И.Б. и др. (2013). *Философия коммуникации: проблемы и перспективы*. СПб: Изд-во Политехн.ун-та.
- Antonova I.B. et al. (2013). *Philosophy of Communication: Problems and Perspectives*. St. Petersburg: Polytechnic University Press.
- Atkin, A. (2013). Peirce's Theory of Signs. Zalta, E. (Ed.), *The Stanford Encyclopedia of Philosophy*. Retrieved February, 25, 2015 from : <http://plato.stanford.edu/archives/sum2013/entries/doi : peirce-semiotics.url>.
- Ardoin, P. & Gontarski, S. E. (2013). *Understanding Bergson, Understanding Modernism*. London: Bloomsbury Academic.
- Bergman, M. (2009). *Peirce's Philosophy of Communication*. New York: Continuum.



- Bergman, M. (2011). *Peirce's Philosophy of Communication: The Rhetorical Underpinnings of the Theory of Signs*. A&C Black.
- Bergman, M. (2012). Charles S. Peirce: Signs of Inquiry. In J. Hannan (Ed.). *Philosophical Profiles in the Theory of Communication*. (p.409-437). New York, Bern, Berlin, Bruxelles, Frankfurt am Main, Oxford, Wien: P. Lang.
- Bergman, M. (2000). Reflection on the Role of the Communicative Sign in Semiotic. *Transactions of the Charles S. Peirce Society: A Quarterly Journal in American Philosophy*, XXXVI(3), 225-254.
- Bergman, M. (2003). Peirce's Derivation of the Interpretant, *Semiotica*, 144, 1-17.
- Calvo, M. G., & Lang, P. J. (2004). Gaze patterns when looking at emotional pictures: Motivationally biased attention. *Motivation and Emotion*, 28, 221-243.
- Carretie, L. Hinojosa, J. A., Martin-Loeches, M., Mecado, F. & Tapia, M. (2004). Automatic attention to emotional stimuli: Neural correlates. *Human Brain Mapping*. 22, 290-299. doi:10.1002/hbm.20037.
- Cornelis de Waal. (2013). *Peirce: A Guide for the Perplexed (Guides for the Perplexed)*. Bloomsbury Academic.
- Deledalle, G. (2001). *Charles S. Peirce's Philosophy of Signs: Essays in Comparative Semiotics*. Indiana: University Press.
- Eco, U. (1976). Peirce's Notion of Interpretant. *MLN (Modern Language Notes)*. *Comparative Literature*, Vol. 91, No. 6, 1457-1472.
- Eco, U. & Peraldi F. (1980). Peirce et la sémantique contemporaine. *Langages*, 14e année, n° 58. *La sémiotique de C.S Peirce*, 75-91.
- Eco, U. (1986). *Semiotics and the Philosophy of Language (Advances in Semiotics)*, John Wiley & Sons. Retrieved January, 03, 2015 from /web/revues/home/prescript/article/lgge\_0458-726x\_1980\_num\_14\_58\_1848. doi : 10.3406/lgge.1980.1848.
- Eco, U. (2004). *The Absent Structure: Introduction to Semiotics*. St. Petersburg: Simposium.
- Эко У. (2004) *Отсутствующая структура. Введение в семиологию*. СПб.: Симпозиум.
- Эко У. (2005). *Роль читателя. Исследования по семиотике текста*. СПб.: Симпозиум.
- Eco, U. (2005). *The Role of the Reader: Explorations in the Semiotics of Texts*. St. Petersburg: Symposium.
- Fell, E. (2009). Beyond Bergson: the ontology of togetherness. *Empedocles European Journal for the Philosophy of Communication*. 1 (1), 9-25. ISSN 1757-1952 doi: <http://dx.doi.org/10.1386/ejpc.1.1.9/1>.
- Fell, E. (2010). The fabrication of memory in communication. *Empedocles: European Journal for the Philosophy of Communication*, 2 (2), 227 - 240. doi: [http://dx.doi.org/10.1386/ejpc.2.2.227\\_1](http://dx.doi.org/10.1386/ejpc.2.2.227_1).
- Fell, E. (2012). *Duration, Temporality, Self: Prospects for the Future of Bergsonism*. Oxford: Peter Lang. doi: 10.1111/heyj.12089.

- Fell, E. (2012). Memory transition between communicating agents. *ESSACHESS - Journal for Communication Studies*. 5 (2(10)), 289-309. ISSN 2066-5083.
- Fell, E. (2013). Bergson's aesthetics: Art as a unique form of communication. *Empedocles: European Journal for the Philosophy of Communication*, 4(1), 63-71. doi: [http://dx.doi.org/10.1386/ejpc.4.1.63\\_1](http://dx.doi.org/10.1386/ejpc.4.1.63_1).
- Guillemette, L. & Cossette J. (2006). *The Semiotic Process and the Classification of Signs*. Louis Hébert (dir.), *Signo* [online], Rimouski (Quebec), Retrieved February, 25, 2015, from <http://www.signosemio.com/eco/semiotic-process-and-classification-of-signs.asp>.
- Hale, C. (2011). *Umberto Eco Takes Semiotics to the Masses*. Retrieved July, 10, 2015, from <http://www.freepatentsonline.com/article/ETC-Review-General-Semantics/265030664.html>.
- Hookway, C.J. (1985). *Peirce*. London: Routledge.
- Klyagin, S. V. (2007). Social communication: the creation of a person and society, *RSUH Vestnik*, 2007, 1, 33-47.
- Клягин, С. В. (2007). Социальная коммуникация: созидание человека и общества // *Вестн. ПГГУ*. 2007. № 1., стр. 33-47.
- Lalor, B. (1997). The Classification of Peirce's Interpretants. *Semiotica*, 114-1/2, 31-40. doi: 10.1515/semi.1997.114.1-2.31.
- Liszka, J. (1990). *Peirce's Interpretant*. *Transactions of the Charles Sanders Peirce Society*, 26, 17-62.
- Лукьянова, Н. А. (2010). *От знака к семиотическим конструктам коммуникативного пространства*. Издательство Томского Политехнического Университета.
- Lukianova, N. A. (2010). *From the Sign to Semiotic Constructs of Communicative Space*. Tomsk Polytechnic University. Retrieved March 25, 2015, from [http://fsf.tsu.ru/wp\\_test/wp-content/uploads/monograph/MON-10.pdf](http://fsf.tsu.ru/wp_test/wp-content/uploads/monograph/MON-10.pdf)
- Лукьянова, Н. А. (2011). Значение идей Ч. С. Пирса для философии коммуникации. *Известия ТПУ*, 6, 82-88.
- Lukianova, N. A. (2011). The meaning of C. P. Peirce's ideas for the philosophy of communication. *Izvestiya TPU*, 6, 82-88. Retrieved March 25, 2015, from <http://cyberleninka.ru/article/n/znachenie-idey-ch-s-pirsa-dlya-filosofii-kommunikatsii#ixzz3NE0Lei1m>.
- Лукьянова, Н. А. (2012). Уровни соподчинения семиотических элементов в коммуникативном пространстве. *Известия Томского политехнического университета*, 321, 6. Retrieved January 4, 2015, from <http://cyberleninka.ru/article/n/urovni-sopodchineniya-semioticheskikh-elementov-v-kommunikativnom-prostranstve>.
- Lukianova, N. A. (2012). The levels of co-subordination of semiotic elements in communicative space. *Izvestiya TPU*, 321, 6.
- Лукьянова, Н. А. (2012). Коммуникативные миры Ч.С. Пирса. *Научно-технические ведомости Санкт-петербургского политехнического университета. Гуманитарные и общественные науки*, 1 (143), 235-243.

- Lukianova, N. A. (2012). C. S. Peirce's communication worlds. *Scientific and technical news of the St. Petersburg Polytechnic University. Humanities and Social Sciences*, 1 (143), 235-243.
- Антонова И.Б. и др. (2013). *Философия коммуникации: проблемы и перспективы*. СПб: Изд-во Политехн.ун-та.
- Antonova I. B. et al. (2013). *Philosophy of Communication: Problems and Perspectives*. St. Petersburg: Polytechnic University Press.
- Lukianova, N. & Fell, E. (2015). Internet of things as a symbolic resource of power / *Procedia - Social and Behavioral Sciences*. 166, 521 – 525. doi:10.1016/j.sbspro.2014.12.565.
- Ocula: Semiotic Eye on Media*. Retrieved March 25, 2015, from <http://iass-ais.org/cfp-ocula-semiotic-eye-on-media-the-object-is-the-semiotics-of-economic-discourse>.
- Ransdell, J. (1977). Some Leading Ideas in Peirce's Semiotic. *Semiotica*. 19, 157–178.
- Short, T. L. (2007). *Peirce's theory of signs*. Cambridge: Cambridge University Press.
- Saussure, F. ([1916] 1983). *Course in General Linguistics* (trans. Roy Harris). London: Duckworth.
- Švantner, M. (2014). Struggle of a description: Peirce and his late semiotics. *Human Affairs*, 24(2), 204-214. doi: 10.2478/s13374-014-0220-2.
- Tank, J. & Prinzing, M. (2014). Remnant “Family”: the role of women in the media discourse on families. *ESSACHESS. Journal for Communication Studies*, 7, 2(14), 95-117. doi: 10.1080/09540253.2014.970614.
- Noth, W. (1994). *Origins of semiosis: sign evolution in nature and culture*. Retrieved July 10, 201, from [https://books.google.co.uk/books?id=Z7YLYqxaNBYC&pg=PA1&lpg=PA1&dq=winfried+Noth+peirce&source=bl&ots=aEiraQZ5Tg&sig=igu0Ci8ExO4OQQAwj5ij-yHtD4&hl=en&sa=X&ei=d\\_niVJL1MIfSaOW5gNgP&ved=0CGMQ6AEwCQ#v=onepage&q=winfried%20Noth%20peirce&f=false](https://books.google.co.uk/books?id=Z7YLYqxaNBYC&pg=PA1&lpg=PA1&dq=winfried+Noth+peirce&source=bl&ots=aEiraQZ5Tg&sig=igu0Ci8ExO4OQQAwj5ij-yHtD4&hl=en&sa=X&ei=d_niVJL1MIfSaOW5gNgP&ved=0CGMQ6AEwCQ#v=onepage&q=winfried%20Noth%20peirce&f=false).