

Edmundo Balsemão Pires – *Communication and Consciousness: the Critique of Representation from Peirce to James (Draft for the oral Presentation)*

1. Overview

In many writings, W. James criticized the concept of a *double* of the object in the mind as a wrong perspective about the mental activity involved in the construction of the experience, a mistaken conception on the balance of the conscious and the unconscious aspects of the knowing process and, generally speaking, a misconception of the importance of the imaginative projections along the temporal emergence of the “actual” perception. But he didn’t pay special attention to the linguistic extension of this “double” in the theory of sign and proposition of the modern philosophers that were continuing Aristotle.

Along Peirce’s discussion of the Metaphysical and Logical significance of the Doctrine of Categories emerged the idea of a cyclical, sequential and self-catalysed sign-activity or *semeiosis* coupled with a much more complex triad of object, mental concept and sign than supposed in the classical and modern idea of representation. But, Peirce didn’t extended his concept of a self-catalysed *semeiosis* to communication as a system autonomous from the individual consciousness and to biosemeiosis.

Additionally, If Peirce and James agree in the refusal of the theory of representation, their rejection came from different horizons and their critiques don’t mean the same. We will see if their views are convergent.

2. Consciousness

2. 1. The formation of meaning in consciousness

It is not incidental the inclusion of a Lecture on “Bergson and his Critique of Intellectualism” (Lecture VI) in James’s Hibbert Lectures - *A Pluralistic Universe*. In the writings of the French philosopher James could find a metaphysical proof of the distinction of the psychic systems towards the physical and the biological, in the difference between the *conscious*, the *organic* and the *inert* realms. However, this distinction leads to the need for elucidation of the nature of the causation between the three levels. H. Bergson was very sceptical regarding the idea of a direct cerebral causation of the consciousness (*l’Évolution Créatrice*, p. 126). His observations on the difference between the brain of the animals and the human brain made obvious that the human brain is structured in such a complex way that it liberates the superior form of consciousness one finds in humans. The complexity of the organization of matter in the living organisms establishes not only complex forms of life and consciousness, but the autonomy of consciousness properly speaking. *l’Évolution Créatrice* develops the connexion of the brain to the consciousness as an association between different orders of complexity that are mutually adapted in the universal process of Life. The mutual adaptation is possible because the Human brain doesn’t dictate nothing qualitatively determined, but a certain number of possible combinations which the consciousness actualizes in a qualitative domain characterised by a permanent modal change of the actual in the potential and *vice-versa*. In the inner *durée* consciousness keeps the essential fluidity typical of all the organic structures in opposition to the inorganic matter and only along the stream of the psychic time the consciousness is close

to itself. The knowing process emerges along the stream of time and consciousness Bergson called *durée*. This version of the cognitive process is very different from the intellectualist doctrine of representation that Bergson criticizes.

W. James refused the traditional theory of representation and along the section I of the *Essays in Radical Empiricism* he tried to develop his own version of the inner intentionality of consciousness. According to his version, the continuity of the experience is something that is achieved inside a series of connected moments of an unbroken stream of thought from a beginning point until a result. In such stream what is called the object or meaning is the result of this continuous, conjunctive, sequence of thinking. What compels to a relative pause of the thinking process, as its teleological orientation, is the cognitive interest of the cognisor and the action he associates to the particular sequences of the stream. Thus, what one calls the object is given in the immanent process of the continuous thinking as its (relative) teleological conclusion or *terminus*. The subject can give an account of such internal oriented procession until the meaning or object. But it is not possible to establish a correspondence part-to-part or point-to-point between the object of consciousness and the exterior thing. This means that the *whitness* of the inner connectivity of the thinking process doesn't give a precise picture of the *whitness* of the transcendent relations in what occurs in the physical world. The true experience is self-sufficient regarding its inner teleological tendency towards the meaning or object: "experience and reality come to the same thing" (*Radical Empiricism*, p. 20). James criticized both the representationalists and absolutists because they "derealized" the experience (*Idem*, p. 21). His critic of the "absolutists" focused Bradley's *Appearance and Reality* as its immediate target, and indirectly Hegel. I will not scrutinize here the accuracy of the indirect critiques against Hegel's *Phenomenology of Spirit* and *Logic*.

Let me go to the critique of "representationalism".

If the body, as "my body", is the "objective nucleus of every man's experience" (*Radical Empiricism*, p. 22) and if it remains in continuity with the psychic experience, in such a way that one may include the organic body in the erection of the self, the same doesn't happen with the physical reality in the primary sense of the concept. This means that around the same physical, exterior, reality a great variety of psychic processes may start, because the association to it is discontinuous and not exclusive of a singular thinker.

Experience is not based on representations if with the word "representation" one means a double of the original physical thing in the mind. The same applies to fictive substitutes of the physical thing. However, in the stream of thoughts it is possible to identify psychic processes where short thoughts, or concepts and ideas, operate by substitution of other more complex thoughts. *But the value of this substitution is to be evaluated always regarding its function in the particular stream as a temporal continuous and not as tool to get out from the stream.*

The transitions and conditional ends are the unique elements to be taken as real parts of a course of experience and substitutions are aspects in the transitions. Nothing in this field is able to operate definitely as a substitute for a physical thing or for an alien course of

experience, because one can't abstract from the singular combination of possibilities that made the actual stream of thought possible which is individual, *hic et nunc*, and not repeatable. The equivalent of a "whole system of experiences" would be a chaos made by an indefinite combination of possibilities of stream paths and not an order (Essay, p. 21).

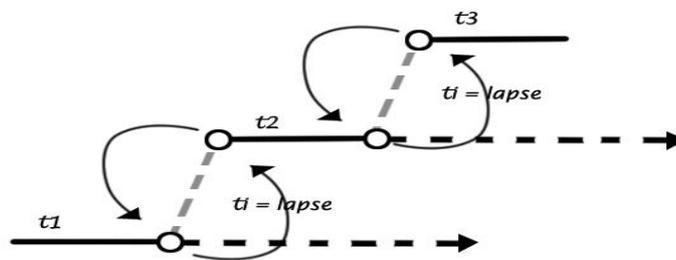
The objective reference of a thought is not directly established by an isolated figurative act starting with the physical thing and ending in the mind but it is a temporal teleological oriented process towards an end or final meaning, where it is admissible differences between virtual stages in the formation of the meaning and actual, perceptual stages that fulfil the requirements for the conclusion of the stream of thought regarding the thing or event. This distinction shall be emphasized because a great part of our knowledge remains in the virtual stages. From the impossible fulfilment of all the conceptions of our virtual knowing follows that the "pragmatic method", which is a guessing about the practical consequences of our conceptions, is the best way to certify the correctness of our ideas. But in James's version, at the end, this method leads to a relative privilege of the perceptual elements of the experience regarding the other virtual psychic components. This is mainly due to a shift from the difference between vivid / non-vivid, virtual / actual and fictional / perceptual stages of the stream.

What are the closing criteria for the reaching of meaning? Is it the satisfaction with our picture of the real as a sort of positive emotional response to it? It coincides with the content of a "final" percept, as proposed by James? Or it stands for a felicitous momentarily "it fits" in a running process of adjustments of inner experience and bodily orientation?

If we choose the Jamesian answer to the alternatives and the idea of a tendency of the virtual knowing to the actuality of a percept there is no radical difference between the "pragmatic maxim" and verificationism that leads to a *quasi* representationalism. If we emphasize the value of the temporal drift, or the "in between", every moment of the experience is "virtual" and experience is a never ending path towards fulfilment. The exclamation "it fits" stands for a chance that happens when from a variety of candidates such as a percept, fictional contents or emotions for the completion of a coherent picture of the stream of thought. It seems that James was not sufficiently radical to realize that in consciousness there is nothing definitely "actual" or "objective".

Our position regarding James's idea of virtual and actual (or perceptual) elements of the stream is twofold. Against James we say that meaning is not coincident with a final perceptual fulfilment of a flow. We are asserting that in consciousness alone there is no valid way to distinguish between actuality and virtuality. This distinction entails communicative events and not only consciousness contents. With James we agree that in consciousness meaning emerges from a temporal adjustment, and we add: it is a temporal adjustment of different elements of the experience in order to get the best layout for a puzzle, which belongs not to consciousness but to language in the form of propositions.

James declares that the stream of consciousness is a continuous flow of elements connected together along a nonstop chain. But in order to give an account of the objective reference of the thought he acknowledges a relative break in the chain to allow the formation of the consciousness of identity. However, it seems that he didn't realize that with the passage from the continuous flow to the consciousness of identity one is facing the emergence of a denotative symbolic action, which begins with imagination and at the end will mobilize names, the relation of names and verbs, or going to the point: language. From the perspective of consciousness as a nonstop metamorphosis of virtual and actual elements every meaning-fixation coincides with an interruption or with an internal reflexive loop.



In the figure above one can visualize the formation of reflexive loops in the immanent time entailing the internal reference to identity through imaginary formations and imaginary time meta-flows (in the discrete lines).

In his *Essays in Radical Empiricism* James passes from the psychic notion of meaning in the immanence of the teleological stream of thought to the problem of the objective reference of thought and to the question of the truth. But in such passage James didn't acknowledge the use of signs.

2. 2. The critique of the idealist whole-and-parts relation

All the mental phenomena suppose the identity of appearance and reality. This is a thesis common to the idealists and to James's own conception. According to James the application of the idealist relation of the whole and the parts to the finite consciousness and to what he calls the super-consciousness has a major negative consequence or is paradoxical.

In *A Pluralistic Universe* his argumentation against intellectualism and idealism states that in the Idealist version the finite consciousness relates to the super-consciousness as a part to the whole. But at the same time the difference of the finite and the super-consciousness must be a difference for a consciousness and in this case for the super-consciousness, which entails that the finite consciousness must be apparent and not real. Because this involves the rejection of

the initial identity of appearance and reality the idealist supposition of a super-consciousness relating to the finite as the whole to the parts must be false or the idealist thesis inconsistent and self-contradictory.

James's critique of the idealistic "whole and parts" relation is the ground for his strategic isolation of the consciousness as a special field, and a new disciplinary subject matter.

The "field of consciousness" can only be fully acknowledged under some general epistemological and ontological premises. I will detach four main consequences. Firstly, the field of consciousness is self-sufficient regarding what appears for a consciousness; secondly, the admission of this self-sufficiency and the rejection of a super-consciousness entails the absolute individuation of the consciousness; thirdly, the idea of pluralism reflects the subtraction of the finite consciousness from its alleged source in the absolute; and finally the space-time identity of the object is not a guaranty of the uniformity of the images of the world.

But these obvious consequences from the critical starting point against the monistic idealism produce the difficult alternative between a radical finite distribution of the "consciousness field" and the admission of a unifying principle (p. 126). Some pages ahead James resumes and summarizes this dilemma in the alternative between the logic of identity or the irrationality (p. 128).

His choice will be on the side of the "irrational" character of psychical reality and life. But in order to make clear his choice he should explain what is "irrational".

The access to the inner, qualitative reality is only possible by a sort of participation, "direct acquaintance" or immediate experience of the proper or of an alien psychic life and not by rational, conceptual reconstruction.

Connected with his idea of the inner intentionality or immanent orientation of the stream of thought James has developed a conception of the physical environment of the consciousness and the relation to other minds. The thing-as-such was *re-(ob)-jected* to the environment in order to preserve the integrity of the unbroken connectivity of thoughts. The selfhood or personality of the stream of thought gives an additional complexity to our reading of James's pluralism: the other minds are also part of the environment of the psychic system. This is due to the fact that the reference to the consciousness is always reference to an intimate, individuated flow and the psychic systems are always split in individuated flows. Other flows of consciousness belong to a non-original, non-intimate given. If the access to other minds is mediated by the animated body of the others it emerges always as a symbolic, indirect reference through the analogical imagination, as also Husserl pointed out.

The correspondence of "mine" and "yours" perceptual conceptions of the things or events is always tuned by mutual confirmation and the common reference to objects is frequently associated to the spatial location of the thing or event towards the organic bodies.

The problem James didn't solve was the relation of the common reference of the multiple individuated conceptions of the real to language and communication.

This leads, in the following remarks, to the special need for integration of the analogical imaginary projections of the "mine" and "yours" in language and communication.

Firstly, the habit to combine the immediate flow of consciousness and the stream of time in a unique course simply derives from the impossibility to have an intuition of time with no contents of consciousness, with no qualities of the experience.

Secondly, the continuity of the stream is made of sometimes imperceptible conscious and unconscious reflexive loops connecting memories, actual states and projections. In the conscious life, even the distinction between past and present entails reflexion. The virtual / actuality distinction refers to a distinction in complex virtual, imaginary re-entries.

Thirdly, the reflexive loops are knotting bridges that work through dissimilar time strata in order to ensure the integrity of conscious life but not the continuity of time. The understanding of the way the loops work leads us to a multilevel notion of time and consciousness, made of multiple streams and meta-streams (imaginary streams) as a combination of linear succession and imaginary recursion of impressions and qualities of the experience.

Lastly, in the reflexive, symbolical, internal relations of streams and meta-streams one can't recognize parts standing to other parts as a representation towards an original or a teleological orientation of the virtual parts of the stream to perceptual fulfilments. This means that one can avoid a representational view of the understanding of the linkages within the conscious life without forcefully have to support the monolinear flow of time and consciousness. But the end of a flow has only compulsory value for the consciousness if one associates this stop with communicative events. Nothing in the immanent flow alone can stop its infinite virtual loop.

3. Communication

3.1. Peirce's transformation of the concept of representation through the sign-relations

These critical remarks will lead me now to C. S. Peirce's notion of thought as symbolic activity in order to evaluate if the semiotic examination of the process of thought is a better candidate to the critique of representation. Regarding my last critical remarks on the monolinear flow of time and consciousness, if Peirce's analogy of thought as a sign is true, then the "stream of thought" must be a reflexive internal loop only momentarily adhering to the so-called flow of time.

Observations on "representation" are documented in the seminal text *On a New List of Categories* (1868), based on a quasi-kantian double deduction of the categories from the judgements and the judgments from the acts of reduction to the unity of the multiplicity of the conscious content. Here, Peirce started with the psychological mechanism of attention, as

“denotative power of the mind”, to illustrate the operations of the mental life analogous of the *diairesis* and *synderesis* in propositions. This denotative power of the mind is turned to the flow of ideas and impressions and here it isolates something immediately present to the consciousness, that Peirce calls *substance*. The text distinguishes three internal references in the formation of judgments or in the application of predicates to the substances by the mediation of the copula or being: the reference to a *ground*, to a *correlate* and the reference to an *interpretant*. The analysis of the three internal references joins psychological, logical and semiotic aspects. The concept of representation is reserved to the general conceptions of the mind which can originate judgements. Conceptions can be incomplete or complete. They are incomplete if they don't include the three references, but only one or two. They are complete whenever for the formation of the conception the reference to the interpretant is included. Likeness, Indices (or Signs) and Symbols are representations resulting from the reference to a ground (quality), to a correlate (by contrast and comparison) and to an interpretant (or mediating representation), correspondingly.

By recognizing the validity of the medieval definition of Logic as the study of “second intentions” and identifying second intentions with the concepts of the understanding and the primary intentions with the objects, Peirce further characterized second intentions as “the objects of the understanding considered as representations”. But he adds that such objects must be complete representations and not only icons or indices of their objects. In order to be complete representations they must include the interpretants. As complete representations all “second intentions” are symbols. From this conclusion comes the definition of Logic as the study of symbols and the triadic division of symbols in terms, propositions and arguments. The importance of the interpretant in the symbolic representation is evident. Thus, the conventional notion of representation was almost limited to icons and indices.

The 1868 text is not unequivocal concerning the definition of interpretant. Sometimes, it takes as a valid definition the equivalence between interpretant and translator. According to the best proposal of definition, an interpretant is *a mediating representation which represents the relate to be a representation of the same correlate which this mediating representation itself represents*. The exemplification that follows this definition in the text shows that Peirce intended with this “mediating representation” a thought operation that connects the object of a conception, the expression of the conception and the effect it produces in the mind(s). The equivalence between interpretant and translator as “mediating representation” is comprehensible if one remembers that the translator-interpretant is the responsible for the establishment of the identity of two different linguistic expressions of the same object in the mind. Thus, it is the translator the responsible for the causation of the identity or resemblance by mediating the linguistic difference.

The further evolution of the concept reveals even more the decisive aspect of such causality. The definition of representation follows: *A representation is that character of a thing by virtue of which, for the production of a certain mental effect, it may stand in place of another thing.*

The thing having this character I term a representamen, the mental effect, or thought, its interpretant, the thing for which it stands, its object (1.564).

In *On a New List of Categories* was suggested the conceptual frame and terminology of the later work on semiotics in the Letters to Lady Welby.

In a way somewhat familiar to the late Wittgenstein, in his *Questions concerning certain Faculties claimed for Man* (1868) Peirce examined the question of the existence of thought without signs. His analysis led to the conclusion that *The only thought, then, which can possibly be cognized is thought in signs. But thought which cannot be cognized does not exist* (5. 251).

This means that the process of cognition entails a self-reflexive movement and doesn't coincide with the immediate, monolinear, temporal flow of consciousness or with the immediacy of the content of the inner experience. The reductionist habit to reduce signs to the thought and the thought to the object (of perceptual content or intuition) is a consequence of the fear of a *regressio ad infinitum*, as Peirce showed in his critique of intuitionism. But, Peirce still maintains the concept of representation. Indeed, another justification for the non-reductionist thesis he also adduces lies on the fact that there is not a proper idea of thought without a notion of what it *represents*. Thought is a process of self-enchainment where it is impossible to discover ultimate sources. He uses the concept of representation positively, as meaning the essential characteristic of the cognizing process. Because *thought which cannot be cognized does not exist* one needs to acknowledge the cognition as a process of meaning donation of the thought.

Such meaning-donation means representation through symbolic nexus. Sometimes, the symbolic nexus is also called "representation". However, with this word is meant the internal reference linking *representamen*, *object* and *interpretant*. The character of symbolic linkage of the thought stream was developed along the pragmatic critique of the Cartesian intuitionism in *The fixation of Belief* (1877) and *How to make our ideas clear* (1878), as an aspect of the rebuilding of the doctrine of the three categories.

The maturity of Peirce's critique of the privilege of the "clara et distincta perceptio" in 1877 and 1878 agrees with the formation of his theories on the scientific enquiry, the psychology of belief, the doctrine of the logical inference grounded on signs-relations and also the conviction of the identity of thought and sign-activity. These achievements constitute a system.

His notion of the role of the representations in mental life is never isolated from his understanding of the role of representations in the scientific endeavour or in the scientific ways to develop inferences which are communicative processes not reducible to mental states.

What is an inference?

In 1869, in *Grounds of Validity of the Laws of Logic: Further Consequences of Four Incapacities* continuing ideas from two other texts published in the *Journal of Speculative Philosophy* -

Questions Concerning Certain Faculties Claimed for Man and Some Consequences of Four Incapacities (both from 1868) – Peirce suggested the figure of the absolute sceptic, unable to justify any sentence or belief, in order to establish his refutation of scepticism, the impossibility of an absolute beginning and his thesis that every judgement results from (previous) inference. Every inference accepts to be recreated in the syllogism: *every S is M; M is P; then S is P*. Such form is the habitual ground for ratiocination in everyday life producing a continuous chain of conceptions. This means that what is valid as real must have the characteristic of something engendered in a cognitive running process. From these assertions follow three main consequences: *i) (...) real things are of a cognitive and therefore significant nature (...); ii) to predicate something of another thing is equivalent to say that the first is a sign of the other; iii) cognition is a process of semiotic nature.*

In the *Logic* of 1873 one may follow the essay to define inference in the scientific enquiry from its grounding elements: ideas or representations, formation of ideas through other ideas, development of ideas through inferential previous streams more complex. Peirce never isolates an inference from communicative connections. Psychic inferences of thought are thus mixed with communicative based inferences. On the other hand, the hypothetical nature of science explains that the inferences are never dead conclusions but prospective and conditional ways of disposing the known subjects. Disciplined inferences are methods. The convenience of the treatment of inferences as methods in the scientific enquiry is related to the creative orientation of the inferential stream towards the hypothetical (heuristic) activity of Science.

The requirement of self-sufficiency of the Cartesian intuitions limits the “clear and distinct perception” and the justified knowledge to a few moments in the psychic life and contradicts the continuity of the knowledge claimed for the scientific enquiry and common sense. According to the article *Logic* (1873) and against Cartesianism, the normal movement of the scientific enquiry consists in a development from some temporary proto-beliefs which are general ideas able to start the inferential processes. Examples of proto-beliefs are the sensation and the observation. In the process of the scientific enquiry only observations are real inferential moments. Sensation is a starting point and a testimony of novelty in the thinking run but by itself it is not an inference. What Peirce calls the “final belief” is the consequence of this inferential process of fixation of the general opinion combining sensations and observations. In the case of the scientific enquiry the general opinion is not a solipsistic state of mind, but a consequence of a cooperative work in the formation of meaning and the cause of the general belief in a community of research. This means that he gives to communication and not to consciousness alone the final responsibility for the formation of the belief.

The heterogeneous character of the conscious running of the inferences and the communicative running of arguments was not emphasized. However, a faith in an immediate connection of the stream of consciousness and communication would be pure ingenuity.

Peirce didn't give an adequate depiction of the enchainment of consciousness and communication. This remains a problem.

Certainly, he inverted the classical scheme of the representation and instead of conceiving the sign as a double of the thought-thing relation he took the sign as an activity characteristic of the thinking process itself, according to the famous definition of *semiosis*: *By semiosis I mean... an action, or influence, which is, or involves, a cooperation of three subjects, such as a sign, its object, and its interpretant, this three-relative influence not being in any way resolvable into actions between pairs* (5.484). But Peirce didn't realize that consciousness and communication are two relative independent sources of meaning generation. It's difficult to realize how the final interpretants or the community's beliefs influence the actual running of a psychological experience.

On the other hand, if Peirce's analogy of Man with a Sign stands for a radical, unrestricted, pan-semiotic model for the understanding of biological, psychic and communicative processes, it would contend with James's pluralism and the principle of the selfhood, intimacy and individuality of the psychic stream of consciousness and, additionally, it would violate the borders between biological, psychic and social systems. If this was not the intended result of Peirce's analogy one must harmonize the semiotic model with an internal pluralism of levels which will lead to the recognition of systemic autonomies. Such proposal demands a combination of semiotic and systemic models. According to this systemic and plural semiotic approach James's descriptions of the stream of consciousness would correspond to the psychic system with its own closure and borders formations.

3.2. The double environment hypothesis and the meaning of modelling systems

If Peirce's *semiosis* supposes a complete communicative dimension and not only a linguistic comprehension of the use of symbols, this means that it is only by communication and not by language alone that one is able to follow the formation of some important systemic borders. A triple distinction of consciousness, language and communication is needed. For example, the distinction between the physical, exterior thing and the psychological object is only completed with the supposition of a public space-time system of coordinates which is only available through communicative sources.

Inspired in the advances of Biosemiotics and in the writings of Y. Lotman and the Tartu School, the deepening of the concept of modelling systems led T. A. Sebeok to an enlarged notion of the modelling capabilities in systems subject to evolution, such as living systems, psychic systems and what he calls "cultural systems".

Modelling systems are enclosed spaces of semiotic and cognitive nature providing mappings of the world, adaptation responses to the environments, as "ecological niches", schemes for the processing of signalling information and the selection of patterns of behaviour appropriate to the circumstances of action or movement. The ability to develop models evolves from the basic organisms as pre-verbal and pre-linguistic mapping and adaptation to the complex

images of the world of Science, Philosophy and Literature passing through the linguistic modelling systems. All these stages are partially related to representation, but with “representation” one doesn’t mean passive reproduction of something given but mapping, selection, adaptation and coordination schemes. Further, a model is a congruent, self-referential set of schemes to anticipate and control the relation of cognitive orientations and action in complex organisms. Consequently, modelling is not an exclusive characteristic of the cognising psychic systems but occurs in biological, psychic and communication-based systems. According to T. Sebeok’s correction to Y. Lotman’s concept of “secondary modelling systems”, biological systems are the true primary modelling systems instead of linguistic systems which are secondary systems and “culture” and “cultural texts” are tertiary modelling systems. The criteria for primary, secondary or tertiary modelling systems depends on the degrees of increasing presupposition of the relevant environments. The tertiary modelling systems suppose the modelling results of the secondary systems.

Regarding the tertiary systems, I would prefer the concept of *systems based on communication* instead of “cultural systems”. I would like to emphasise now that psychic systems and systems based on communication are parts of this integrative view of the modelling systems. Each other is the environment of the other. Language is an evolutionary tool for the accommodation of consciousness to the requirements of the participation in communication. Additionally, through the organic body the psychic system ensures a continuous contact with the physical and organic environment. Communication and communicative systems suppose the bodily coordination of the psychic systems towards their environments but the outcomes of communication are only significant for psychic systems or consciousness, because only psychic systems are able to decode communicative outcomes in their own elements, or thoughts. On the other hand, communication supposes the formation of the physical environment as an objective sphere regarding the “field of consciousness” which partially results from the closure of consciousness itself. The double environment is structured on the basis of a plurality of modelling schemes: biological, psychic and communicative.

Instead of conceiving representation as a doubling of the external being and a figurative passage between a physical state and a psychic replica the semiotic ideas of modelling and modelling systems consider the cognitive act of referring as a creation of the activity of modelling environments. What counts as the cognitive reference of a system shall be traced through the dividing border of the system, as its outer space. Such activity of drawing borders is one of semiotic nature because it is structured by the R-O-I relations. It is also systemic because gives to the object of the cognitive act of referring the status of an element in the environment of the system. Finally, it is evolutionary because supposes that the limits dividing system and environment are relative, contingent and evolve.

The adaptation of Peirce’s semiotic R-O-I model and his idea of semiosis as an endless process to the style of the systemic description made clear that the physical reality of the objects exterior to the mind is not the unique available environment, but one may conceive environments constituted by psychic or organic events and many others. Biological events or

psychic streams may be parts of the environment of a system. This depends on which system is taken as reference. If one assumes that communication makes a self-reproducing cycle of connected elements distinct from consciousness and from the biological units, because in communication there is a connection of elements autonomous from the elements connected in the psychic stream of consciousness or in the self-reproduction of the living, then one faces the relation of communication to consciousness or to the organic events as a typical relation of a system towards its environment.

James's and Peirce's approaches to pragmatism are so different in many aspects because they started from different systemic perspectives concerning the modelling activity and both believed in the universality of their own limited theoretical reconstructions of the partial modelling systems. The importance Peirce gave to the community in the endless formation of the "final beliefs", which are *quasi* identical with the final interpretants, clearly resulted from a communicative bias in the understanding of the modelling activity. On the other hand, James's *quasi* phenomenological description of the "field of consciousness" is a remarkable picture of the closure of the psychic systems coupled with the organic bodies, modelling the physical, external object or physical environment.

My proposal has an ontological depth. "What is" consists of the contingent outcome of overlapping environments: it is not a definite state in the world, a mental image or a communicative result of an endless communication process, but the overlapping of multiple modelling sources starting with the living mapping of the ecological niche until the conditional couplings of psychic and communicative modelling. This perspective gives an additional support to James's pluralism and multiverse.