

# **C. S. Peirce's Evolutionary Sign: an Analysis of Depth and Complexity within Peircean Sign Types and Peircean Evolution Theory.**

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## **ABSTRACT**

The very essence of Peircean semiotics is the process through which an object is represented by a sign and creates another sign. This means that Peircean semiotics basically constitutes a theory of representation. This implies that the object and the sign cannot be the same and hence sign displacements occur in the cognitive processes. When dividing the Peircean sign types into signs of nature, man and culture, we are able to get a precise idea of the sign displacement that occurs from nature to culture and within culture. In this way, the sign displacement is an elaboration of how we semiotically construct our understanding of our surroundings. The article argues that our understanding of the world is placed only within the Thirdness trichotomy containing Rheme, Dicot sign and Argument. But the sign displacement and thus the semiotic constructivism implies a dynamical perspective and in order to understand this perspective we must take a closer look at Peircean evolution theory. At the center of Peirce's evolution theory is the idea of habit formation and the notion is in fact similar to the interpretant. Based on the similarity between the signs and the different parts of the evolution theory, the article presents a comparative analysis of the sign and evolution theory.

# 1 Introduction

## 1.1 Overview

At the Biosemiotic Gathering in Copenhagen 2001 I overheard an interesting discussion between several participants concerning whether or not one can understand Peircean semiotics detached from Peircean metaphysics, in this particular case the metaphysics embedded in Peircean evolution theory i.e., evolution based on the idea of continuity (Synechism). The semioticians agreed that the issues could not be separated. Peircean evolution theory forms the basis for understanding the sign and its development. I fully agree with this viewpoint but the discussion has inspired me to explore further into Peircean evolution theory with a special focus upon Peirce's nine basic signs with the purpose of unfolding this analysis on the Peircean evolution theory. The aim of this article is the analysis of this deep and complex relation between the signs and evolution. It is my hope that the analysis of Peircean evolution theory together with the sign types related to the basic trichotomies will grant us greater depth in understanding the nature of the sign. The question this article tries to answer is: what do the basic signs combined with Peircean evolution theory tell us about the development of meaning? To answer this question the article introduces and discusses three basic concepts in the understanding of Peircean semiotics: sign displacement and displacement of evolution which form the basis for semiotic constructivism. Before I define these concepts, let me briefly return to the discussion of the Peircean semiotics detached from the Peircean evolution theory.

It is not surprising that the description of the sign is separated from evolution theory because most literature on Peircean semiotics is often focused on the sign. This is quite natural because the sign and its triadic structure is the foundation in the semiotic doctrine of Peirce. We encounter this triad everywhere in Peirce's writings, the sign consisting of Representamen, object and interpretant; the epistemology consisting of the basic categories of Firstness, Secondness and Thirdness; the three sign trichotomies tied to the basic categories; the logic consisting of abduction, deduction and induction; and finally the triad of the metaphysical evolution: Tychasm, Ananchasm and Agapasm which, in this context, is also understood as the triad of Mind, Matter and Evolution.

Indeed, the problem of separating semiotics from metaphysical evolution theory does pose a practical problem, because the different parts of semiotics are so tightly integrated that it can be difficult to understand one part without the other parts. When dealing with the sign trichotomies one has to understand the nature of the sign, the basic categories, the evolution theory, etc. When dealing with the evolutionary aspect of the metaphysics the understanding also depends upon knowledge about the sign, the basic categories and the sign trichotomies, etc. That is partly why it is impossible to separate the metaphysics from the semiotics because the metaphysics is part of the

semiotics and the different parts of semiotics cannot be understood in parts but only as a whole. One cannot understand the concept of the interpretant detached from the sign or the nature of the immediate object detached from the dynamical object. Nevertheless, I will not discuss the sign in detail here but instead discuss and analyze the basic sign types. Subsequently, I will also discuss Peircean evolution theory and try to make a synthesis of the two analyses. The in depth analysis should provide us with knowledge about the strong relation between the signs and evolution theory and this theoretical platform will be used to argue in favour of the concepts of semiotic constructivism containing the idea of sign displacements and evolution displacements.

## **1.2 Sign Displacement**

*The concept of sign displacement designates the process whereby Firstness understood as nature is perceived through Thirdness understood as culture, and the concept of evolution displacement designates the process where Firstness is also understood as nature and is perceived through Thirdness understood as culture.* The two kinds of displacements take place simultaneously. It is the aim of the analysis to show that the signs of Firstness (Qualisign, Sinsign and Legisign) are identical to the evolutionary Firstness (Feeling, Sense of reaction and General conception) and likewise for the sign and evolution categories of Secondness and Thirdness. The purpose of analyzing the signs and the evolutions together is mainly to show the complexity of the signs and to stress that the process of semiosis is in fact an evolutionary process. The two kinds of displacements when understood together compose the concept of semiotic constructivism.

*The concept of sign displacement designates the process whereby Firstness understood as nature is perceived through Thirdness understood as culture. The concept of semiotic constructivism designates the way we construct our understanding of the world inside the category of Thirdness (culture).* In other words, sign displacement designates a cognitive process whereas semiotic constructivism designates the result of the sign displacement and forms the basis on which the cognitive processes take place. The concept of sign displacement has to be understood as a process. But what is a displacement in semiotic terms? A sign displacement is the semiotic gap between a Representamen and a sign. For a Representamen to become a sign it must merge with an object through an interpretant. A sign only exists as a sign when it contains an object and an interpretant. The Representamen does not contain an object or an interpretant. A Representamen expresses generality and possibility whereas a sign is a concrete interpretation of the Representamen. So, the displacement occurs from generality to concreteness. It is the quality of the Representamen that is displaced into the sign, so the Representamen and the sign will always be understood relatively to the Representamen because the sign is an aspect of the Representamen. In this way, I understand nature as generality and possibility and man as a concrete

understand nature as generality and possibility and man as a concrete aspect of nature. Culture which springs from the human intellect is the mediator between nature and man. And the interesting aspect is that culture as Thirdness creates its own worldview so to speak. It creates and upholds our understanding of nature and this understanding will always be displaced from nature. As I will return to this, it is important to notice that the relation between the Representamen and the sign is maintained within a continuum. The sign is able to evolve independently of the Representamen, but the Representamen will always be part of the sign as an aspect. The Qualisign is displaced through the Icon and becomes a Rheme. In this case, the Qualisign is general, the Icon is concrete and the Rheme is the new sign created as it mediates between the Qualisign and the Icon, the same way as nature is displaced through man and becomes culture and culture upholds the relation between nature and man. I will thoroughly analyze the sign types and the sign division later in the article.

I will argue that the sign displacement takes place inside Peirce's basic sign classification (Qualisign, Legisign, etc.), and the semiotic constructivism is expressed in the 10 sign types which Peirce constructs from the basic sign classification.

However, it is always a question of principle how far one may proceed in an interpretation of a theory. Peirce's ideas were always in a developmental process which indicates that the fundamental nature of an idea is dynamic. Hence Peirce saw himself as a fallibilist "*For fallibilism is the doctrine that our knowledge is never absolute but always swims, as it were, in a continuum of uncertainty and of indeterminacy*". (CP 1.171) Peirce was always chasing truth but being a realist he knew that truth could not be reached. Peirce's notion of ideas that bring forth other ideas is indeed very inspiring: "*Three elements go to make up an idea. The first is its intrinsic quality as a feeling. The second is the energy with which it affects other ideas, an energy which is infinite in the here-and-nowness of immediate sensation, finite and relative in the recency of the past. The third element is the tendency of an idea to bring along other ideas with it*" (CP 1.135). The notion that an idea has a tendency to bring along other ideas as well as the idea that fallibilism grants researchers into Peircean semiotics an interpretive freedom which is necessary in order to further develop the semiotic field. Here, the sign classification offers a tremendous opportunity to explore semiotic construction of meaning. However, this does not necessarily mean that we can interpret Peirce in every way that suits our goals without regards to the essence in Peirce's philosophy. Obviously, interpretations of Peircean ideas have to be anchored in Peircean semiotics to maintain scientific credibility. In order to progress with this article, there is one very important presumption I have to make which is not suggested by Peirce but which seems necessary in order to provide the arguments regarding the definition of the concepts of sign displacements and semiotic constructivism.

I divide the signs into natural signs (Firstness signs) human signs (Secondness signs) and signs of culture (Thirdness signs). I make the division because it seems plausible that semiosis is ongoing in nature. But, this semiosis is not the same kind as that which takes place in human minds. There seems to be another kind of Thirdness involved in natural semiosis than in human minds

## 2 On the Classification of Nature, Man and Culture

### 2.1 Nature, Man, Culture

My understanding of nature is based on Peirce's idea that nature contains an element of "living feeling" which seems to originate from Big Bang (see CP 6.33). It is this living feeling I understand as nature, the potential which makes evolution progress. This means that when I write *nature*, I am not referring to a dead or living nature, I am discussing the evolutionary potential defined by the living feeling. However, I hesitate to define what creates this living feeling. The fundamental feeling is a search for perfection, as Peirce writes: "...at any time, however, an element of pure chance survives and will remain until the world becomes an absolutely perfect, rational, and symmetrical system, in which Mind is at last crystallized in the infinitely distant future (CP: 6.33). This search makes evolution take place. Peirce also writes, "Originally, all feelings may have been connected in the same way, and the presumption is that the number of dimensions was endless" (CP 1.132) and it is this sum of feelings I refer to as nature.

This sum of feelings which I understand as the evolutionary potential of the universe gives rise to the evolution of man and it is indeed very tempting to bring forth a theory of Creation but this is not my aim. But allow me to bring forth a couple of thoughts inspired by conversations with Peder Voetmann Christiansen.

What does Peirce mean, e.g. in (CP 6.143 similarly in CP 6.270) where he refers to "extended living feeling" as something inherent in a general idea? I have always believed that this "living feeling" is the feeling of being alive and that Peirce regards this feeling as something belonging even to inanimate matter, for, as he says in (CP 6.32): "Mind is First, Matter is Second, Evolution is third". While Descartes distinguished between *Res Cogitans* and *Res Extensa*, presumably meaning that thoughts have no extension in space, Peirce maintains that living feeling is extended in physical space. In this way, Peirce denies that "life" as a property of the physical universe can have any definite beginning in time; it must have been there from the very beginning of time. When biologists speak of prokaryotic cells as the beginning of life, they are talking about an organism, i.e. an encoded form of life that is already marked by Secondness, because the cell has separated itself from its surroundings. I think that the difficulty of adopting this view in science is due to its religious connotations. To speak of living

feeling as something original in the universe sounds like the Buddhist's concept of a nirvanic consciousness, "the void that is shining, etc." something that can only be experienced in meditation when all thoughts in a sudden glimpse vanish from the screen of consciousness. It seems that Peirce was attracted to mysticism, especially buddhism in his later years. I remember, about four years ago, that the Peirce-biographer Joseph Brent related a letter from Peirce that had been carefully hidden in a sealed box for many years. The letter mentioned a mysterious experience that Peirce had had in a church in N.Y.C. about the time (1892) when he had finished "the Law of Mind" and was working on "Man's Glassy Essence". The latter article takes a strange idealistic turn near the end, and this turn that starts about (CP 6.270) could be regarded as a sign of Peirce's conversion to mysticism, i.e. a religion based on religious experiences. (Voetmann Christiansen 2001)

So, we have the notion of nature defined as a potential of living feeling, and from this living feeling somewhere along the path of evolution man arose. In this way man becomes secondness to firstness, man is a manifestation of nature, one of many possible, but due to the continuity of evolution, the living feeling is transferred into man as an aspect of the original living feeling. This means that man is anchored in nature; thus we are natural beings; however, since we are the only abstract being<sup>1</sup> (Stjernfelt 2001) we have evolved the ability to create cultures which through evolution have displaced us from the original living feeling, and have become a kind of cultural cyborg (Brier 2001). The cultural development has created a cultural Thirdness which is able to effect our biological evolution. Terrence Deacon (1998) distinguishes between actual evolution and the virtual world created within symbols. It is indeed the virtual world or rather the virtual evolution that I suggest creates and develops culture. It is the gap between the actual evolution and the virtual evolution I define as the sign displacement, and it is the virtual evolution's rebuilding of the actual evolution which can be labelled semiotic constructivism. The most interesting aspect here is that the virtual evolution can effect the actual evolution. Deacon writes that "Though no new genetic change is immediately produced in the process, the change in conditions will alter which among the existing or subsequently modified genetic predispositions will be favored in the future" (Deacon 1997: 322-23). And Mary Keeler further suggests "this virtual evolution can determine actual evolution" (Keeler 2001).

The idea of nature as Firstness, man as Secondness and culture as Thirdness has to be understood solely in analytical terms, in reality it makes no sense to distinguish between these elements. The signwebs are too interwoven.

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<sup>1</sup> In the article Schemata, Abstraction and Biology" (2001) Stjernfelt discusses Deacon's idea of man as a symbolic species. Stjernfelt suggests man as an abstract species rather than a symbolic species because he feels that many animals, particularly the big apes, are capable of manipulating symbols and concludes that symbol manipulation is not exclusive to humans.

Another reason is that the division makes it possible to anchor the Thirdness semiosis as expressed in the Argument in the natural semiosis within the Legisign. Humans reason on the basis of the world we are part of and as Jesper Hoffmeyer (1999) points out: a body that cannot adjust to the environment will quickly perish. In other words, there are reasons to believe that our understanding of the world is realistic which means that Thirdness, when understood as culture, is anchored in Firstness understood as nature. As noted, Søren Brier (2001) stresses that, due to our cultural evolution, humans have become cyborgs, cultural and artificial beings which basically are unnatural. Because the cognitive semiosis takes place inside second order representations, the signs we interpret have already undergone several interpretations. Therefore, it seems that we have removed ourselves from our natural starting point and have lost touch with nature due to strong cultural evolution.

However, it is important to emphasize Peirce's notion of synechism. His ideas of continuity ensure a strong interaction between nature and culture. Peirce's notion that Mind is anchored in Matter means that we are interwoven with Matter in a relationship so tight that it makes no sense to separate nature and culture. Culture as Thirdness enables us to understand nature as Firstness but on the premises of Thirdness. I will return to the notion of Sign displacement which stresses the fact that Firstness is reflected through Secondness and becomes Thirdness. This process could not take place if continuity was not present in semiosis.

## **2.2 Sign Classifications**

The division is primarily used to emphasize that the way in which we construct our understanding of the world can be better clarified through Peirce's sign classifications. Peirce's sign classifications can be used to show how we construct and organize our world knowledge. Naturally, the division is problematic insofar as Peirce never made such a division and therefore cannot be held responsible. The division is based on my interpretation and partly inspired by works of Sharov (1999) and Uexküll (1999) and discussions with Anne Marie Dinesen and Søren Brier. Sharov writes about the necessity of operating with different kinds of signs since semiosis takes place both in nature and culture. Uexküll writes about the iconic infant which through its action space (indexical relations) becomes a symbolic being. Uexküll uses the category of Secondness to stress man's dyadic relations to the world. The dyadic relations will eventually become triadic. Uexküll's ideas grant a semiotic constructivistic platform to the concept of Umwelt. However, this issue is not a topic in this article.

My reason for dividing the signs in such a way is mainly because I hope it makes our self-understanding become clearer. We are biological creatures and nature has put constraints upon us (our biological relation to nature is basically dyadic) but we are also symbolic species as pointed out by Terrence Deacon (1997). Hence, we

are capable of trying to understand and create our understanding of our place in the world. But with Peirce's sign classifications, we are able to understand why we can never fully understand nature and the processes of nature because essentially we try to understand Firstness with Thirdness. It will create a sign displacement because Firstness cannot be captured by Thirdness. Thirdness must create another sign that shares similarities with Firstness but is in fact Thirdness. Firstness will always be an aspect of Thirdness, in the same way that the Argument will contain aspects of the Qualisign. Therefore, I believe it is possible and useful to divide the sign classifications into nature, human and cultural signs.

As mentioned above, Peirce never divided the sign classification in this manner, and the division has to be understood as my hypothesis of a way of analyzing the relationship between signs of Firstness, signs of Secondness and signs of Thirdness because these sign relations can explain the complexity of the sign displacement which occurs between nature and culture mediated by man. The consequence of the sign displacements and the semiotic constructivism is that our understanding of our surroundings only takes place within the signs of Thirdness (Rheme, Dicent sign and Argument). What is particularly interesting is that the nature of the Qualisign is identical to the nature of the Rheme but displaced through the Icon. The nature of the Sinsign is identical to the nature of the Dicent sign but displaced through the Index. And finally, the nature of the Legisign is identical to the Argument displaced through the Symbol. This means that the Rheme, the Dicent Sign and the Argument are anchored in the Qualisign, the Sinsign and the Legisign and will carry the signs of Firstness. This further means that our culture is anchored in the nature we are part of but only have cultural access to. This will be further elaborated throughout the article.

Therefore, the article will discuss Peirce's classification of signs. As a consequence of the classification, I will divide the signs into signs of nature (Qualisign, Sinsign and Legisign), human signs (Icon, Index and Symbol) and signs of culture (Rheme, Dicent sign and Argument). To stress the multi-dimensional and complex nature of the signs, I will analyze the sign classification vertically and horizontally. This is necessary as I will be arguing that the signs of Secondness act like an axis of reflection. The signs of Firstness are on one side of the axis and on the other side are the signs of Thirdness. The vertical movement has to be understood in terms of an increase in Thirdness from Qualisign to Legisign, from Icon to Symbol and from Rheme to Argument. So, within the three trichotomies of Firstness, Secondness and Thirdness, there is an increase in Thirdness, which designates Peirce's understanding of final causation (See further definitions of Final Causation in CP 1.86, CP 1.101g). Final causation is what causes the emergence of Thirdness in the categories of Firstness, Secondness and Thirdness.

Then, after the vertical analysis, I analyze the sign classifications horizontally within the Firstness, the Secondness and the Thirdness categories. In this way, the signs of Firstness: Qualisign, Icon and Rheme; the signs of Secondness: Sinsign, Index and Dicent Sign and the signs of Thirdness: Legisign, Symbol and Argument are collated. We still note an increase of Thirdness within the trichotomies. The increase of Thirdness in the category of Firstness is from the Qualisign to the Rheme. In the category of Secondness, the movement is from the Sinsign to the Dicent Sign and in the category of Thirdness, the movement is from the Legisign to the Argument. So the Legisign is in fact a First Third, the Symbol is a Second Third and the Argument is a Third Third. There have been numerous attempts to schematize the sign relations (Voetmann Christiansen 1988, Merrell 1996, Queiroz 2000). But in relation to the theory of sign displacement, it is important to stress the increase in Thirdness which is why I use the following figure.

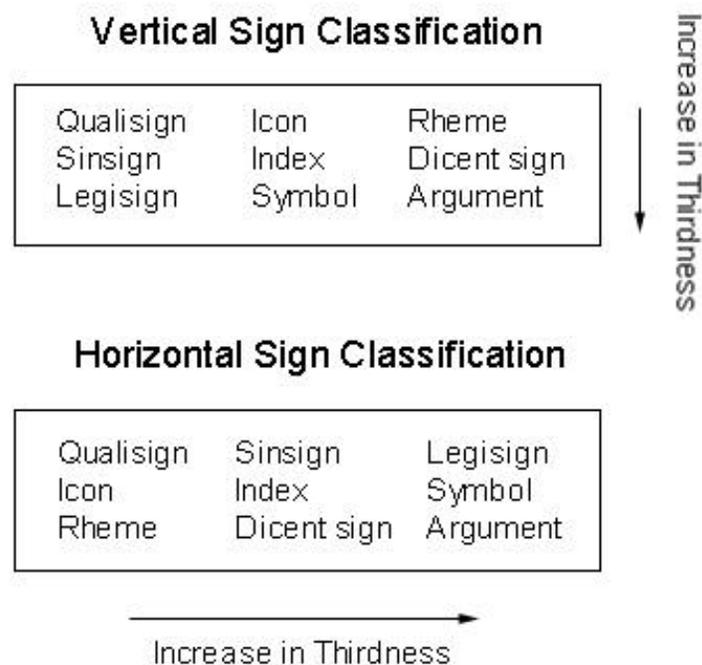


Figure 1: The vertical sign classification shows one way of organizing Peirce's sign classification, whereas the horizontal sign classification stresses the importance of breaking down the barriers between Firstness, Secondness and Thirdness. This is important because every sign of Thirdness carries signs of Firstness, thus the Argument will always carry all the other signs. As we shall see, the vertical sign classification corresponds to figure 2 whereas the horizontal sign classification corresponds to Figure 3.

The aim of analyzing the sign classification both vertically and horizontally is to provide an overview of the multi-dimensionality of the sign relations. My motivation

for researching the sign classifications is to stress the internal complexity of the signs which enables the signs to be displaced from nature through our sensory apparatus and to our culture, and in fact construct and create our culture. If we look more closely at figure 1, the upper part of the figure is the normal way to understand Peirce's sign classification. The aim of this article is to stress that, in a cognitive process, the signs of Firstness are reflected in the signs of Secondness and become signs of Thirdness. What makes the sign classification so complex is that it is not just the Qualisign which is displaced and becomes a Rheme. It is the very notion of Firstness which becomes displaced to Thirdness, and, in the horizontal analysis, I have gathered the signs of Firstness, Secondness and Thirdness across the categories which enables me to emphasize sign displacement. In a cognitive process, signs are displaced both horizontally and vertically. There are Firstness, Secondness and Thirdness elements in all the basic categories, which must indicate a strong interrelation across the categories allowing the Qualisign to become a Rheme and allowing the Rheme to finally become an Argument. Before we go deeper into this issue, we must define the basic categories of Firstness, Secondness and Thirdness. It is the nature of the basic categories which defines the signs attached to the basic categories. The basic categories are what Voetmann Christiansen (1988) refers to as "mortars" in the semiotic brick wall. I leave out the general definition of the sign presuming that the reader is already familiar with this definition.

### **3 Peirce's Basic Categories**

Peirce's epistemology (also phaneroscopy) consists of Firstness, Secondness and Thirdness. Firstness is defined as a potential of being and is a primary ontological category denoting possibility, unqualified generality, and monadic reality. Firstness is monadic qualities/predicates, immediate sense qualities - simple and non compound forms and feelings, and potentiality of being. It is what it is without reference to anything else. Examples of monadic qualities are red, bitter, tedious, hard, heartrending and noble, which are all qualities of things and events. The examples of Firstness have to be understood as examples, because when writing 'red' or 'heartrending', etc. Firstness already relates to something else; thus it is no longer Firstness. But in order to understand the nature of Firstness, we are forced to explain something which is basically inexplicable. To Peirce, Firstness is latent and vague and, just as importantly, Firstness is contained both in the external and in the internal world. Firstness exists by virtue of itself, sui generis, independent of anything. On the basis of this monovalent relation, Firstness is called monadic. A pure monad is a quality, which in itself is without parts, without any features, and, furthermore, it is not embodied. (the section is based on the following paragraphs in CP: 1.25, 1.302-1303)

Secondness is defined as a dyadic relation between the sign and its object. The relation is dyadic, i.e., something 'else' exists as a binary entity to something 'first'. Peirce often uses the following example: to a force - a counter force exists; to will - a corresponding unwillingness, etc. The relation between Firstness and Secondness is dyadic in the sense that the quality in itself does not constitute the fact but is tied to the fact. Secondness is the relation between sign and object but without any perception of the relation. If we had perceived the relation, we would be in Thirdness. Peirce defines the relation between Firstness and Secondness as a law of nature (Firstness) and the cases to which the law applies (Secondness). "...it is with any law of nature. Were it but a mere idea unrealized -- and it is of the nature of an idea -- it would be a pure first. The cases to which it applies, are seconds" (CP 3.342). So, Firstness exists latently in the world but in order to be manifested it has to become Secondness. For the Qualisign to be manifested it must be carried by a Sinsign or an Icon which in both cases are signs of Secondness.

Thirdness is defined as the category for generality, comprehensibility, rationality and regularity. The concept 'force of habit' is central to Peirce, as he suggests that natural laws are manifestations of habit-formation in nature. Thirdness is the mediator between Firstness and Secondness. Thirdness completes the triad, and the triad signifies the triadic relation. The triadic sign is thus more than merely a binary relation, and the triad is non-reducible. Peirce describes the relationship between Thirdness on the one hand and Firstness and Secondness on the other hand in the following way:

*By the third, I mean the medium or connecting bond between the absolute first and last. The beginning is first, the end second, the middle third. The end is second, the means third. The thread of life is a third; the fate that snips it, its second. A fork in a road is a third, it supposes three ways; a straight road, considered merely as a connection between two places is second, but so far as it implies passing through intermediate places it is third (CP: 1.337 my emphasis).*

With this knowledge of the basic categories we shall return to the sign classification and take a closer look at the sign trichotomies. The following section outlines basic semiotic concepts for the introductory reader.

## 4 Sign Trichotomies

### 4.1 Qualisign, Sinsign, Legisign

On the basis of the definition of the sign and the basic categories, we are able to discuss the division of the signs into natural, human and cultural signs. The sign types offer a great deal of information about the nature of human cognition, and it is in fact

the sign types, which trigger the division of the trichotomy of nature, human and culture. Peirce writes:

*Signs are divisible by three trichotomies; first, according as the sign in itself is a mere quality, is an actual existent, or is a general law; secondly, according as the relation of the sign to its object consists in the sign's having some character in itself, or in some existential relation to that object, or in its relation to an interpretant; thirdly, according as its Interpretant represents it as a sign of possibility or as a sign of fact or a sign of reason (CP 2.243 my emphasis).*

The first division of the three trichotomies is identical with Firstness and the Representamen, and it consists of Qualisign, Sinsign and Legisign. It is worth noticing that the first trichotomy consists of (non)signs, i.e. signs which do not relate to anything; they are monadic and exist *sui generis*. But still, they form the basis for the creation of meaning.

The Qualisign is defined as being a quality of a sign. Prior to the manifestation of the sign, another sign must carry it. Since a quality is - what it is - positive and within itself, a quality can only describe an object due to some kind of resemblance or a shared element. In other words, a Qualisign has to be an Icon, and when a quality is a logical possibility, the Qualisign can only be interpreted as a sign of being, i.e. as a Rheme. An example is the experience of the color red. The color red will be carried by some thing or event.

The Sinsign is an actual thing or event as a sign. The Sinsign exists only through its qualities; therefore it contains or carries several Qualisigns. A red cloth is an example of a Sinsign, the cloth carries the quality of red and can be interpreted, however the interpretation of the red cloth is a Rheme

Peirce defines the Legisign as a law that is a sign. The lawfulness is defined and determined by the users. That is why the Legisign is a conventionalized sign. Each conventionalized sign is a Legisign but not necessarily the other way round. Peirce states that the Legisign is a general type and not a single particular object which one has to agree on as being a carrier of meaning. We are still within Firstness, or the Representamen part of the triadic sign. It is important to stress that the Legisign can also be a natural sign. The development of the natural sign is determined by law and exists only by virtue of the lawfulness. I will return to the Legisign as a natural sign later in the article. The concept of **fugue** can be imagined as a Legisign but the moment the Legisign is imagined or written (as I did when I mentioned fugue above) the word exists only as a replica of the Legisign.

The replica written in bold letters is a Sinsign. The Sinsign is a sign of an actual thing or event. In this case, it expresses the Legisign through the replica. The Legisign can be understood as an underlying lawfulness, which governs a perceptual habit.

When the Legisign is made explicit as in the above example, it changes its sign character. So, the relationship between the Qualisign, the Sinsign and the Legisign is that these signs exist within themselves, monadically and as non-signs.

## 4.2 Icon, Index, Symbol

The other well-known trichotomy consists of the Representamen-Object relations, or how Secondness is expressed in the sign: Icon, Index and Symbol. It is important to note that this trichotomy describes the dyadic relation between Representamen and object. When someone analyzes the image of a person and says: this is an Icon, or smoke is an Index of fire, or the man on the bathroom door is a Symbol, it is only partly correct in a Peircean sense. The dyad is a relation between Representamen and object without any interpretation. If we interpret the person in the picture as an Iconic relation, a dyadic relation no longer exists, it becomes a triadic relation. This means that the relation between the figure in the picture and the figure in reality is dyadic. However, this is not how we interpret it. In these dyadic cases, it would be more correct to say that the picture, the smoke or the man on the bathroom door contain iconical, indexical and symbolic features. In my opinion, this is the reason why Peirce later combines the three trichotomies in 10 sign classes. I will return to this.

The Icon is a sign which shares a resemblance with the Object it represents. Common examples of Iconic signs are photographs as they resemble the Object (i.e. the model) they depict. Peirce states that the Icon does not have a dynamical relation to the object it represents. The qualities of the Icon resemble the qualities of the object and through that resemblance a similar sense of feelings is evoked in the mind that perceives the relation as a resemblance.

Index means reference (to something). This class is constituted of signs which have a causal relation to the objects they describe. The Index refers to the Object, which it describes by virtue of a relationship, in cases where the sign is caused by the Object, as smoke is an Index of fire. An Indexical sign is thus a sign which represents its Object by virtue of a direct reference to the Object, i.e., footsteps pointing to the person who walked by. The result of a thermometer measuring the temperature is an index of the air temperature. It is important to stress that the Index is physically connected to the object. In a way, the pair of them make up an organic pair but the interpreter has no influence on the relation between the Index and its object more than merely noticing the relation after it has been established.

Peirce writes that a Symbol is a sign that refers to its Object, which it denotes by virtue of a law. Peirce clarifies this by stating that the law is an association of common ideas. It means that the Symbol will be interpreted as pointing to the Object. Thus, the Symbol is a sign which carries meaning solely by virtue of rules and conventions. A conventionalized sign means that there is an agreement among users on

the meaning of the sign. Letters, words and numbers are such examples of symbolic signs. Peirce writes about the Symbol:

*Any ordinary word, as "give," "bird," "marriage," is an example of a symbol. It is applicable to whatever may be found to realize the idea connected with the word; it does not, in itself, identify those things. It does not show us a bird, nor enact before our eyes a giving or a marriage, but supposes that we are able to imagine those things, and have associated the word with them (CP 2.298).*

If we take a closer look at the Symbol, we will find out that it contains iconic and indexical features. The Symbol emanates from the Icon and the Index and the interaction between the Symbol, Index and Icon roots the idea in the Symbol.

### **4.3 Rheme, Dicient, Argument**

The third sign trichotomy consists of Rheme, Dicient sign and Argument, and describes the relation between the sign and the Interpretant/Thirdness. This trichotomy is the least used. I find that this is a misunderstanding as it is in fact the third trichotomy which makes it possible for us to understand the relation between Firstness and Secondness. As we shall see, we would not be able to perceive the world and make sense of it without the third trichotomy. And further, we will discover that there is a great amount of knowledge embedded in the third trichotomy. But before this discussion, let us take a look at the signs in the third trichotomy.

Rhemes refer to possible objects. As examples of Rhemes one can mention nouns as they clearly refer to possible Objects. In Umberto Eco's words, signs are the prerequisite for lying since the Object does not have to be present at the same moment as the Representamen. So, the Objects referred to are only possible. The Rheme represents possible existence.

Dicient Signs are signs of actual existence. For that reason, the Dicient Sign cannot be an Icon. The Icon does not provide an opportunity of interpretation. In order to describe the case, to which it is interpreted as a reference, Dicient Signs must necessarily contain a Rheme. An example of Dicient Signs could be sentences. The Dicient sign represents actual existence.

The Argument is a Lawsign. The Argument represents its Object in its capacity as a sign. This means that something is being stated about the sign. An example of an Argument could be passages of text, i.e. meaningful links of Dicient Signs. I favour this interpretation and state that Arguments could very well be knowledge domains, cultures, societies, etc. The Argument is a sum of knowledge structured through Rhemes and Dicient signs. In the discussion to follow, I interpret the Argument as a sign of culture which mediates between nature and man.

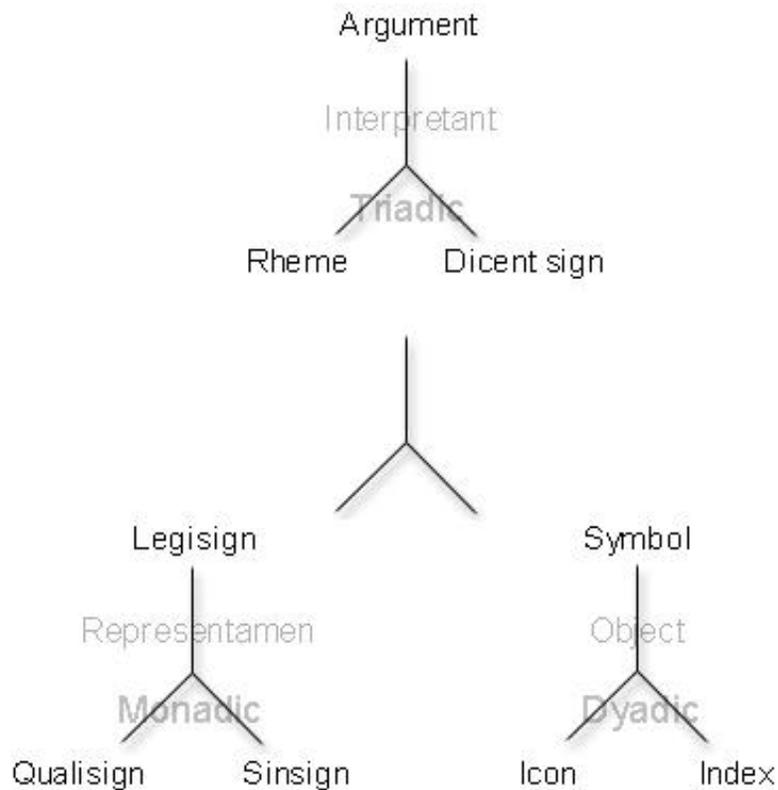


Figure 2: The figure represents the monadic nature of the Representamen. The signs: Qualisign, Sinsign and Legisign are all monadic and are all Representamens. Moving on, the graphic presentation shows the dyadic nature of the object containing Icon, Index and Symbol. The upper part is the interpretant triad consisting of Rheme, Dicent Sign and Argument. These signs are triadic and mediate between the monadic and dyadic signs. This graphic presentation corresponds to the vertical sign classification as shown in Figure 1.

#### 4.4 Analysis of Vertical Sign Trichotomies

The analysis of figure 2 is very detailed as this is the analysis that provided me with the arguments allowing me to divide the signs into signs of nature, human and culture. Obviously, the section is based on Peirce but the interpretations are on my account. Figure 2 displays a kind of metasign which in itself is also a sign. Every part of the sign is a sign but is constructed by different kinds of signs with different natures. Let us take a closer look at each trichotomy.

##### 4.4.1 Firstness Trichotomy

The first part (the Representamen) is the Firstness trichotomy. We know that the Qualisign in the trichotomy is the sign that is the most firstness-like. It is the Representamen. The object which is the sign that carries the Qualisign is the Sinsign. We know from the definition of the Sinsign that it is an actual thing or event, and we

know that in order to be manifest, the Qualisign has to be embodied in the Sinsign. The Legisign is what makes the connection between Qualisign and Sinsign possible. When the Qualisign is manifested in the Sinsign through the Legisign, some kind of lawfulness occurs. Peirce calls it “force of habit”. But in this case, the semiosis is monadic, the semiosis occurs when the Qualisign and the Sinsign merges through the Legisign hence there is no intelligent interpretation behind Firstness semiosis.

#### **4.4.2 Secondness Trichotomy**

The Second part (the object) is the Secondness trichotomy. A dyadic relationship exists between the Firstness and the Secondness trichotomy. The previous discussions revealed that the natural laws apply to the relationship between Firstness (where Firstness is a natural law) and Secondness, so any Secondness semiosis must happen as a reaction to the Firstness semiosis.

The dyad is created between Firstness and Secondness and, because of this relation, Icon, Index and Symbol all contain elements from the Firstness trichotomy (The Icon carries the Qualisign; the Index carries the Sinsign; the Symbol carries the Legisign) As an example of a dyad relation, imagine taking a step. The resistance which occurs when taking the step may be caused by air resistance, gravity, inertia, etc. and, as a movement, the step is forced forward by a body. The constraints on humans caused by nature are dyadic. In this way, natural laws can be understood as Legisigns and Symbols as cases to which the laws of nature apply.

#### **4.4.3 Thirdness Trichotomy**

The third part of figure 2 (the interpretant) is the Thirdness trichotomy. These signs are pure triads, i.e. genuine signs. These signs all express lawfulness. Peirce has primarily worked with this trichotomy when developing his logic. That is why the relation between the Rheme, the Dicent sign and the Argument is the same in an inference where the Rheme is the predicate, the Dicent sign is the premise and the Argument is the conclusion. In this way, the conclusion mediates between the predicate and the premise and during this process a sign occurs. This is interesting because the interpretant forms the equivalent or a more developed sign in semiosis.

The interpretation may be that we must reason on the basis of the same logic, as a consequence of the logic within the interpretant. In other words, our ability to make judgements and to draw conclusions is based on an innate logic. But, it is a kind of symbolic logic, a logic which occurs on the basis of evolution. The logic which connects Firstness with Secondness expresses lawfulness, not only conventions created by man but habit formation and lawfulness created by the way we reason, and the world we reason about. So, the way we reason is a result of a tendency to form habits. This habit formation makes us understand the world in a specific way and this specific

way forms our culture – in this way, we can never escape the sign webs we are entangled in.<sup>2</sup>

This is the first part of the argument for dividing the signs into nature, human and culture signs. The second part stresses the importance of a cross-category analysis of the sign within the categories of Firstness, Secondness and Thirdness. This gives us an idea of the level of complexity of Peirce's sign trichotomies. These trichotomies cannot be understood separately. The signs correspond to Firstness, Secondness and Thirdness both vertically and horizontally, and the aim of this detailed analysis is to provide the reader with an understanding of the vertical and horizontal sign correspondence in order to grasp the complexity of the sign classification.

As implied, there is another way of looking at the sign trichotomies in figure 3. So far, I have been interested in the signs as sign trichotomies existing in themselves but now, I will take a closer look at the trichotomies developing within Firstness, Secondness and Thirdness across the trichotomies.

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<sup>2</sup> Logic is a major aspect of Peirce's philosophy and lies outside the scope of this article. However, it is important to note that the nature of abduction is based on intuition, spontaneity and is prior to language. Abduction is the foundation of Peircean logic and also the foundation in semiotic cognition. This means that our reasoning is basically logical but based on pre-linguistic intuition and spontaneity. It is the nature of abduction that makes it possible to understand logic as a result of cultural habit formation.

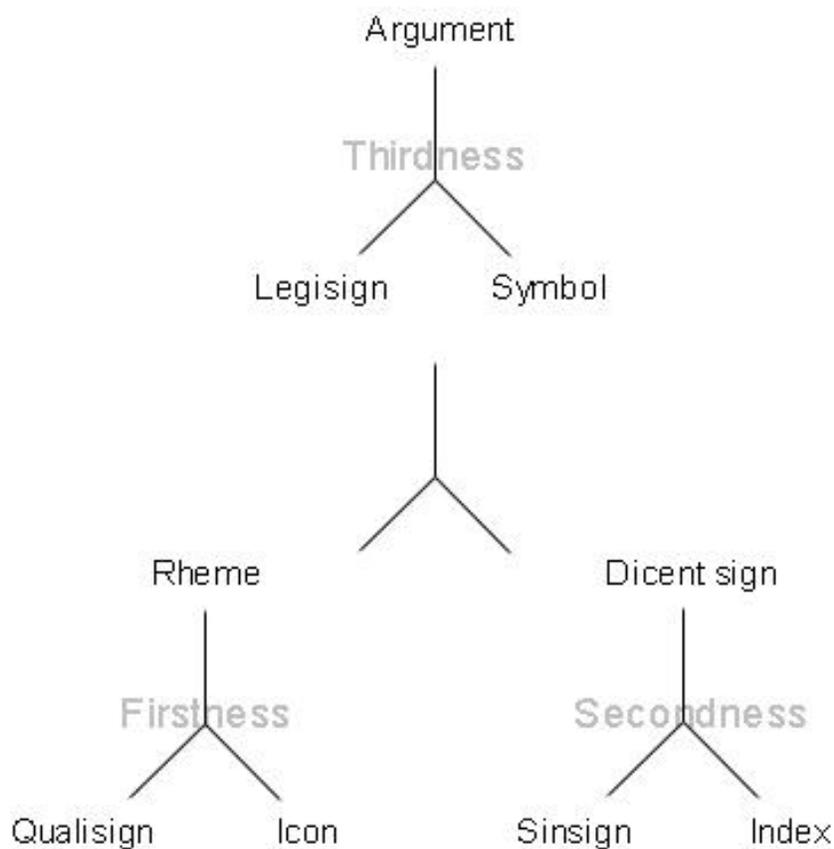


Figure 3. The figure shows the horizontal relation between the sign types whereas Figure 2 visualized the vertical relation. As suggested in the analysis, the sign relations are both vertical: Qualisign, Sinsign Legisign and so forth and horizontal as in the figure: Qualisign, Icon, Rheme and so forth.

#### 4.5 Analysis of Horizontal Sign Trichotomies

Within each part of the sign as shown in figure 3, a Representamen exists. Let me elaborate on this. In this figure, the Sinsign which is Firstness in the vertical analysis and therefore a Representamen is now also Firstness but within the category of Secondness but, still, it is a Representamen. Likewise for the Thirdness triad. The Legisign is a sign of Firstness but, in the horizontal analysis, it is a sign of Thirdness and a Representamen.

In the following analysis, it is important to notice that it is the horizontal relations we are dealing with whereas previously, it was the vertical relations. This means that the analysis may look like the previous but it is not the same. Here, I need some interpretive freedom. Naturally, the definitions of the signs are based on Peirce but the analysis of the signs across the sign classification cannot be ascribed to Peirce. I take full responsibility for this.

#### **4.5.1 First Trichotomy**

If we take a closer look at the first trichotomy, all the signs refer to Firstness. The basic sign is the Qualisign and both the Icon and the Rheme are constructed on the basis of the Qualisign. Peirce writes that: “*Since a quality is whatever it is positively in itself, a quality can only denote an object by virtue of some common ingredient or similarity*” (CP 2.254).

The similarity means that a Qualisign when manifested must be an Icon, and when a quality merely exists as a pure logical possibility, the Qualisign can only be interpreted as a sign of being i.e. as a Rheme. The Rheme mediates between the Qualisign and the Icon. It has to be the logical possibility that determines whether we can identify the resemblance in a picture. The movement from the Qualisign to the Icon through the Rheme constitutes the sign displacement in Firstness.

#### **4.5.2 Second Trichotomy**

The second trichotomy consists of Secondness signs which all denote signs of actual existence. They all act as objects and therefore carry qualities from Firstness. Within the Dicent sign is the Rheme, and in the Sinsign there is one or many Qualisigns, and in the Index is the Icon. As we saw, the Sinsign and the Dicent sign are signs of actual existence. The Index also has to denote actual existence as it expresses a causal relation between Firstness and Secondness which determines the actual existence.

#### **4.5.3 THIRD TRICHOTOMY**

The third trichotomy consists of Thirdness signs denoting lawfulness and conventionality. The Legisign expresses a conventionalized sign but, most importantly, it is also a sign which denotes lawfulness in nature. The Symbol is also a conventionalized sign and denotes lawfulness as a dyadic relation between nature and man. This relation is not yet interpreted as, in that case, it would have been triadic. The connection between the Legisign and the Symbol is created by the Argument. The Argument is the most Thirdnesslike sign. So, within the Argument, we have the Legisign consisting of Qualisign and Sinsign and we have the Symbol consisting of Qualisign, Sinsign, Legisign, Icon and Index. Within the Argument, we also have the Rheme and the Dicent sign. So the Argument is the most developed sign in the sense that it is the sign farthest away from Firstness, and yet it is always in danger of becoming Firstness again. I will return to this later. If we look at figure 2 and 3 and combine them, we get figure 4:

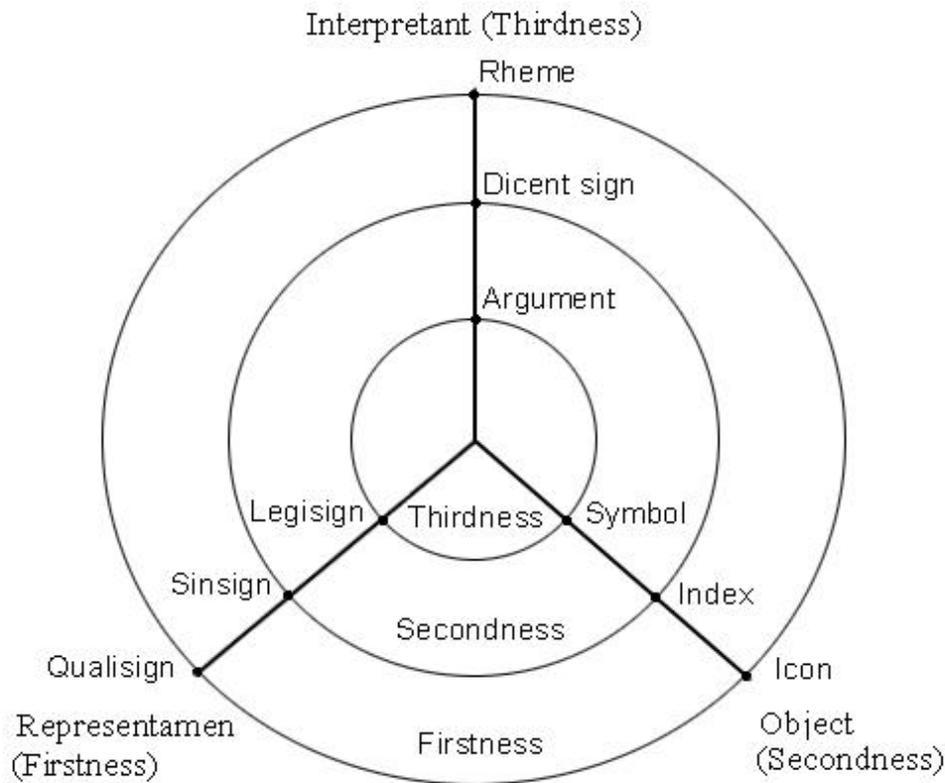


Figure 4. Combining the vertical and the horizontal analysis of signs, we get the following figure. Through the analysis of the vertical and horizontal sign classification, we get the impression that the interrelations between the signs are indeed very complex. It is not possible to isolate a single sign without taking it out of context. The figure which was developed by Søren Brier (2000) and adjusted by the author summarizes the vertical and horizontal analyses in a brilliant way.

#### 4.6 Analysis of the Trichotomies and the Sign Types

The figure shows how the signs relate to Firstness, Secondness and Thirdness. Each leg in the triangle corresponds to the parts in the sign relation: Representamen, Object and Interpretant. The graph is thus made with Thirdness closest to the centre, Secondness in the middle and Firstness farthest away from the centre. It is important to understand that these types are ideal, basic analytical classifications that we seldom see represented in pure form in reality. And because of that, I suspect, Peirce created ten sign types on the basis of the nine types of signs. These signs exist very much in reality. I call the ideal, basic signs 'pre-perceptive' signs and the following ten classes of signs which exist in reality I call 'post-perceptive' signs. It is the notion of pre- and post-perceptive signs which creates the displacements of signs, and I will return to this concept.

Peirce creates ten classes of signs from the above trichotomies. The ten classes are a consequence of classes logically excluding each other. A Qualisign will always

be a Rhematic Iconic Sign, and a Symbol will always be a Legisign, and an Argument will always be a Symbolic Legisign, etc. The organization of Peirce's ten basic classes of sign types in figure 5 illustrates that two classes, which border on each other with a thin line, share similarities in two ways. For example, the Indexical Sinsign (3, 4) or (1, 5) is both Iconic and Rhematic. But, where the thick black line divides the classes between 2 and 6, 6 and 9, 3 and 7, this is not the case. Neither can classes share similarities if they do not share borders. The classes have been given the shortest possible names that distinguish them from each other. The names of the classes are in bold letters. In this way, Peirce manages to conceptualize ten basic different classes of sign types.

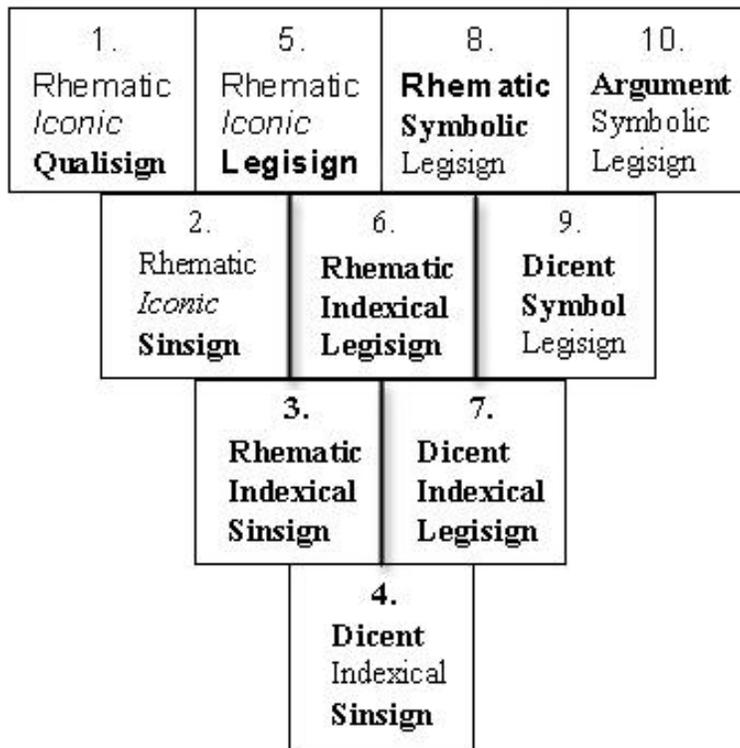


Figure 5: Peirce's ten basic classes of sign types (CP: 2.264)

In the following discussion, I will take a closer look at the three sign trichotomies and then discuss the ten sign types again in relation to pre-perceptive and post-perceptive signs. As we shall see, the sign displacement does not only occur between Firstness and Thirdness in the sign classification but also between the Thirdness sign (Rheme, Dicent sign and Argument) and the 10 sign classes as shown in figure 5. This

extra dimension is the topic of the following sections since this extra dimension constitutes the concept of semiotic constructivism.

It is important to stress that the division does not mean that the Firstness trichotomy does not exist in the intellectual signs, i.e., the culture signs. Indeed, Firstness exists in intellectual signs but as a displacement from the ideal sign classification. As we have seen, we get ten types of signs from the nine ideal signs. The first of the ten signs is the Qualisign. But in order to exist in relation to something, the Qualisign must be embodied in an Icon and it can only be understood as a Rheme. This means that the Qualisign, which I regard as a natural sign when it only exists in itself as a monad, has been displaced in the cognitive process. How else could it become a Rheme? The same applies for the Sinsign and the Legisign. The Firstness trichotomy exists on both sides of human perception. The Qualisign exists as a pre-perceptive, positive possibility but post-perceptively, it exists as a Rheme. The pre-perceptive Sinsign exists only as an actual possibility that is non-comprehensive but, post-perceptively, the Sinsign becomes a Dicent sign. The pre-perceptive Legisign exists as a natural sign on which the natural laws build but, post-perceptively, it exists as a lawfulness which determines our perception. It becomes an Argument. In figure 6, we see each trichotomy and we see how they correspond to nature, humans and culture.

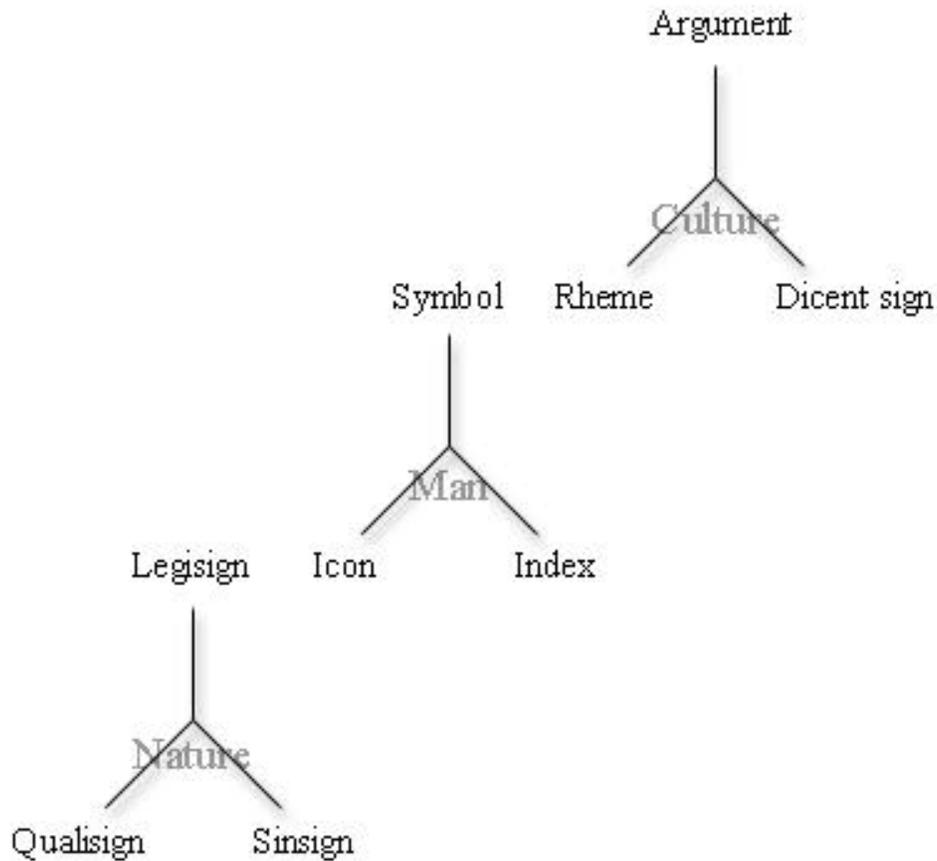


Figure 6: Sign displacements.

As a starting point, the three triads are identical to Firstness, Secondness and Thirdness and the concept of sign displacement has to be understood on this basis. Firstness (nature) is generality and possibility, Secondness (man) is a concrete aspect of Firstness, a reaction to Firstness. Man has evolved and still evolves within the possibility of Firstness and expresses a concrete aspect of nature. Thirdness (culture) is what establishes and maintains the relation between man and nature. This relation constitutes a new sign system which, based on Peirce's notion of synectism, contains elements of Firstness but displaced from Firstness. This means that nature is being displaced through man as an axis of reflection into culture. Furthermore, this means that every cognitive process takes place within the category of Thirdness displaced from Firstness but still containing elements of Firstness.

The figure shows how the sign displacement occurs between nature and man but the displacement is embodied in the Thirdness trichotomy. In the figure, the Legisign becomes an Icon, and the Symbol becomes a Rheme. The figure shows that, in human perception, the Firstness trichotomy i.e. the trichotomy of nature is being displaced. When we act in the world, what we perceive is in fact not the actual world but the

world as a sign displacement. The world exists in our head as a symbolic representation determined by our culture.

The intellect with which man is equipped has symbolically displaced us from the world. Man has become a symbolic species (Deacon 1997) and lives in a symbolic sphere among the signs of Thirdness. From the Thirdness platform, he constructs his world. It is important to stress that not only humans are able to manipulate symbols, a vast variety of animals are able to manipulate symbols (Deacon 1997, Stjernfelt 2001) but the meaning humans create is within the category of Thirdness which allows human culture to arise whereas animals, as far as I know, only manipulate symbols within the category of Secondness. This is important because when intellect appeared in the minds of man during the course of evolution, we lost the ability to exist within Firstness. What we understand as the world can only be a representation of the world. These representations have formed our culture. Therefore, the culture can only be a Third. But it is through the culture that we understand the world. How does that harmonize with Peirce's ten sign types?

## 5 Ten Sign Types

### 5.1 Basic Ten Sign Types

The signs are 1) Rhematic Iconic Qualisign 2) Rhematic Iconic Sinsign 3) Rhematic Indexical Sinsign and 4) Dicent Indexical Sinsign 5) Rhematic Iconic Legisigns 6) Rhematic Indexical Legisign 7) Dicent Indexical Legisign 8) Rhematic Symbolic Legisign 9) Dicent Symbolic Legisign and finally 10) Argument Symbolic Legisign. It is interesting that all these signs refer in some way to the Thirdness trichotomy. They are all rooted in our culture. It provides my interpretation with a solid basis because all these signs are signs that are displaced from Firstness. And furthermore it gives the third trichotomy an important role in understanding Peirce's semiotics. Let me stress the importance of the Argument as a sign of culture by stating that the movement from the Legisign to the Argument is a displacement of Thirdness and that displacement is the Representamen's (nature's) movement to the object (human) mediated through the interpretant (the culture) which becomes a new Representamen. The new Representamen is created on the background of the cultural understanding of nature and carries aspects of Firstness (nature) but is displaced through semiosis. Now, the original sign which, originally, was a dyadic relation between nature and man was interpreted and another sign arose carrying the original Firstness. However, when interpreted, the original Firstness became an aspect of the cultural sign as it had been displaced from its origin. Peirce stresses that Thirdness is a category of habits and habits tend to become subconscious. So, the evolutionary course of Thirdness is

that semiosis through Thirdness forms habits. Gradually, these habits become more and more subconscious and general, and Thirdness begins its regress to Firstness. This is not the monadic Firstness in nature but the Firstness of Thirdness - the Rheme. This takes place because the Qualisign as a generality and a potentiality has been displaced through the icon, which is a concrete aspect of the Qualisign, to the Rheme which becomes the reflected generality and potentiality of the Qualisign but nevertheless, as we can see, displaced.

In conclusion, our perception of the world goes through the category of Thirdness and forms our culture. But culture forms the way we act in the world, so we shape our culture through our interactions, and the culture shapes our way of interacting. This is in fact the centre of Peircean evolution theory, the theory of Agapasm. Agapasm means evolutionary love and, as always when studying Peirce, triads emerge. The triad of Agapasm consists of Chance as Firstness, Law as Secondness and the Tendency to take habits as Thirdness. Agapasm is the most important part of the Peircean evolution theory (Voetmann Christiansen 1988) which in fact makes the interpretant "Tendency to take habits" the most developed part of Peircean evolution theory. To get an understanding of the complexity of the Peircean semiotics, the interpretant "Tendency to take habits" seems to be identical with the Argument (Thellefsen 2001b, 2001c) and is in fact what Peirce calls final causation, the emergence of order which designates the very striveness of the signs.

The sign displacements and the semiotic constructivism indicate how nature is displaced through our perceptions (sign displacement) and the understanding of the perceptions creates our culture (semiotic constructivism). In other terms, this is a reinforcing effect. The understanding of our surroundings forms our culture and the culture through which we understand the nature determines how we understand the nature. We have at least two major kinds of evolution which are separate but which, as a consequence of continuity, mingle and interact and create a dynamic whole. Basic natural evolution is dyadic and consists of Representamen-object relations, and is what Peirce also refers to as efficient causation (CP 2.212, CP 2.220). In terms of sign displacement, there is also evolution displacement, a displacement covering the gap between the evolution in nature and the evolution in culture. It seems as if mechanisms of sign displacements are very much identical in evolution as in the signs. So what brings the dynamic nature to signs? And what are the mechanisms that ensure nature, man and culture evolve in a continuous way and holds the different parts of evolution together as an evolutionary whole? To answer these questions I will analyze the Peircean evolution theory. I will apply the same kind of analysis as applied to the analysis of the signs. This is to show the strong relation between the signs and the evolution theory.

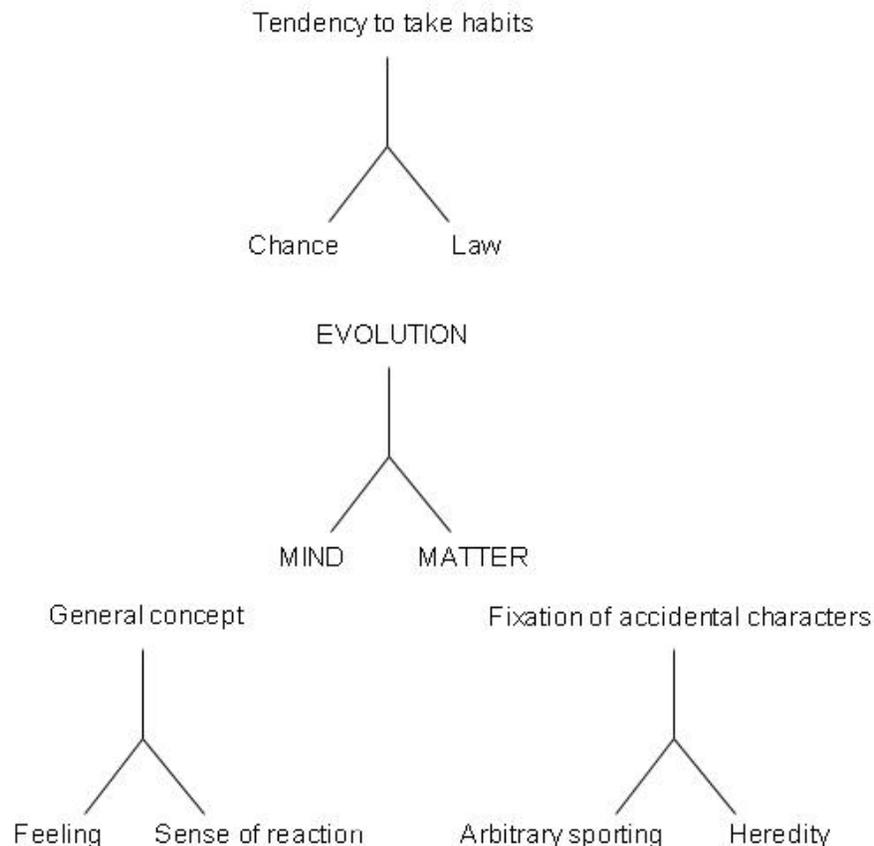
## 6 The Basis for Peirce's Evolution Theory

### 6.1 Mind, Matter, Evolution

The essential part of Peirce's evolution theory is the notion of "Mind", "Matter", and "Evolution". This triad, where Mind is Firstness, Matter is Secondness and Evolution is Thirdness is in my interpretation the central part of Peirce's evolution theory. During the analysis we shall see that this centre has a great impact on how we understand evolution. The following somewhat unorthodox interpretation of Peirce's evolution theory derives from the following quotation:

*"In psychology Feeling is First, Sense of reaction Second, General conception Third, or mediation. In biology, the idea of arbitrary sporting is First, heredity is Second, the process whereby the accidental characters become fixed is Third. Chance is First, Law is Second, the tendency to take habits is Third. Mind is First, Matter is Second, Evolution is Third" (CP 1.32).*

Figure 7 is produced on the basis of this quotation.



bitrary sporting” as Firstness, “Heredity” as Secondness and “Fixation of accidental characters” as Thirdness. Evolution consists of “Chance” as Firstness, “Law” as Secondness and “Tendency to take habits” as Thirdness.

However, prior to the analysis, a couple of issues need attention. Peirce writes that the trichotomy (Feeling, Sense of reaction and General conception) comes from psychology. How does this harmonize with the idea of a universal Mind where Feeling is Firstness? I believe Peirce saw the universe as the place from where Feeling originates and taking his theory of Synechism into account, Feeling is led into human Mind through evolution i.e. human Mind is displaced from the universal Mind and thus contains aspects of this original feeling. Bearing in mind the notion of sign displacement as universal, Mind has been displaced through evolution so man does not contain the original universal Mind but instead contains aspects of it which has been displaced through evolution. At the centre of Peircean metaphysics is the idea that evolution mediates between Mind and Matter, and as suggested, Mind is not understood in terms of human minds alone. Human mind shares qualities with the universal mind because man evolved from universal Feeling. Therefore, Feeling is the absolute first in cosmos, and at the same time, also the absolute first in man but at a different level.

Returning to figure 7, “Feeling” is Firstness, “Sense of reaction” is Secondness and “General Conception” is Thirdness. This triad is the point of departure for dividing the basic categories into Firstness, Secondness and Thirdness, and the triad constitutes Peirce’s theory of the law of habits (CP 3.348, 3.390, 1.23). Peirce defines “Feeling” to be anything present as a potential being. In this way, “Feeling” is defined in respect to Firstness. “Sense of reaction” constitutes Secondness, and designates the reaction, which occurs in the actual presence of two feelings. As an example, Peirce uses a feeling of blue as he writes:

*Suppose I had nothing in my mind but a feeling of blue, which were suddenly to give place to a feeling of red; then, at the instant of transition, there would be a shock, a sense of reaction, my blue life being transmuted into red life. If I were further endowed with a memory, that sense would continue for some time, and there would also be a peculiar feeling or sentiment connected with it. This last*

*feeling might endure (conceivably I mean) after the memory of the occurrence and the feelings of blue and red had passed away (CP 1.19).*

“General Conception” is the connection between Feeling and the Sense of reaction which is determined by a general rule, which is a habit. Peirce also writes:

*Very different both from feelings and from reaction-sensations or disturbances of feeling are general conceptions. When we think, we are conscious that a connection between feelings is determined by a general rule, we are aware of being governed by a habit (CP 1.20).*

Returning to Peirce’s definition of an idea, we remember that an idea consists of three elements: an inner feeling, an energy which can affect other ideas and a tendency to bring along other ideas. This means that Thirdness which is defined as habit formation occurs within the sign, it is not an element which is brought onto the sign from the outside but on the contrary exists within the sign as a latent part brought into action when the Representamen is manifested so the sign in itself has a tendency to take habits. Thirdness expresses the sign’s nature for stability.

This triad sums up the relationship between Firstness, Secondness and Thirdness within the human mind. But Peirce is a bit more complicated; he writes:

*...in the beginning – infinitely remote – there was a chaos of unpersonalized Feeling, which being without connection or regularity would properly be without existence. This Feeling, sporting here and there in pure arbitrariness, would have started the germ of a generalizing tendency. Its other sportings would be evanescent, but this would have a growing virtue. Thus, the tendency to habit would be started; and from this, with the other principles of evolution, all the regularities of the universe would be evolved. At any time, however, an element of pure chance survives and will remain until the world becomes an absolutely perfect, rational, and symmetrical system, in which Mind is at last crystallized in the infinitely distant future (CP 6.33)*

Peirce writes that the sporting of Feeling in pure arbitrariness has created a tendency to take habits. This tendency is the germ to a more generalizing tendency. But within this germ, other germs’ existence will last only briefly. The tendency to take habits is started. But if we return to Peirce’s ideas on the creation of the universe, it is evident that figure 8 is the starting point in Peirce’s evolution theory. In the triad, we gain our idea of the creation of the universe, the Big Bang. We have the epistemology consisting of Firstness, Secondness and Thirdness, and we have the Representamen in its most original form. Universal Feeling is the absolute First in the most general and potential sense. “Sense of reaction” is a concrete manifestation of “Feeling” and the mediation is ensured and upheld by “General conception”. This means that the media-

*This Feeling, sporting here and there in pure arbitrariness, would have started the germ of a generalizing tendency. Its other sportings would be evanescent, but this would have a growing virtue*" (CP 6.33). This means that this unpersonalized feeling has started the evolutionary process and has caused a generalizing tendency. The tendency originates from the interpretant in figure 8 "General conception" which creates stability for further development. This stability makes the ground for development of "Arbitrary sporting". So, Firstness in the second triad is "Arbitrary sporting" whereas Secondness is "Heredity" and Thirdness is "Fixation of accidental characters". Remembering the analysis of the signs, Firstness is generality and potentiality, Secondness is a concrete manifestation of Firstness. "Arbitrary sporting" has two modes of being i.e., as the concrete manifestation of "General conception" and as generality and potentiality of Secondness it is a First Second. "Arbitrary sporting" is Firstness "Heredity" which is the concrete manifestation of "Arbitrary sporting" when mediated and fixated by the interpretant "Fixation of accidental characters". This triad is the second step in the process of evo-

lution and constitutes the concept of Matter. We notice that within this triad of Secondness we are dealing with a second first, a second second and a second third which means that the triad of Mind is present in this triad of Matter but only as an aspect. The “Arbitrary sporting” develops into “Heredity” through a fixation of the sporting. In the above analysis, a room is created for the dyadic relations between Mind and Matter. Although the relations are dyadic, Thirdness exists within both Firstness and Secondness in terms of “General Conception” and “Fixation of accidental characters”. This means that there has to be Thirdness present before Firstness and Secondness are able to engage in dyadic relations. There has to be a kind of stability before Mind can be mediated into Matter.

The evolution of Secondness (Ananchasm and Matter) is shown in figure 9.

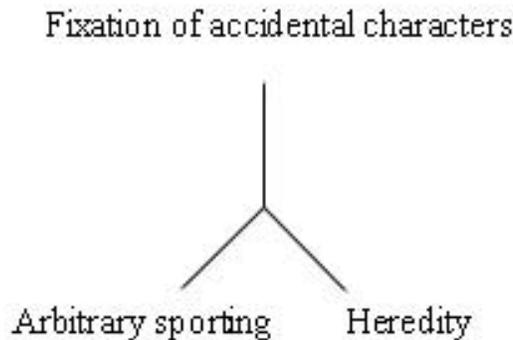


Figure 9. The second form of evolution constituting Secondness.

The consequence of this analysis is that “Arbitrary sporting” constitutes the principle of indeterminism and chance but still carries aspects of Thirdness. There could not exist any sportings if the sportings only consisted of Firstness and Secondness, there has to be an element of Thirdness for the sporting to even arise which is why the sporting, though arbitrary, is a second first and thus exists upon the first third “General conception” from the Firstness triad. “Heredity” designates the principle of determination of something which has happened. In other words, the irregularity becomes fixed and expresses a kind of determinism, a basis upon which further evolution can take place. So, from the first and most basic triad, we have come a step further in the process of evolution. We have arrived at a level where “Arbitrary sporting” has become fixated and now designates the possibility of “Heredity”. But possibilities of sporting still exist and we saw that these possibilities were identical to the principle

of irregularity and “Chance”, and this “Chance” designates potentiality. In the third triad, “Chance” is in fact Firstness.

Indeed, the interpretant “Fixation of accidental characters” fixes the “Arbitrary sporting” within the category of Secondness. This interpretant designates what Peirce refers to as dyadic causation (CP 2.220). In order for the dyadic causation to evolve into final causation, the interpretant “Fixation of characters” still contains room for ecomes “Chance” in the third triad.

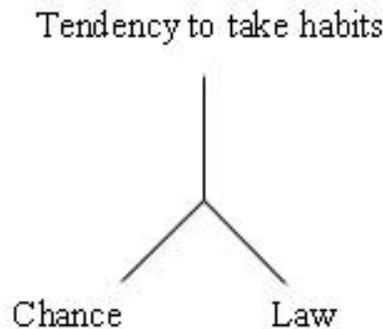


Figure 10. The third form of evolution constituting Thirdness and Evolution.

Thus, in the third triad, “Chance” is Firstness in the triad of Thirdness. It designates generality and potentiality. “Law” is Secondness and is the concrete aspect of “Chance”. “Tendency to take habits” is Thirdness and upholds the connection between “Chance” and “Law”. There is a clear relation between the triads. In this way, “Chance” derives from the previous triad as a result of the Secondness evolution, and “Chance” is mediated through “Tendency to take habits” to “Law”. This makes the interpretant “Tendency to take habits” the most developed result of evolution – the most developed interpretant. But, as the analysis suggests, all the previous kinds of evolution are maintained in “Tendency to take habits”. This is important because this suggests a similarity between the nature of evolution and the nature of the signs. The previous analysis provides us with an idea of Mind as Firstness, Matter as Secondness and Evolution as Thirdness. We saw that within Firstness, both Secondness and Thirdness exist. Every part of the evolution theory is an increase in Thirdness, a more and more specialized Thirdness resulting in the “Tendency to take habits”.

We can schematize the evolution relation in the following figure organizing the evolution parts in the same way as the signs (see figure 2).

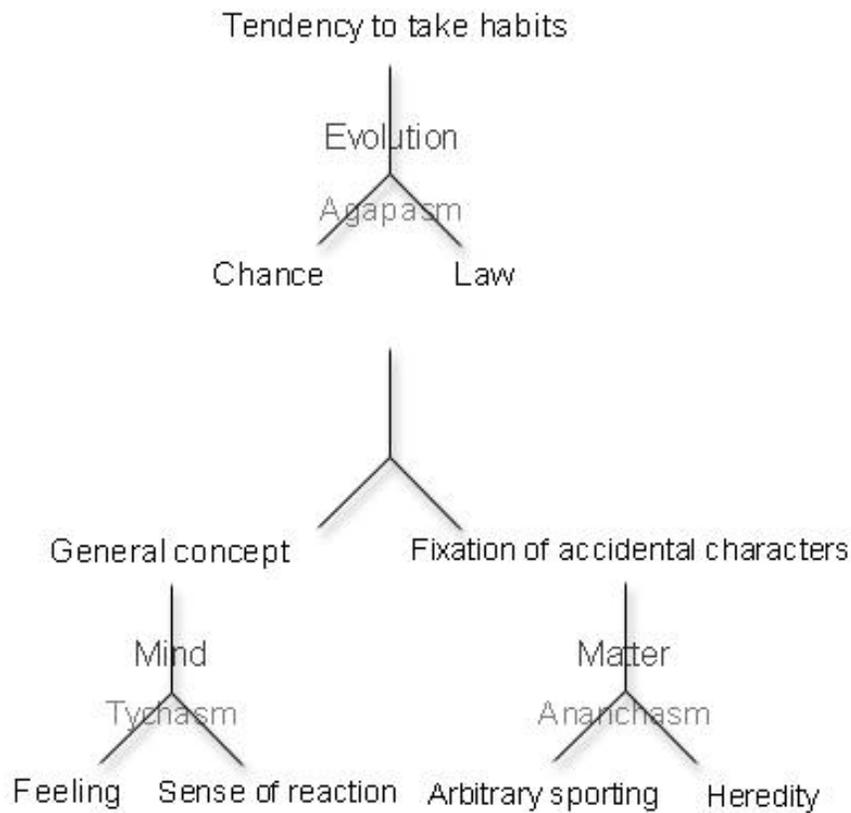


Figure 11 Assembly of all evolution parts. I will return to the argumentation concerning Tychasm, Ananchasm and Agapasm.

## 6.2 Three Types of Evolution

Having obtained a basic knowledge of the content of the three triads, let us take a closer look at the triad consisting of Mind as Firstness, Matter as Secondness and Evolution as Thirdness. But before we do this, Dinesen's summary of the three kinds of evolution as expressed in the previous triads is beneficial. The first triad, which is the most fundamental, expresses the following:

*In the cosmological perspective, the monadic relations concern an idea of time as a continuum where no sharp boundaries between phenomena exist, these phenomena are in themselves pure qualities without subjects. Here, we find the tychastic evolution, which designates a universe containing free and arbitrary variation, in fact so free that no limitation exists, why this universe is understood as a universe which consists of unlimited positive possibilities. (Dinesen 1992: 144. Translated from Danish).*

As a consequence of Secondness' "Sense of reaction" as we saw in figure 8, which creates a "General conception", the second triad is developed, which can be understood as Secondness to Firstness in triad one.

*The dyadic relations concern features or qualities in their relations to logical subjects. These relations are to be understood as every kind of action/reaction between existential objects; where existence is defined as something which reacts against something else. Here, we find the anarchistic theory of evolution, where the combination between the possible and the existential fact results in changes, which behave with a certain necessity towards each other. Like when phenomena interact and become subject to physical laws i.e. gravitation, which consists in different types of attraction/rejection, i.e. all dynamical principles. (Dinesen 1992: 144, translated from Danish)*

If we recall the quotation where Peirce gave his understanding of the Big Bang, he writes: "...an element of pure chance survives and will remain until the world becomes an absolutely perfect, rational, and symmetrical system, in which Mind is at last crystallized in the infinitely distant future"(CP 6.33). Here, he expresses the idea of evolutionary love, which is the striving for the good, the perfect even though Peirce knows that "Chance" can never be eliminated in favour of a perfect, rational and symmetrical world. But the striving after the good and the perfect is the principle that constitutes the agapastic theory of evolution – the evolutionary love. To get an overview, we can reduce figure 11 to figure 12:

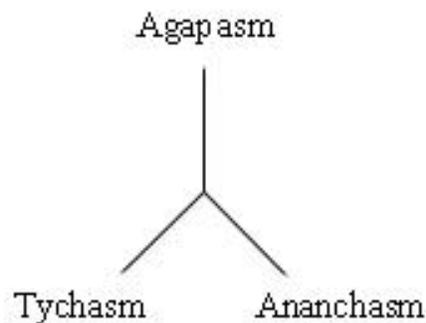


Figure 12. Three modes of evolution based on free variations, determinism (action/reaction) and evolutionary love.

Agapasm has a central place in evolution because it mediates between Tychasm and Anachasm. Agapasm is evolution through love. Peirce adapts the idea from Lamarck. Lamarck believed that animals evolved through their striving after the good and the perfect and the features they strive for become hereditary. But Peirce did not believe that the action of striving in itself was enough to explain evolution. There had

to be something more and this more was habit formation. Voetmann Christiansen describes the process in the following way:

*The giraffe did not get its long neck merely by stretching it to reach the leaves on the high trees, but the stretching creates within the animal society a habit which in a time perspective makes the pursued features more survivable* (Peirce 1996: 204. Foreword by Peder Voetmann Christiansen, translated from Danish)

In this way, Agapasm is the most important kind of evolution because like Thirdness it contains both Firstness and Secondness, and because pure Tychasm and Ananchasm as Firstness and Secondness can be considered as degenerated forms of Agapasm. But because of the depth of integration between the different kinds of evolution, the relation between Tychasm, Ananchasm and Agapasm can be viewed in a different way. Let us take a closer look at the depth of integration by dividing the elements of the triads in a different manner, as suggested in figure 13:

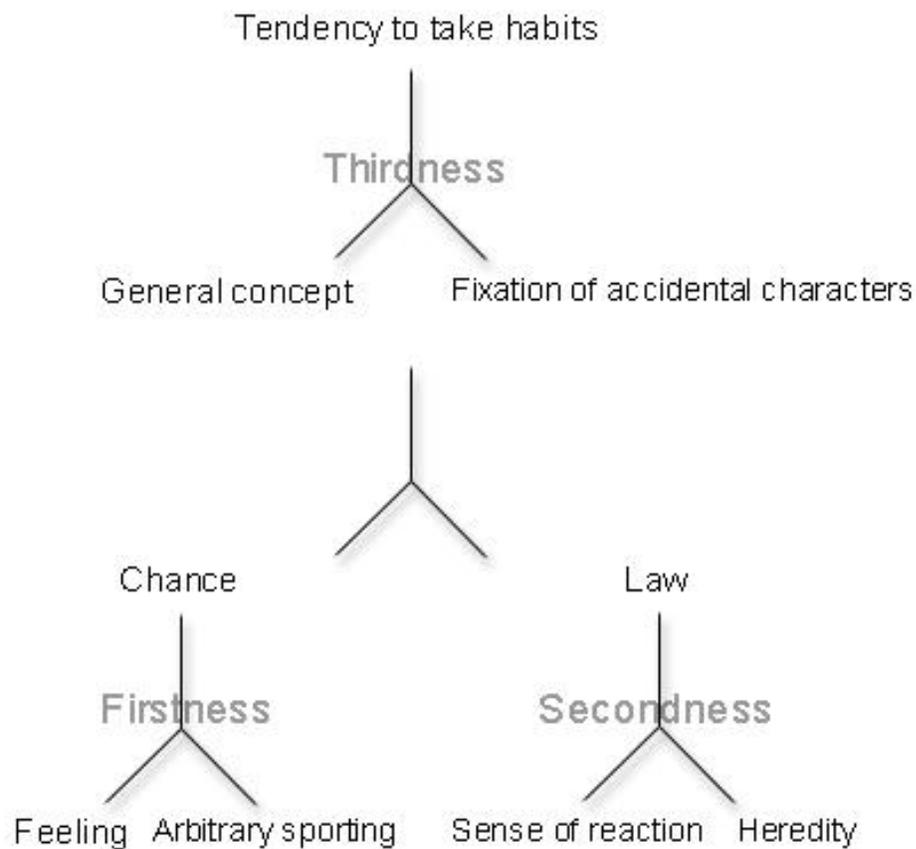


Figure 13. The evolution theory in classes of Firstness, Secondness and Thirdness.

Here, the elements of the triads are schematized in a way where all the elements of Firstness are gathered in the first triad, and the same applies for Secondness (second triad) and Thirdness (third triad). When schematizing the element of evolution in this way the relation to Tychasm, Ananchasm and Agapasm becomes clearer. If we look at the triad of Firstness, then all the elements suggest a kind of coincidence which is identical to Tychasm. The Secondness triad contains elements which are defined as mechanical reactions to something else which is identical to Ananchasm and, finally, the Thirdness triad consists of elements of mediation and generality.

If we take a closer look at Firstness, the absolute Firstness is “Feeling”. For Feeling to be manifested, it has to be carried by “Arbitrary sporting”. The mediation, i.e., the vehicle, is “Chance”; this is the triad of sheer possibility and generality. Both here and in the sign trichotomies there is a decrease in the Firstness degree from “Chance” to “Arbitrary sporting” and to “Feeling”. Or as we saw in the sign analysis, there is an increase in Thirdness from “Feeling” to “Arbitrary sporting” to “Chance”. The same also applies to the second and third triad. In the sign analysis it is worth noticing that the first evolution trichotomy is purely monadic. It consists only in itself as a positive possibility, without any relation to anything. Nonetheless, the triad contains elements of Firstness from all three triads, i.e. triads which express a Firstness evolution. Secondness consists of “Sense of reaction”, “Heredity” and “Law”. Secondness mediates between “Sense of reaction” and “Heredity”, and the reaction has to be manifested and carried by “Heredity”. Through “Heredity”, evolution becomes “Law”. The Secondness trichotomy as described exists as dyadic relations to the Firstness trichotomy. And the interrelationship between evolution of Firstness and Secondness is in fact identical to Peirce’s notion of efficient causation (CP 2.212, CP 2.220). Thirdness consisting of “General conception”, “Fixation of accidental characters” and “Tendency to take habits” are the category of habit formation. The relations between “Tendency to take habits” is the most developed element, which means the element farthest away from the most firstnesslike element “Feeling”.

The analysis and discussion of the triads result in the following figure.

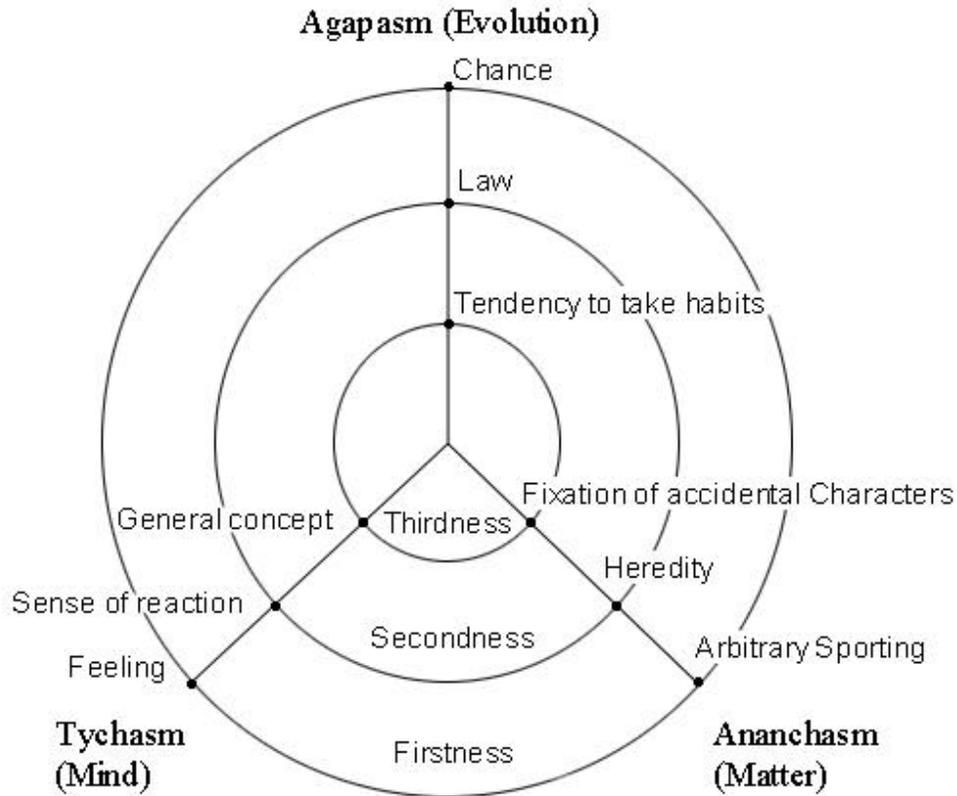


Figure 14. Providing an overview of Peircean evolution theory.

The construction of figure 14 is similar to figure 4. The figure is constructed in the same way where each leg in the triad corresponds to the parts in the sign: Representamen, object and interpretant. Furthermore the figure is constructed with Thirdness nearest to the centre, Secondness in the middle and Firstness farthest away from the centre.

As shown in figures 7 and 11, Mind consists of “Feeling”, “Arbitrary sporting”, and “Chance”; Matter consists of “Sense of reaction”, “Heredity” and “Law”; and Evolution consists of “General conception”, “Fixation of accidental characters” and “Tendency to take habits” and the different parts are labelled: Tychasm, Ananchasm and Agapasm. So the triad of Mind, Matter and Evolution assembles all the parts of the analysis and constitutes Peirce’s evolution theory based on his metaphysics.

## 7 Evolution Displacements

### 7.1 Mind

With respect to the above analysis, we shall now discuss the concepts of Mind, Matter and Evolution. We have already seen how Mind, Matter and Evolution correspond to Tychasm, Ananchasm and Agapasm and to Firstness, Secondness and Thirdness.

Peirce defines Mind very broadly. Mind covers something mental: sign processes which do not necessarily take place in someone's head. These sign processes also occur in nature. Voetmann Christiansen writes:

It [mind] is not only "spiritual" in the sense "non-material", but it is very much attached to material processes. According to Peirce, material contains an original living feeling, a Firstness which is not in itself consciousness but rather a dreaming potential for the development of higher consciousness. (Voetmann Christiansen 1988:18 translated from Danish)

As we saw in the definition of the first triad: "Feeling", "Sense of reaction", "General conception", "Feeling" expresses the absolute First, and it is the absolute First that Voetmann Christiansen describes in the quotation, and I believe it is this potential Peirce understands as absolute Firstness. When this living feeling causes a reaction, the process of evolution will carry the feeling as a quality. In relation to the figures discussed in this paper, one has to remember that the "Tendency to take habits" is the most developed element, i.e., the element displaced farthest away from "Feeling", but nonetheless the Tendency to take habits contains all the elements of evolution which lie between "Feeling" as the absolute First and itself. In this way, the "Tendency to take habits" also contains "Feeling", but "Feeling" as a quality in the "Tendency to take habits" is no longer pure Firstness but troubled by the constraints of habit formation. "Feeling" and thus Firstness has evolved and has become Thirdness. Feeling has been displaced from Firstness to Thirdness and is in Thirdness as the Firstness of Thirdness which is the element of Chance (see figure 11) This can also be shown in the following way:

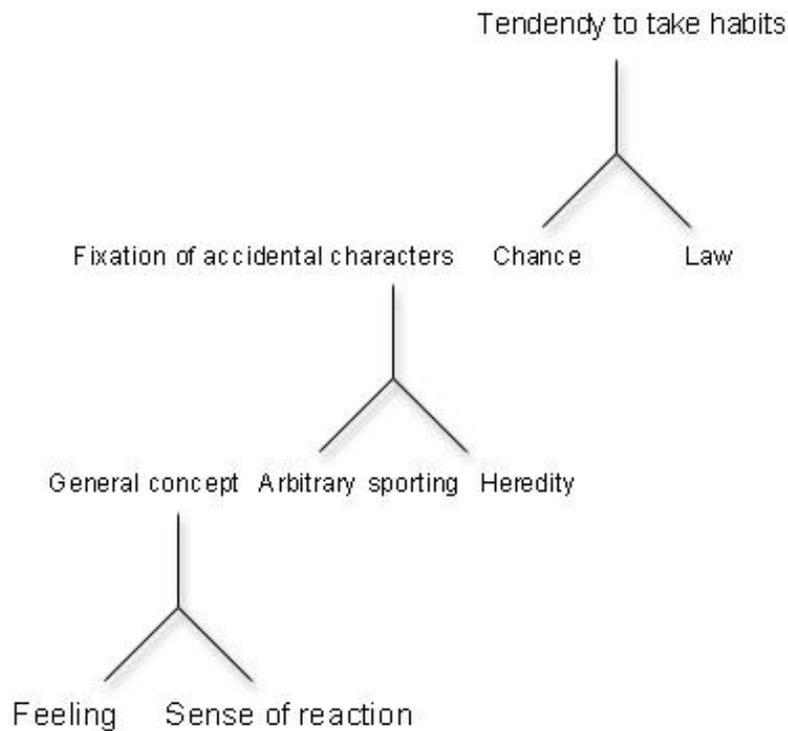


Figure 15: The figure illustrates the progress of evolution from Firstness to Thirdness. In this way, the Thirdness of Firstness “General conception” becomes the Firstness of Secondness “Arbitrary sporting”. The interpretant of Secondness “Fixation of accidental characters” becomes the Firstness of Thirdness “Chance”. The Thirdness of Thirdness “Tendency to take habits” expresses the ultimate evolution (the final causation). The target for evolution is habit formation.

In order to understand figure 15, it is important to notice that Firstness exists prior to Secondness and Thirdness. But before sporting can occur, something general has to exist. This is analogous to the sign. Before the sign can be constituted something general has to exist and this generality is the Representamen. In this case, as described in figure 15, “General Conception” is the generality analogous to the Representamen.

## 7.2 Matter

Let us take a closer look at Matter. Peirce defines Matter very broadly. Matter is effete mind (CP 6.25). Peirce writes: “...that what we call matter is not completely dead, but is merely Mind hidebound with habits. It still retains the elements of diversification, and in that diversification there is life” (CP 1.158). This is identical to what we earlier discussed. Through the evolution process, Mind is passed on into Matter. This means that Matter contains a kind of potential of being. Voetmann Christiansen describes it as follows:

*Matter is real, but matter is only an aspect of what exists and therefore cannot explain psychological phenomena such as feeling...and since we are able to claim consciousness in a material world it has to be due to the fact that matter has a sleeping consciousness. (Voetmann Christiansen 1988: 14, translated from Danish)*

Mind is mediated into matter through Evolution, and is in this way a reflection of Matter and thus a part of Matter. In other words, the relation between Mind and Matter is identical with the relation between Firstness and Secondness, Representamen and object, and in all situations the relation is identical with the interpretant.

## 8 Sign and Evolution Displacements

Having analyzed both the sign types and Peircean evolution and having suggested a similarity between them, it is time to analyze both the sign displacement and the evolutionary displacement.

From the analysis of the sign types, we know that a displacement occurs from the category of Firstness to the category of Secondness, mediated through the category of Thirdness. As suggested, it is fruitful to divide the signs into signs of nature, signs of humans and signs of culture. The sign displacement occurs between nature and man and culture. Thirdness constitutes our culture, and the only way we can understand nature and ourselves (the dyadic relation between Firstness and Secondness) is through Thirdness which is our culture. Therefore, the intellectual semiosis of man takes place in the category of Thirdness (in bold) between:

Qualisign/Icon  $\Leftrightarrow$  **Rheme**

Sinsign/Index  $\Leftrightarrow$  **Dicent Sign**

Legisign/Symbol  $\Leftrightarrow$  **Argument**

As I have argued, the regression of Thirdness back to Firstness is in fact the movement from the Argument back (or forth) to the Rheme as a process. In this process the Argument regresses to the Rheme because Secondness (Dicent sign) as a concrete aspect of the Rheme through the interpretant “the Argument” becomes a new sign which eventually becomes a habit and thus expresses generality. Human cognition only takes place inside the category of Thirdness and obviously on the basis of Firstness and Secondness but displaced from these categories. This is underlined by Peirce, when he creates the ten sign classes anchored in the category of Thirdness. In fact, this constitutes semiotic constructivism. How does this harmonize with the evolution theory as analyzed above? Dividing the evolution theory into evolution of nature, man and culture we get the following table:

Qualisign	Icon	Rheme
Sinsign	Index	Dicent sign
Legisign	Symbol	Argument
Nature	Man	Culture

Sign displacement from nature through culture to man

Feeling	Arbitrary sporting	Chance
Sense of reaction	Heredity	Law
General conception	Fix. of characters	Tend. to take habits
Nature	Man	Culture

Displacement of evolution from nature through culture to man

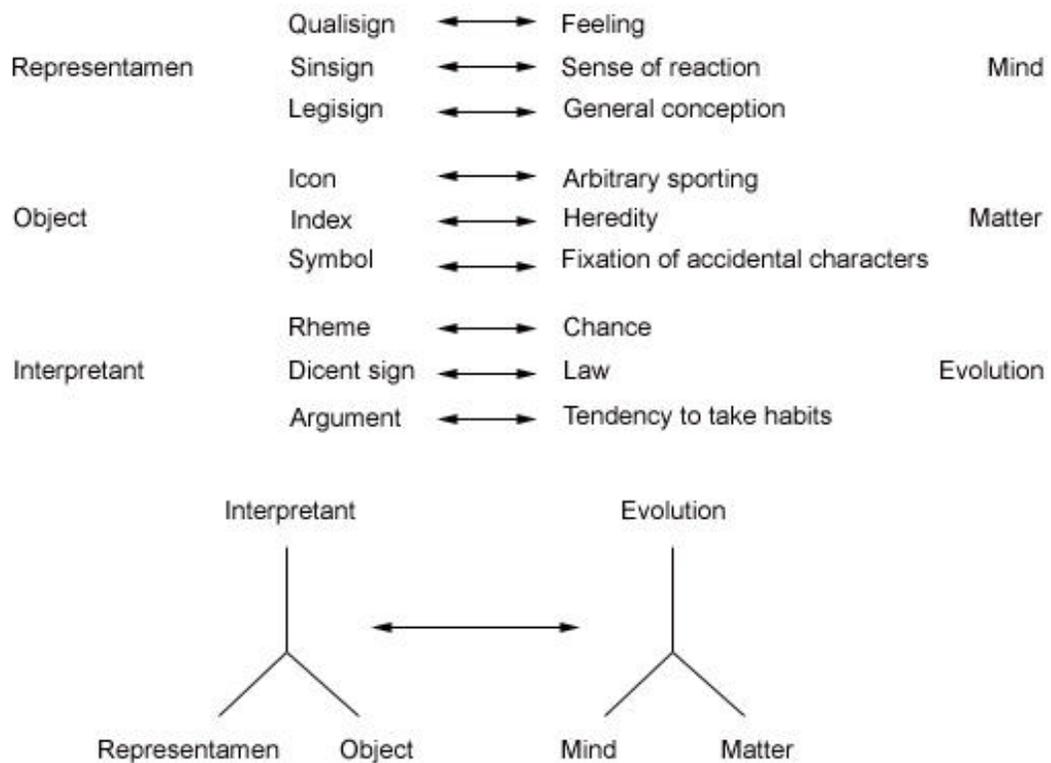
Figure 16. Unifying the analyses

With a focus on the bottom part of the figure, I have divided the different parts of Peirce's notion of evolutionary theory into the evolution of nature, man and culture. This is of course not the only way to divide the evolution theory and may seem a bit unorthodox. Man is a concrete aspect of Nature and the relation is upheld by Culture. But numerous aspects of nature may exist which designate another evolution. Since the category of Secondness is based on arbitrariness any other Secondness to Firstness is conceivable. Thure von Uexcull (1999) writes about the iconic infant that grows to be a symbolic adult by exploring his indexical action space. Man interacts with nature in dyadic ways, and the understanding of the dyadic relations between what lies outside one's personal Umwelt and the Umwelt is triadic.(2) The notion of culture and the Umwelt is no doubt a tendency to take habits.

A crucial problem in this discussion is of course the reduction of Peirce's evolutionary theory which, in a way, only makes sense in its total form. When dividing evolution into nature, man and culture it has to be understood in analytic terms. In practice, it is impossible to make, let alone understand, the division. Our understanding of Firstness is based on Thirdness. So our understanding of natural evolution as Firstness is based on Thirdness. But this does not mean that we cannot influence Firstness evolution. We influence the Firstness evolution through the Thirdness evolution using the Secondness evolution as an axis of reflection, just as we learned with

the signs. But the main argument which makes the division of signs and evolution plausible is that we are able to understand the complexity in both the signs and in the evolution of the signs. The division gives us a three dimensional understanding of the interaction of nature, man and culture. In semiotic terms, these three layers are not separated but have to be understood as an organic almost holistic structure. Firstness, Secondness and Thirdness exist on different levels depending on whether we address Mind, Matter and Evolution. This means that Thirdness as the most important part is differentiated and therefore the structure has to be understood in an almost holistic sense but more in an organic sense.

There can be little doubt about the interrelation of the layers: nature, man and culture, as they do indeed influence each other. In the sign analysis, it became clear that the division is analytically fruitful. Let us take a closer look at the different parts of evolution from figure 16. How do they correspond to the signs? In figure 17, I have tried to schematize the interrelation between the sign types and the evolution types.



**Figure 17.** Signs and evolutions.

The similarity is striking when comparing the sign types and the types of evolution. Due to the nature of Firstness, Secondness and Thirdness, the sign types and evolution types share identical features. Firstness as potentiality and generality; Secondness as manifest and Thirdness as mediator. I will not analyze all the sign / evolution similarities in detail as most of them seem obvious. However, the relation between the Icon and Arbitrary sporting seems less obvious and needs some explanation. The Icon as an object is defined as similar to its sign and it carries aspects of Firstness. The similarity is maintained by the Legisign as a law and the Legisign carries the Sinsign and the Qualisign. "Arbitrary sporting" as an object shares similarities with its sign and through the similarities, it carries aspects of the sign. If there were no similarity between the "Arbitrary sport" and its sign, the potential from which it springs, the "General Conception" would not be the sign relation to "Arbitrary sporting". If we return to the triad of nature, man and culture, humans share similarity with nature because we are biological creatures who evolved from nature and still are part of nature, even though our understanding of nature is displaced and our relation to nature is basically iconic. In the sense of sign-object similarity, the Icon and the "Arbitrary sporting" is comparable.

In the relation between the Index and "Heredity", the similarity is based on reference from the object to the sign. The Index as an object is defined by its reference to the sign, the footprint points to the foot that made the footprint and, it does that independently of an interpreter. "Heredity" points to "Arbitrary sporting" independently of an interpreter. Finally, the similarity between the Symbol and "Fixation of accidental characters" is based on conventions, e.g. an idea becomes fixated and tends to bring other ideas with it. This strengthening of an idea is the process of symbolization. Therefore, "Fixation of accidental characters" is in fact the driving force within the symbol.

If we summarize these analyses, Representamen and Mind are possibility, Object and Matter are concrete manifestations of Firstness and thereby carry aspects of Firstness. The Interpretant and Evolution mediate between Firstness and Secondness and carries aspects of both Firstness and Secondness. In this way, the Icon is a concrete manifestation of the Qualisign and the Rheme is what maintains what becomes a general relation. In relation to evolution, "Arbitrary sporting" is a concrete manifestation of "Feeling" and the relation is maintained through "Chance". The same applies for "Sense of reaction" as Firstness, "Heredity" as Secondness and "Law" as Thirdness and "General Conception" as Firstness, "Fixation of accidental characters" as Secondness and "Tendency to take habits" as Thirdness. This constitutes the notion of evolutionary displacements where Secondness as manifestations through Thirdness interprets an aspect of Firstness as possibility. Further semiosis takes place on the basis of this interpretation which means that evolution has been displaced from the

starting point just as it was the case in the sign displacements. In relation to evolution, the Thirdness evolution consisting of “General conception”, “Fixation of accidental characters” and “Tendency to take habits” expresses concrete evolution whereas Firstness (“Feeling”, “Sense of reaction” and “General Conception”) expresses possible evolution. Similarly to the sign displacement, we have a case where evolution is displaced from Firstness to Thirdness using Secondness as an axis of reflection.

## 9 Semiotic Constructivism

Having analyzed the sign and evolution classification and having outlined the concepts of sign and evolutionary displacements we are now able to discuss the concept of semiotic constructivism.

As pointed out, sign displacement occurs within the Thirdness trichotomy (Rheme, Dicent Sign and Argument) and are expressed through the ten sign types which are all anchored in the Thirdness trichotomy. Naturally, the Thirdness signs are based on the signs of Firstness and Secondness. In fact they ensure the existence of Thirdness which means that Firstness and Secondness are anchored in Thirdness as aspects. Just as Mind and Matter are anchored in the subsequent evolution. The anchoring, which means that Firstness, Secondness and Thirdness are tightly knit together, is ensured by Peirce’s notion of Synektism or the idea of continuity. So, Firstness is displaced to Thirdness through Secondness. The sign displacement is the first part of the concept of semiotic constructivism.

Having applied an almost identical analysis to Peirce’s evolution theory, it has become clear that a similar evolution displacement also exists based on the fact that the nature of the sign types corresponds to the nature of the evolution (Firstness as generality and possibility, Secondness as concreteness and Thirdness as the relation and mediator). This is emphasized by the fact that the identifiability and interrelations between the signs and the evolution in the categories of Firstness, Secondness and Thirdness constitute the notion of efficient and final causation which is the driving force in evolution and thus in semiosis.

In this way, the concept of Mind is a Representamen, the concept of Matter is an object and the concept of evolution is an interpretant, and have to be understood as inseparable parts. It makes no sense to try to understand the sign without understanding Peirce’s evolution theory, since it constitutes the force that gives the sign its dynamic nature. Returning to the beginning of this article, I strongly argue in favour of the researchers who argue that the signs and the metaphysics as expressed in the evolution theory cannot be understood when detached from each other. As for the concept of meaning creation, meaning is identical to the interpretant of any semiosis whether

this is within Firstness, Secondness or thirdness. Meaning is not restricted to humans alone but, at this meta level, meaning is created within semiosis and, as I have argued, semiosis and evolution are identical in this context. Meaning is created whenever a sign and an object is merged together and the relation is maintained by an interpretant.

Semiotic constructivism is the notion of different levels of semiosis and evolution which are combined and knit together through continuity. We cannot understand a sign without understanding the sign as something. We need a grounding of the sign. This grounding will always express our cultural heritage. Culture as a sign system consisting of Rheme, Dicot sign and Argument expresses a habit formation. The way our culture is constituted expresses a habit but it is important to stress that the habit is not static. Habits are altered but the basic semiotic nature of habits is of course to offer stability to our cognition. This stability based on habits is the semiotic construction in which cognition take place. This is displaced from Firstness through Secondness but contain aspects of Firstness in the Firstness of Thirdness i.e. the Rheme and "Chance". Peirce's notion of continuity places constraints upon the displacement, which means that the displacement is anchored in Firstness and carries Firstness as an aspect. This provides Peirce's semiotics with a realistic angle.

## **10 Acknowledgements**

Sincere thanks to Peder Voetmann Christiansen, Anne Marie Dinesen and Peter Øhrstrøm for their critique. And I thank Floyd Merrell and João Queiroz for accepting my idea of Sign displacement in the Digital Encyclopedia of C. S. Peirce.

### **10.1 Endnotes**

(1) Logic is a major aspect of Peirce's philosophy and lies outside the scope of this article. However, it is important to note that the nature of abduction is based on intuition, spontaneity and is prior to language. Abduction is the foundation in Peircean logic and also the basis in semiotic cognition. This means that our reasoning is basically logical but founded on pre-linguistic intuition and spontaneity. And it is the nature of abduction that makes it possible to understand logic as a result of cultural habit formation.

(2) Stressing the notion of Umwelt, Jacob von Uexküll's concept seems to be the very definition of the interplay between nature, man and culture.

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