THE SEMIOTIC FRAMEWORK
Peirce and Stamper

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Abstract: The strength of Stamper resides in his keen eye for the situatedness of knowledge, the strength of the founder of semiotics, Ch. S. Peirce (1839-1914), resides in his architectonic approach to processes of knowledge generation and in his subtle, albeit unfinished semiotics. In this paper I confront both approaches. The aim is to find a meeting ground. To that end I compare Stamper's semiotic ladder with Peirce's classification of the sciences. A first result is a distinction between two views on the semiotic ladder: 1. an outside perspective on an information system, in which the levels can be studied as if they are not interdependent and 2. an inside perspective, in which the path from input to response is followed. In the latter case the levels must be regarded as interdependent.

1   INTRODUCTION

The impact of Peircean semiotics in the information sciences is to a large extend mediated by Morris' behaviourist interpretation of semiotics. In *Sign processes and the sheets of semeiosis* (Breemen & Sarbo 2007a) we argued against the restrictions Morris placed on sign processes. For us, in contradistinction to Morris, sign processes:

(1)   include mental phenomena (stimulus, response and conditioning through reinforcement will not do);
(2)   include processes in inorganic nature;
(3)   do cover all forms of behaviour;
(4)   do as a rule generate new signs.[i]

The most important consequence of Morris' denial of the above four statements for information science, so we claimed, is the severing of information systems from organizational systems of whatever kind by regarding an information system as a sub-system that delivers services to another type of system (Cf. D. Falkenberg et al 1998, p.15.) which governs the interplay of presumably disconnected processes of semiosis. In this manner the study of the representational side of information processes tends to get severed from the interactional or social side. The price to be paid is that the oftentimes intricate relations between both dimensions remain opaque and the question of responsibility cannot be properly addressed.

A direct recourse to Peirce, however, will not solve the problem. For, although his way of thinking was subtle enough to enable him to repeatedly address issues that follow from the basic social character of information processes –as, for instance, his dialogical approach to quantification, generalized by Hintikka into a game theoretical semantics, testifies- his strong focus on science, conceived as a project that in the long run will yield an ultimate opinion that conforms to reality, prevented him to systematically integrate the import of the interactional element in semiotics.[ii]

I will use the work of Stamper as a catalyst in my attempt to work towards a more integrated and a more Peircean semiotic account of what is identified as two separate systems in the FRISCO approach to information systems. In particular the notions of radical subjectivism and actualism will be utilized in order to shift the focus from representations of information systems (IS) towards representations of

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[i] For Peirce only death or total annihilation puts an end to semeiosis, not so for Morris. For Morris statements see Morris (1946, pp. 287-291).

[ii] The relative neglect for the normative sciences of aesthetics and ethics, as compared to the abundance of attention for normative logic can be understood against this background.

the interpretation processes that the agents may go through when they partake in the realisation of goals the IS is meant to fulfil.

It is not my intention to suggest that such a shift ought to lead to a replacement of conceptual tools, like replacing the ontology charts of the Semantic Analysis method (SAM) with the interpretational model we presented at ICOS 2007 (Breemen, Sarbo & Van der Weide, 2007b). On the contrary, it may be far more profitable to insert the interpretational model in an agent node, of whatever agent type, in the ontology chart in order to be able to zoom in on a particular actor. But then it becomes of interest to find out whether it is possible to find connections between the semiotic frameworks of both approaches that enables translation from one into the other. It is this latter topic that I explore in this paper.

2 PEIRCE, STAMPER AND THE SOCIAL ELEMENT

An important difference between Peirce's and Stamper's conception of information processes follows from their respective overall goals. Whereas Peirce's main interest is to deliver a contribution to the project of science in a way that is reminiscent to the work of Comte (save the latter's positivistic philosophy), Stamper is less restrictive, since he wants to understand information processes in all kinds of organizations, not only in the project of science. Here I will only hint at one consequence of this difference in orientation. I do this with the help of an idea of the Chinese philosopher Master Meng (372-289 BC).

Master Meng, living in troubled times, suggested a remedy to the hardship farmers suffered as a result of the greed of the ruling classes. The well-field system, he conceived, foresaw in the subsistence of farmers by subdividing the land in pieces of nine fields. Each of the eight fields surrounding the central field would be worked by a family and the fruit of that labour would be theirs. On top of that all eight families would have to work on the central field in order to provide the ruler with the means to organize labour on behalf of the common good. See figure 1.
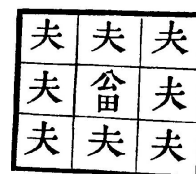

Figure 1: Xu Guangqi's representation of master Mengs nine field system[iii] or the position of Peirce.

Now, substitute interpreting systems for the families of farmers, substitute science for the central field, and add to that a goal that instigates the individuals to value individual information processes incompatible with the (methodical) demands of the central field as bad because they lead to false statements (beliefs) and processes that do contribute true statements (beliefs) according to the rules as good.[iv] Thus, the field-well system can be read as a simile for Peirce's intellectual orientation.

Figure 2: The effect of multiple goals or the position of Stamper.

Against this background: Stamper asks how we can understand what happens if different nine field units intersect, for instance because differentiating economic activity leads to conflicts of norms and interest, see figure 2. Part of the answer, of course, are the concepts of NORMA (Liu 2000) and the idea of agents rooted in and influenced by information fields. These have to bring out the (semantic) differences between the different units and sub-units.

The question here is not who values the social element higher, for both are truly convinced of the social character of thought. The question is in what way respect is being effectuated. Gazendam and Liu (2005) point the way to an answer when they remark that in ontology charts for Stamper society is the root agent. Peirce would specify for his research program the root agent as the society of investigators that strives to unravel the secrets of reality. Reality

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[iii] The drawing and the explanation are to be found in C. Lindqvist (2007).

[iv] It is of interest to note that Peirce includes emotions in the class of appearances that is continually contradicted by testimony and typifies them as the source of error (Cf. CP 5.234).

being defined as 'that upon which agreement will be reached in the indefinite future, if only research is pushed far enough'.[v] A clear indication that this is the stance taken is to be found in the distinction Peirce made between man as an individual and man as a personality. As an individual man is regarded as the source of error (Cf. CP 8.12). As a personality man is looked at as the unit of consistency. Closely connected to this is Peirce's opinion that man is immortal only to the extent that he as a true symbol has a lasting effect on future thought (Cf. CP 7.593, 7.594).[vi]

It is tempting at this point to take recourse to Peirce's architectonic classification of the sciences and to remark that the difference between Peirce and Stamper must be understood as a difference in generality: Peirce is working on the philosophical foundations of the (special) sciences and Stamper works within one of the special sciences or even within the applied sciences. In the next paragraph I will treat this subject in more detail, here I only point to some obstacles for such an interpretation:

1. Although informatics or information science may have started as computer science or just as an information technology, nowadays, as de Tienne puts it, it has become 'a confluence of studies in artificial intelligence, cybernetics, cognitive science, formal logics and other related activities that study how natural or artificial systems represent, transform, and communicate information […].' (De Tienne 2006) As a consequence information scientists nowadays raise questions that for Peirce belonged to the sub-branches of philosophy.[vii]

2. Although Peirce was a strong advocate of the scientific enterprise, his conviction that science evolved out of ordinary thinking guaranteed semiotics to encompass all information processes.

Peirce's preference for scientific reasoning shows itself nevertheless. For example in the disbalance in attention paid to the sciences of aesthetics and ethics as compared with his attention for the other branches of philosophy.

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[v] Peirce's concept of reality is dynamical and entails the passage from the irregular to the regular (Cf. CP 1.175).

[vi] Note that agents in ontology charts are taken in their personality character only.

[vii] To determine the place of information science in Peirce's classification of the sciences is not easy. Information science spreads out over the applied sciences, the special theoretical sciences and philosophy and contributes to them by demanding more rigor.

3 STAMPERS LADDER AND PEIRCE'S ARECHITECTONIC OF THE SCIENCES

Stamper's semiotic ladder (see figure 3) grew out of the distinction Morris made between three angles from which signs can be studied: the syntactic, the semantic and the pragmatic. Although Morris division was inspired by the work of Peirce and widely accepted by the semiotic community, it is hard to see how it could fit in Peirce's research program (Cf. Cordeiro & Filipe 2004). And indeed, it is hard to find a satisfying counterpart for Morris' distinctions in Peirce. The most obvious candidates are the subdivisions of normative logic in the architectonic of sciences drawn up by Peirce (see figure 4), i.e. speculative grammar, critical logic and speculative rhetoric. But if we realize ourselves that the other, more common name for speculative grammar is semiotics, then the correspondence with syntactics becomes problematic. As a consequence of the extensions made by Stamper, however, a comparison still may be useful.
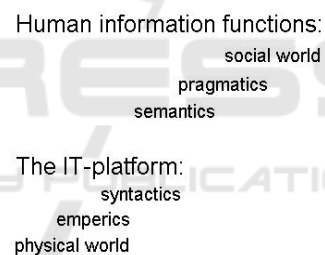
Human information functions:
social world
pragmatics
semantics

The IT-platform:
syntactics
emperics
physical world

Figure 3: Stamper's semiotic ladder. Note that although there are differences between information processing man and computers from an engineering point of view, from a semiotic point of view the similarities prevail. So, it ought to be stated as *The Human/IT-platform*.

The first thing to note is that Peirce classifies sciences, while Stamper classifies dimensions or levels that can be distinguished in the study of information systems. Along one line of reasoning it can be argued that the levels must be applicable to any interpreting system, e.g. also to a brain devoted to the scientific enterprise. For, whatever the systems goal, the dimensions must be present. Along another line of reasoning it can be argued that the extremes of the ladder –the social and physical worlds- are the object of the sub-branches of the special sciences –the psychical and physical- in the architectonic presentation of the sciences by Peirce (Cf. Figure 4).
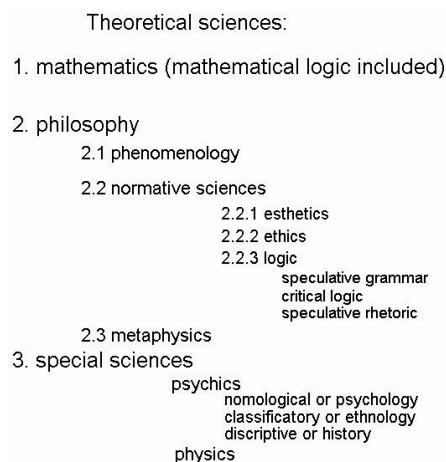
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Theoretical sciences:

1. mathematics (mathematical logic included)

2. philosophy
      2.1 phenomenology
      2.2 normative sciences
                  2.2.1 esthetics
                  2.2.2 ethics
                  2.2.3 logic
                            speculative grammar
                            critical logic
                            speculative rhetoric
      2.3 metaphysics
3. special sciences
            psychics
                  nomological or psychology
                  classificatory or ethnology
                  discriptive or history
            physics
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Figure 4: Peirce's mature classification of sciences.[viii] The numbers indicate categorical values. Notice that if we discard esthetics and ethics, the sub-branches of logic fill the 2.2.x range.

Both lines of thought would be more clearly distinguished if besides figure 3, a figure would be made in which the six level-names are modified by the suffix 'aspect', e.g. physical aspect instead of physical world. The steps of the ladder would thus specify the different aspects that can be distinguished in each information process. Each next step up could be imagined to rely on the steps below, i.e. without existence (physical aspect), no pattern (empirical aspect), etc. If the relation between the aspects is conceived in this way, then at least in this respect a similarity with Peirce's classification of sciences exists.

With Peirce, the 'lower' sciences are involved in the higher: mathematics is involved in philosophy and the special sciences, phenomenology is involved in the normative sciences, aesthetics in ethics, etc. Since this idea of involvement is a consequence of Peirce's categorical scheme and since that scheme also steered the arrangement of sign aspects and interpretant aspects (Breemen & Sarbo 2009), in principle the categorical scheme of Peirce might prove very helpful for the development of architectonic approaches, like Stamper's, to information systems.

The three most general categories are irreducible to each other, interdependent and present in every

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[viii] Constructed from CP 1.180-1.283, 1902/03.

[ix] It can be argued that metaphysics is misplaced in the classification. If it is regarded as the First of the special sciences, then the scheme of sciences (1, 2.1, 2.2, 3.1, 3.2, 3.3) is identical with Peirce's scheme of interpretant aspects. Besides that, building domain specific ontology's is by now daily business in information science.

experience. The categories are: 1. Firstness or qualitative possibility, 2. Secondness or actuality, and 3. Thirdness or mediating law. It is important to note already here that the categories can be applied to themselves in order to yield ever more detailed sub-branches. And indeed, as a matter of fact, in the classification of sciences each of the sciences, regarded on itself, is of the third category -as is all cognition- but in relation to each other they can be provided with categorical values that state their relative positions and they can again be sub-divided according to the categorical scheme as the division of philosophy shows.[ix]

Mathematics, in relation to philosophy and the special sciences, is a First because '[…] it meddles with every other science without exception.' (CP 1.245) and

> […] does not undertake to ascertain any matter of fact whatever, but merely posits hypotheses, and traces out their consequences. It is observational, in so far as it makes constructions in the imagination according to abstract precepts, and then observes these imaginary objects, finding in them relations of parts not specified in the precept of construction. CP 1.240

Philosophy is, according to Peirce, a Second because it is involved in the special sciences, but not in mathematics. This follows from its task, which is

> […] to find out all that can be found out from those universal experiences which confront every man in every waking hour of his life, (philosophy: the author) must necessarily have its application in every other science. For be this science of philosophy that is founded on those universal phenomena as small as you please, as long as it amounts to anything at all, it is evident that every special science ought to take that little into account before it begins work with its microscope, or telescope, or whatever special means of ascertaining truth it may be provided with. CP 1.246

Another way to put this is to say that philosophy is of the second category because the actuality of experience comes into play.

Before I proceed with a treatment of phenomenology and the normative sciences, the key parts of this paper, a closer look at a difference between Peirce and Stamper is useful.

3.1 The Detached Eye of the Logician and Actualism

The development of Peirce's semiotics did get off the ground with his *On a New List of Categories* (1867) and went on until his dead in 1914. The central question in *On a New List of Categories*

already is: How do we bring the manifold of sense to unity? (Cf. CP 1.546) This question clearly deals with our faculty of understanding. Peirce's development of technical terms in semiotics however starts with the distinctions to be made with respect to (outward) signs. It is only after the turn of the century that a theory of interpretants (interpretants to be distinguished from interpreters that process or develop the interpretants suggested by the sign) comes in sight. A consequence thereof is that although the work on the categories is profitable for the sign theory, it is only with the emergence of the theory of interpretants that a more material, semiotic approach towards the process of conception, that brings the manifold of the senses to unity, becomes feasible.

On the assumption that it makes no sense to make distinctions with regard to the sign if they don't play a role in the process of their interpretation, we did show in (Breemen & Sarbo 2007a) that it is possible to assign for each sign aspect an interpretants aspect. Although all ingredients were present, Peirce did not come that far. The interesting question is: "why not?" The short answer is that he looked at the matter with the rather detached eye of the logician, as is exemplified in the following quote.

> It seems best to regard a sign as a determination of a quasi-mind; for if we regard it as an outward object, and as addressing itself to a human mind, that mind must first apprehend it as an object in itself, and only after that consider it in its significance; and the like must happen if the sign addresses itself to any quasi-mind. It must begin by forming a determination of that quasi-mind, and nothing will be lost by regarding that determination as the sign. EP 2 p.391 1906

Here it is admitted that in order to interpret signs, it is needed to first apprehend the sign as an object, but Peirce immediately makes clear that nothing is lost if we skip this step by supposing the sign as an object already to be grasped by a quasi-mind. And indeed, in his personal Logic Notebook, October 8th 1905,[x] we find a categorical ordered listing of sign aspects that flows over in a listing of interpretant aspects. In this list, however, the first

triad of interpretant aspects is missing. These are precisely the interpretant aspects that cover the apprehension of the sign as an object.[xi] We will see in paragraph 4 that taking an actualist[xii] stand (Gazendam & Liu 2005), forces one also to take into account that first stage of the interpretational process.

3.2 Stamper's Ladder Revisited

In figure 5 I present the aspectual view on the semiotic ladder. The difference between both ladders is twofold. First, while in the received view perspective there may or may not be interdependencies between the levels, in the aspectual perspective I assume there are interdependencies. Note that the steps of the aspectual ladder relate with the sub-branches of philosophy in Peirce's classification as an aspect approach relates to a received view approach or, as Peirce would have it, as the utens of a certain kind of habits relates to the docens of the same kind of habits. The different moments that can be discerned in the utens of a process of interpretation are reified into relatively independent levels. Here resides the ground for hope to be eventually able to trace back the different steps of the semiotic framework to a general description of interpretation.

Second, the aspectual ladder describes what must be assumed present in any information process, the sciences ladder divides and distinguishes sub-domains of all possible information processes. This difference is akin to the difference between a universal (or cenoscopic) ontology and domain specific (or idioscopic) ontology's (Breemen & Sarbo 2009).

Stamper's ladder of views starts with the physical world. That may be a good choice for the received view approach, for an aspectual approach, I think, it is better to follow Stamper's principle of radical subjectivism. But if we do so value the perceiving mind, we are better off with phenomenology at the first steps of the aspectual view ladder.

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[x] Manuscript 339 according to the Robin catalogue

[xi] For Peirce scholars: this probably is the reason why Peirce never tried to categorically relate the emotional, energetic and logical interpretant, with the immediate, dynamical and normal interpretant.

[xii] This does not imply throwing away the first and third category, it only admits that to start with some actual arousal of the mind may be a good strategy.
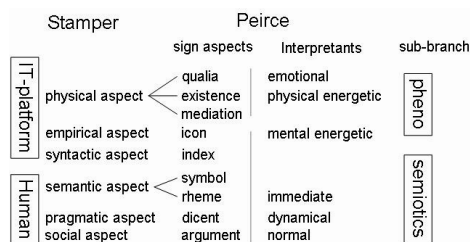
Figure 5: Stamper's ladder adapted to an aspect view and their roughly corresponding terms in Peirce's semiotics. Note that both Peirce -in his work on interpretants- and Stamper work with two trichotomy's while three trichotomy's are needed to describe a sign in its most general characteristics. A description of processes of interpretation by an agent ought to take account of all three trichotomy's.

Space forbids tracing out the relation between Stamper's ladder, the aspectual ladder and the interpretational model we derived from Peirce's work on signs and interpretants (Breemen & Sarbo, 2009). Since, however, any attempt in that direction must invoke the phenomenology and the semiotics of Peirce, in the remainder of this presentation, I will start that enterprise with the first steps, the steps that cover the apprehension of the sign as an object (The steps distinguished under the heading IT-platform). The first thing to do is to zoom in from the arrangement of sciences to the object covered by the sub-branches of philosophy or, better still, we must zoom in on the most general characteristics of any interpretation process that relates to the sub-branches of philosophy as the praxis (utens) relates to the teaching (docens) of the praxis.

3.3 The Docens and the Utens of the Sciences

Peirce makes a clear distinction between everyday reasoning and controlled or scientific reasoning. It is captured with a distinction between the docens and utens of logic:

> […] In everyday business, reasoning is tolerably successful; but I am inclined to think that it is done as well without the aid of theory as with it. A logica utens, like the analytical mechanics resident in the billiard player's nerves, best fulfills familiar uses. CP 1.623

This distinction is consonant with the general character of philosophy and with specialized science, so the utens – docens distinction covers not only what offers itself to the mind (the subject of philosophy), it also includes the trajectory from the receptors to the brain, the brain and the motor system. For, a description of the analytical mechanics of motor movement clearly seems a subject for one of the special sciences. A more radical subjectivist interpretation and description of the utens of mathematical logic is provided by Farkas and Sarbo, see the appendix of Breemen & Sarbo (2009) for a succinct description. They called it *naïve logic* because all Boolean operators are uncritically applied and quantification and modality are not covered.[xiii] It involves an ordering of the Boolean operators, but the truth conditions do not apply, it can be looked at as translations without any check, besides a check on the completeness of operators used.[xiv] It covers all we must assume the mind is capable to at the moment it gets confronted with "those universal experiences which confront every man in every waking hour of his life" (CP 1.246).

The first science that investigates the universal experiences is phenomenology, but it only covers the subject as appearance. This study yields the universal categories as a principle to be used in the construction of a model of our interpretational process. In Speculative grammar or semiotics the same appearances are re-investigated. This time from the perspective of their character as a sign, that must be grasped before it can evolve its meaning and realize its effect. Together with the logica utens and the matter and principles derived from phenomenology, the technical terms of semiotics must deliver the first building blocks for our process model of interpretation. If we leave out the process character, we have all that is needed to make a ladder of the dimensions that must be distinguished in any information system whatever. It does not discriminate between organic and inorganic systems, because aesthetics and ethics are not yet included.

4 THE SEMIOTIC SHEET AND ACTUALISM

If "to all intents and purposes, without an actor no reality exists" (Gazendam and Liu 2005), we do best to start with the assumption of a receptive actor. Let us call the mind of that actor the *Semiotic Sheet* (S_S). Since the S_S itself is a sign, it has three modalities. In its modality as a First (possibility, S_S-P), at the moment, it only contains the possibility to evoke the

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[xiii] Truth, modality and quantification come in after experience, so to say.

[xiv] Check failure leads to a feeling of uneasiness, to doubt that must be settled in belief.

logica utens, that enables the ordered translation of feelings through time along the steps of the semiotic ladder by the sheet in its modality as a Third (mediation, lawfulness, S_S-L) on the occasion of a feeling that occurs on the sheet, here and now, in its modality as a second (actuality, S_S-A).

What happens if a feeling (qualisign) presents itself? That feeling must have a quality distinct from what else is contained by the sheet: it is inescapably there, here and now inscribing itself as an actual feeling (sinsign) in a S_S-A. Besides that it has a definite quality that makes it the quality it is and that has the potential to enter the stream of thought. But only if there is a law or habit that takes this instance of the quality as an instance of a type (mediation, legisign). This is a very short summary of what we find in Peirce's phenomenological analyses.

In semiotic terms the phenomenological findings can be presented in two ways. In terms of sign aspects the feeling regarded as an existent feeling is a sinsign, regarded as this quality it is a qualisign and regarded as an instance of a type, it is a legisign. If we shift focus to the process of interpretation we find the emotional interpretant (qualisign) and the physical energetic interpretant (sinsign). The legisign counterpart is missing, as we showed that of the nine sign aspects six are present in the interpretant section (Breemen & Sarbo 2007a), see figure 6.
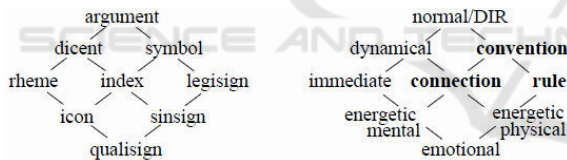

Figure 6: The match of sign aspects (left) with interpretant aspects (right). The match is ours. The interpretant aspects that are missing in Peirce are in boldface.

The reason why Peirce did not identify the missing interpretants himself may very well be that he adhered to the scientific enterprise in which the interpretant sign via the original sign better be determined by the object only and not also by peculiarities only pertinent to a given sheet.[xv] But he seems to have acknowledged this limitation for he once complained that:

> I have thought of the Object of a Sign as that which determines the sign; and this is well thought. I have thought of the interpretant as that which the sign determines or might determine or should determine; but this is not so well. For my idea of determination is dyadic while the idea of the relation of the interpretant to the sign is triadic. Peirce, MS 339 276r. April 2, 1906

Actualism brings out what is missing, since it forces one not to abstract from the interpreting agent. In figure 7 the evolution of the import of a sign is given. The diamond left represent the S_S-A when it is confronted with a new feeling as an effect upon a state. The question is how a sign is apprehended as an object with the ability to address the human information functions.
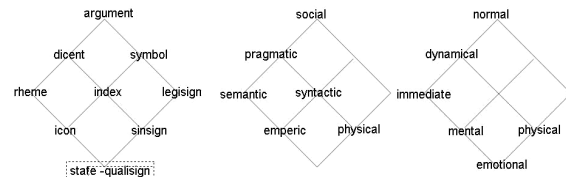

Figure 7: The semiotic sheet inscribed by a feeling. The left diagram describes the interpretation moments in terms of Peirce's sign theory, the middle in terms of Stamper's Ladder and the right in terms of Peirce's interpretants. The left diagram provides the actualist perspective by emphasizing the intrusion of a feeling in an agent state, the right diagram provides the radical subjectivist perspective by emphasizing the feeling that develops its effect, the middle diagram presents a detached view by leaving the occasion and the experience on that occasion unidentified.

The first significate effect an agent experiences is a feeling that intrudes. At this moment it is only the experience of a quality without any understanding, just an urge to resettle balance on the sheet. It is associated with doubt, in Peirce's doubt – belief sequence, as belief is associated with the normal interpretant. This moment is indicated with *emotional interpretant* in the right diagram. They are there for an instant and once gone, they are gone forever, much to elusive to be distinguished in the detached view (middle).

However short lived emotional interpretants are, in their effect they are *sorted* out in a twofold way. As a feeling of resistance (physical interpretant, sinsign, existence) and as the one time quality or as the configuration of qualities they are (mental interpretant, icon, form). If we follow the sequences of inscriptions and their forms separately we enter either the physical or the empirical level in the detached view.

In the next phase, coined *abstraction* by Farkas and Sarbo, the iconic sinsign connects (index) with what is contained in the sheet. On the one hand it offers all its interpretational possibilities (immediate interpretant, rheme), on the other, in order to be effective, it must be recognized and treated as an

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[xv] With Peirce 'objective' is not associated with the distinction between external and internal to the mind, but with 'dependent on mind in general' and 'dependent only on a specific mind '.

instance of a type by the sheet (legisign). A simple example must suffice. The lady that can be seen either as young or as old offers at least these interpretational possibilities (immediate interpretant, rheme). In what way it is seen at a particular moment depends on the legisign invoked: the lady either seen as young or old, not both. Note that it is not yet seen as a young woman or as an old woman. It still is just the image experienced as familiar.

In the detached view (middle diagram) the index position is identified as the syntactical level, for, if we take lots of occurring iconic sinsigns according to the combinations they indexically lead to on subsequent interpretation moments, we are looking for the combinatory properties and we may start to distinguish different types of combinations. Since in the Rheme position all possible meaningful combinations are offered, this must be the semantic level. Interestingly, the legisign position does not have a counterpart in the detached view. In part this can be explained by pointing to the fact that it is implied in the semantic level. But that is not the whole story. In order to be able to dwell upon this subject a bit more, I will skip the further assignment of moments in the process model to ladder positions and just give the correspondences in figure 7 without any argument,

Another reason why the legisign position is not recognized in the received view of the semiotic ladder may be connected with a feat of the ontology charts of SAM. The nodes represent affordances and agents as a rule in general and not as particulars. The exception is the root, that is taken to represent society. By doing so entities like person tend to be looked at from the point of view of the world modeled in the charts. Characters of instances of type person that fall outside the depicted world have the same value as the individual has in Peirce's worldview, they are the source of error at the most. This does not prevent those characters to be useful in worlds depicted by other charts, but that falls out of sight. Choosing *unit of consistency* instead of *society* as epithet would enhance consciousness of the potential and a source for agents to act adverse to the goal of the world depicted. At the same time it would invite to look at the agent as itself a unit that strives to increase its consistency and that, taking part in different information systems (Cf. Master Meng), may be forced to take responsibility for its acts in any one of them as a consequence of its role in another. I suggest that zooming in on the complexities that result is greatly enhanced by projecting the process model of interpretation on the agent nodes of the ontology charts. It would be of

assistance for any approach that tries to personalize the response of information systems or of ambient spaces to individual needs.

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