

# HEIDEGGER AND PEIRCE

## *Learning with the Giants - Critical Insights for IS Design*

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**Abstract:** Martin Heidegger's ontology and Charles Sanders Peirce semiotics offer a vastly unexplored potential in terms of IS design and development. Though there are several authors who have explored these giants' works, such contributions have seldom been disseminated and applied within concrete organisations, in particular in terms of contributing to organisational IS design. Within the current context of post-industrial society there is an urgent need to further develop the insights from these scholars. The links between formal and informal processes, between tacit and explicit knowledge and between diachronic and synchronic analysis are critical for the understanding of today's competitiveness. And Heidegger's and Peirce's works are crucial for a better grasp and optimisation of current complexity at organisational level.

## 1 INTRODUCTION

Heidegger's (1962) monumental work, "Being and Time" was first published in 1927 and only in the 60' did it reach the American market. It was received with suspicion and Dewey, a disciple of Peirce, openly criticised Heidegger's work. Dewey's unpleasant comment was that it seemed like a farmer trying to explain his views of the world, in his own words.

Yet, Heidegger and Peirce (1931) had much more in common than Dewey could figure out. Both had had a strong influence from the tradition of life philosophy and both directed their efforts to overcome Descartes' dominance in Western philosophy.

The contribution of these two giants to the development of information systems research and practice is crucial. This recognition has been acknowledged in the literature (e.g., ). However, there has been only marginal influence in terms of the way that the insights from these two scholars have been incorporated into actual organisational practices. The reason is twofold. On one hand, both computing science and management science are still dominated by Cartesian thinking, relying on cause-effect and linear relationships, and being strongly influenced by positivist thinking. On the other hand,

there is still the need to further develop and adapt the works of these two thinkers in order to integrate them into current approaches - and transform their theories into actable knowledge.

## 2 RATIONALE

The basic rationale of the present paper is the following:

- The context of the post-industrial society implies new challenges for organisational practice;
- IS has played and will continue to play a crucial role in this process of transition to a new information era;
- Organisations lie at the centre of contemporary society, being more important than national states in terms of how the economy is run;
- Peirce's semiotics, sign theory and his works as the founder of the American School of Pragmatism enable addressing simultaneously the individual world of meaning-making, the social world of organisational life and the broader societal context;
- Heidegger's ontology opens up new venues for IS ontology design because it critically addresses the role of technology, the links between pre-reflexive knowledge and formal processes, and

how novelty emerges from action, from the manifestation of possibilities of reality.

Both Heidegger's and Peirce's work offer a high potential in terms of IS research.

### 3 CONTEXT

Organisations play a central role in contemporary society. The study of organisations enables addressing key issues of the overall society. Western society is undergoing profound changes, which may be related to the evolution in information technology and the transition from an industrial to a post-industrial era. Such changes have been visible for the last half a century, since post-war times. Yet the central aspects of this transition have been present throughout the development of modern times, from the seventeenth century onwards. Namely, Descartes' cogito and the hypothetical-deductive model have become part of dominant thinking across different disciplinary fields, though several other approaches developed in parallel, giving rise to a creative tension that emerged as this post-industrial era.

Organisational practices are a key element in the understanding of organisational effectiveness. Practices, in the broad sense, include activities, routines, norms, behaviours and attitudes. What people actually do in the process of performing a professional function and organisational action, are also forms of describing organisational practices. A focus on practice implies that at least two aspects are considered as being relevant, as two sides of the same coin: the formal, procedural and visible side and the informal, non-predictable and invisible aspects of practice.

For a varied number of reasons, there is an undervaluation of the informal aspects of organisational practices and a generalised difficulty in acknowledging their role in terms of pre-determining, conditioning and prefiguring formal practices. Every process has a context and a history and every formal practice was informal first. Understanding these links, connections and relationships enables exploring new interpretations of organisational effectiveness.

### 4 QUEST FOR NEW KNOWLEDGE

There is a constant quest for new knowledge in contemporary society – the recognition that science is insufficient to deal with current problems has often been referred to as a crisis in science. This search has affected what is known as modern rationality, leading to the emergence of post-modern thinking. This new rationality emerges as a way to call attention to that which is not yet known, to the limits of previous knowledge, and not so much as an alternative to modern thinking.

In parallel, there is the acknowledgement of the complexity of current reality and the conviction that these new knowledge forms have to take the issue of complexity into account - yet this movement towards complexity is hard to reconcile with universalist trends.

This epistemological situation was raised by XIX century historical knowledge, through the works of Dilthey, who did not accept that all knowledge forms should fit the model of the natural sciences, as these remained blind to certain essential dimensions of reality.

The need to take into account the category of complexity, beyond others factors, is related to the fact that no human initiative, no human enterprise or organisation starts and finishes in itself: they are products of their time; they continue that which has passed and they open up future possibilities; they will reach their end, eventually, and they cannot be understood as if they were fixed solely in the present.

To look back and to reflect upon the past is to recognise that which is still present and active today. It is to show the roots of present initiatives, of present works. It is to identify possible constraints that could have been avoided in the past and to open up new opportunities for future development. In the same way as history has a proto-history, every human enterprise has a proto-enterprise, i.e. has a process from which it has emerged.

### 5 HEIDEGGER

To situate an organisation among these parameters of complexity is essential but it is not sufficient. It is not enough to harmonise synchronic and diachronic perspectives and to link the individual and the social dimensions. In order to grasp the question of future development, in terms of a potential to be achieved and made real, we have used Heidegger and his no-

tions of *Dasein* and of *being-in-the-world*.

Reality is itself understood as the manifestation of being, the manifestation of possibilities. *Dasein* means to be “thrown into” reality, i.e. before there is consciousness and self-consciousness there is already an experience of the world and of others. This experience is the *being-in-the-world* instance, or, in other words, the pre-reflexive work which is previous, *a priori*, to conscious thought. All reflexive knowledge has a pre-reflexive process to support it.

When designing work processes, workflows, organisational structures or information systems, the definition of these processes not only determine abstract formalisations but they also have a direct effect on the people who are to perform such work, through the actual enactment of the work practices themselves. Designing information systems is also *designing ways of being*, as Winograd and Flores argue, based on Heidegger’s ontology.

“All new technologies develop within a background of a tacit understanding of human nature and human work. The use of technology in turn leads to fundamental changes in what we do, and ultimately in what it is to be human. We encounter the deep questions of design when we recognise that in designing tools we are designing ways of being.” (Winograd, Flores, 1986).

The advantage of using philosophical based approaches is that they enable a richer understanding of organisational reality and of its human interaction phenomena.

Heidegger’s ontology developed from Husserl’s phenomenology, which explicitly calls attention not to individuals in isolation but to the individual in context. There is a change of perspective in phenomenological studies so that the focus of attention goes to the overall environment, and to the social embeddedness and continuous networks of relationships which take place in such environment.

“Almost every great philosophical work carries with it a more or less explicit reinterpretation of the nature of philosophy and the methods appropriate to fulfilling its aims” (Guignon, 1983). Heidegger shifts his orientation from epistemology to ontology.

For Heidegger, the basic theme of philosophy is ‘being’. The question of being has this central position because any inquiry into one of the areas of philosophy, e.g., epistemology, logic, ethics, or aesthetics, operates within a tacit set of presuppositions about the ‘being’ of the entities with which it deals. What is true of the discipline of philosophy holds for the sciences as well. Every

science presupposes some conception of the being of the entities that are the objects of its inquiry. The ontologies of the regional sciences, Heidegger says, have already been worked out “roughly and naively” on the basis of our “prescientific” ways of interpreting and experimenting “domains of being”.

“Scientists work within frameworks that determine in advance what sorts of question are appropriate and what kinds of answer will make sense. Generally, there is no need for scientists to question the ontological frameworks in which they work. During periods of crisis in science, however, it is precisely these frameworks that are called in question.” (Guignon, 1983).

When what are at issue in the sciences are no longer questions within the frameworks of those sciences but the very frameworks themselves, the “ontological presuppositions of the regional inquiries must be made explicit” (Guignon, 1983).

Heidegger believes that philosophy alone can fulfil this role. Philosophy that he sees as not itself being bound by any framework, and which is “the study of frameworks in general”.

The inquiry into the ‘being’ of entities in general Heidegger calls “ontology taken in the widest sense”. It is a “science of *Being as such*”, and its task is to provide “a genealogy of the different possible ways of Being”. Ontology in the widest sense lays out “the conditions for the possibility of any science”. And philosophy, as ontology in the widest sense, is the “science of sciences”.

The Anglo-American tradition of analytical philosophy, according to Guignon, generally tends to see philosophy as a set of current topics or problems that are to be discussed within pre-given frameworks. The method is “argument and counter-argument along tacitly agreed-upon guidelines.” (Guignon, 1983). In contrast, Heidegger maintains that it is these philosophical frameworks themselves that are the source of traditional philosophical problems.

## 6 PEIRCE

Knowledge is always a linguistic product. In the same way, an enterprise or an organisation are also, unavoidably, linguistic products. It is possible to look at the history of how something has been developed, like an organisation, addressing the structures that have been present in each moment in time, or else to focus on the structures which have

been achieved in the last place, and on that which is considered to be the last scientific knowledge. The debates around structuralism are well known and have been polarised around the questions of synchronism and diachronism.

A synchronic perspective focuses on the relationships between different parts of a whole, whilst a diachronic perspective addresses the developmental process of the parts or of the whole, taking historicity into account.

An organisation is also a language, which has to be studied taking into account its roots and its maximum possibilities - these future possibilities are conditioned by the knowledge of its past roots.

For this reason every organisation must be interpreted through these parameters and it cannot be circumscribed to a fixed and finished grid, even when this grid is assumed to have a provisory value.

To stress this, we have resorted to semiotics, which is the knowledge area that studies the capacity to produce and to interpret signs. Thus semiotics deals with the production of meaning, with capturing meaning. And this is precisely what an organisation is about.

Semiotics, seen from the perspective of an organisation, tends to be interpreted either in synchronic or in diachronic terms. This paper draws the attention to a diachronic perspective.

This paper also stresses the social dimension of organisations, in line with the need to take complexity into account, as was referred above. A purely individualist vision of the authorship of a human enterprise or of an organisation would fail to acknowledge this complexity. Nevertheless, positivism tried to reduce all knowledge to social knowledge, working towards simplification and not complexity.

Peirce's pragmatism has denounced all forms of dualism and has claimed that the individual subjective and internal world and the social and external worlds form one single reality, which must be studied as a whole.

It is important to distinguish between Saussure's and Peirce's sign theory. Whilst Saussure's sign theory argued that the relationship between the representation of the "object" and the name attributed to the "object" was a random, arbitrary, aleatory relation and that meaning was only possible from the articulation of different meanings, of systems of signs, Peirce proposed a triadic interpretation of the sign, where meaning emerges from the sign itself. Thus, in Saussure's sign theory, meaning is outside the sign and meaning is only possible through the relationships between different

signs, that is, signs work through the establishment of meaningful relationships between different signs.

Conversely, Peirce made the sign a complete, dynamic and never ending process of meaning creation. For Peirce, each sign, in isolation, includes all the necessary ingredients to establish meaning and, most importantly, this meaning is never completely fulfilled and it may be developed further through a continuous interpretation process. This is done through the definition of a triadic relation that works in a cycle. So there is the "object" and there is the name or image that refers to that "object", in similar terms to Saussure's theory. And then there is a third element which refers to the process itself of establishing the relationship between the object or image and its name, i.e. an interpretation process. In the next cycle of Peirce's sign theory, this interpretation process itself, becomes the "object" to be analysed, as if it were an objective reality, in relation to which, a "name" must be identified, through a particular interpretation process. In the next iteration, the new and last interpretation becomes, once again, a new "object" to be further analysed and interpreted.

This simple and almost mechanical scheme helps us to describe all signification phenomena. In intuitive terms, if we think of a literary object, such as a book or a poem, or of other artistic productions such as a piece of music or a painting or sculpture, or even photograph, drama or cinema, we may consciously experience the apparent ambiguous and paradoxical phenomena that every time we came in contact with that work of art we find new meanings, new significations and new interpretations. And, more importantly, the greater the importance of these spirals of experience and interpretation, the greater the work of art itself.

If aesthetical experiences are the ultimate, most extreme, and yet the most familiar, example of this process of signification, every single situation where human beings are active taking part in social practices, using language and establishing meanings and relationships, this same process occurs.

In technical terms, in Saussure's sign theory, a sign is an arbitrary relation. Each sign needs to be combined with other signs in order to produce meaning. In Peirce's sign theory, a sign has a triadic relation and is the basis of a theory of signification. Each sign has an inbuilt capacity to create meaning and each sign develops infinitely in a permanent cycle.

In Saussure's sign theory, there is the signifier and the signified. The signifier may be sounds, letters or gestures. And the signified is the image or

concept to which the signifier refers to.

In Peirce's sign theory, there is the representamen (equivalent to Saussure's signifier), the object (equivalent to Saussure's signified) and there is the interpretant, or a "sign in the mind". The representamen is the physical sign that is to be interpreted, i.e. "something that does the representing". The object is an image or concept. And the interpretant, the sign in the mind, becomes the representamen, i.e. the sign to be interpreted, as if it were a physical sign, in the next cycle.

Peircean semiotics holds a vast potential to be explored in terms of IS research.

## 7 CONCLUSIONS

The advantage of raising questions beyond conventional approaches is that they open up new possibilities for further development of IS research, at practical and at theoretical levels.

The way that these questions have been answered in the particular case of this paper has the positive consequence that it enables the study of those aspects of organisational reality that are implicit and informal. And that is a crucial advantage of using Heidegger's and Peirce's insights.

Reality that is "right under our noses" is so obvious and immediate that we fail to acknowledge it. Participating in daily practices, the use of language and meaning-making are examples of such phenomena. And to understand the concept of potential, of how it may be reached and even expanded, these links have to be made explicit, clarified and optimised.

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