Phenomenological Realism: A Pragmatic Lens for Information Systems Research

Gabriel J. Costello [1]

(1) Galway-Mayo Institute of Technology, Galway, Ireland.

Abstract

The growing influence of the paradigm of Pragmatism on information systems (IS) research has resulted in some scholars arguing that the perspective should be regarded as an explicit research approach alongside established genre such as positivism and interpretivism. However this paper argues for a more general "pragmatic" perspective in qualitative information systems research (QRIS) that encompasses different traditions. Engaging with the practical has a long history inside and outside of the IS domain and adopting such a position does not imply being an adherent of the philosophical doctrine of Pragmatism. The work proposes that Phenomenological Realism is an example of a pragmatic lens that synthesis two current themes found in the IS literature; Phenomenology and Realism, that could also qualify as an explicit QRIS paradigm. Furthermore, this line of thinking suggests that the present troika of positivism, interpretivism and critical is not cognisant of the landscape of current philosophical scholarship. Future work is called for to develop a repository to stimulate philosophical debate in the information systems discipline.

1   Introduction

There is a growing movement in information systems (IS) research for a more relevant agenda (Benbasat and Zmud 1999, Cranefield and Yoong 2007, Curley 2006, Zmud 1996) that provides a more action focused approach to research (Coghlan and Brannick 2005) (Mårtensson and Lee 2004). Furthermore the role and importance of philosophy continues to be a matter of lively debate within the IS discipline (Davison and Martinsons 2011, Dobson and Love 2004, Butler 1998). Opinions have been presented in leading journals that call for researchers to have a firm philosophical basis

to justify their research strategies. Weber (2003p. v) contends that there is a pressing need to improve theory-building skills and in doing so researchers must "reflect deeply on and understand the ontological and epistemological assumptions" and be true to their philosophical position. In particular there has been a recent call for underpinning practitioner focused research in the paradigm of Pragmatism (Goldkuhl 2012, Ågerfalk 2010, Baskerville and Myers 2004).

According to Hirschheim, Klein and Lyytinen (1995 p.1) most approaches in IS development begin with the assumption that information systems are "technical systems with social consequences". However there is a growing research stream that view IS as "social systems that are technically implemented" (ibid. p 1). The IS design world is a multifaceted phenomenon as it affects the conditions of human existence. Consequently the process of analysing social complexity is very different from the conventional wisdom that IS problems are mainly technical.

> Simply put we do not need more refined mathematical theories, models or new sophisticated technologies. Instead what we need is the ability to pose and debate –in a critical manner- traditional philosophical questions in the context of IS design that have been the subject of discourse by philosophers and social thinkers (ibid p. 4).

This application of philosophy and social theory "is particularly beneficial because it permits us to be more realistic about potential and likely impacts of information technology" (ibid. p.6). Hirschheim, Klein and Lyytinen lament the dominance of functionalism (the application of deterministic laws to human behaviour) within the IS development genre. Finally they exhort the IS community to engage with the controversies that have raged in the social sciences over the last number of decades as they fundamentally challenge our very understanding of the information systems discipline. Goldkuhl (2012) argues that the paradigm of Pragmatism should be regarded as a stream of IS research in the same way as positivism, interpretivism and critical are at the moment (AIS 2016). However this paper argues for a more general "pragmatic" perspective in qualitative information systems research (QRIS) that encompasses different traditions within the pragmatic genre. Furthermore this discussion raises important questions for the place of philosophy within the IS discipline. This paper is an attempt to contribute to this debate.

Engaging with the practical has a long history inside and outside of the IS domain and adopting such a position does not imply being an adherent of the philosophical doctrine of Pragmatism. The work proposes that Phenomenological Realism is an example of another pragmatic lens that synthesis two current themes; Phenomenology and Realism; found in the IS literature that can also qualify as an explicit QRIS paradigm. The lack of engagement with the philosophical scholarship by the IS community is concerning given that its literature is not static but an expanding cosmos with many emerging and dying stars. For example the number on entries in the Oxford Companion to Philosophy increased from 1,932 in its first edition in 1995 to almost 2,300 in the second edition published ten years later (Honderich 2005). Furthermore, a number of famous entries such as Logical Positivism are regarded as shooting stars that have run their course and now have little support among professional philosophers (Fotion 2005). Surely this point has serious implications for the dominant IS paradigm. Consequently, this line of thinking suggests that the present

troika of positivism, interpretivism and critical is not cognisant of the array of current philosophical scholarship. Future work is called for to develop a repository to stimulate philosophical debate in the discipline.

The structure of the paper is as follows. First a background is given to the philosophical taxonomy currently employed in the information systems discipline. Following this the origins and tenets of the philosophical lens of Pragmatism are presented. Next the terms Realism and Phenomenology are explained to prepare for the argument in the discussion section that "Phenomenological Realism" is worthy of being designated as a credible IS paradigm. Finally the conclusions of the study are offered as well as some implications for future work.

2 Background

This section will provide a brief introduction to the information systems philosophical landscape as a background to Goldkuhl's (2012) engagement with the concept of Interpretivism.

IS research method is mainly divided into two streams: quantitative and qualitative. Avison et al. (1999) argue that it took until ICIS 1998 for the community to agree that qualitative approaches, such as action research (AR), were finally gaining acceptance and proposed that "to make academic research relevant, researchers should try out their theories with practitioners in real situations and real organizations" (p 94). Around the same time, Butler (1998) concluded that the interpretivist approach was emerging as the most appropriate medium for research in the area of IS development. According to Fitzgerald & Howcroft (1998) the quarrel between hard positivist and soft interpretivist research paradigms is a recurrent one but as Klein and Myers (1999) point out interpretive is not a synonym for qualitative as whether qualitative research may or may not be interpretive, is conditional on the underlying philosophical assumptions of the researcher (p 69). They then go on to define the main streams of IS research as follows (p 69).

- Generally speaking, IS research can be classified as positivist if there is evidence of formal propositions, quantifiable measures of variables, hypothesis testing, and the drawing of inferences about a phenomenon from a representative sample to a stated population.
- IS research can be classified as critical if the main task is seen as being one of social critique.
- IS research can be classified as interpretive if it is assumed that our knowledge of reality is gained only through social constructions such as language, consciousness, shared meanings, documents, tools and other artifacts.

The Association of Information Systems (AIS 2016) reference section on Qualitative Research in Information Systems (QRIS) traces the characterisation of IS research into positivism, interpretivism and critical to the study by Orlikowski & Baroudi (1991) which in turn was developed from the antecedent work of Chua (1986). Furthermore Kaplan & Duchon (1988 p. 572) point out that interpretive researchers "attempt to understand the way others construe, conceptualize, and understand events,

concepts, and categories, in part because these are assumed to influence individuals behaviour". The goal of positivism is to replicate the success of natural science in explanation, prediction and control. Specific to the IS research discipline Goldkuhl (2008 p. 2) proposes three different conceptualizations of pragmatic research which relate knowledge to action:

- Functional pragmatism (knowledge for action). Here the proposal is made that knowledge should improve action and make a difference to the world.

- Referential pragmatism (knowledge about action). This strand is concerned with describing the world in action–orientated ways such as theories.

- Methodological pragmatism (knowledge through action). Here action is the source of knowledge and therefore needs to be "arranged, conducted and studied".

According to studies by Dube and Pare, the majority of case studies in IS are done from a positivist philosophical perspective, with one study showing that 87% were so, with 12% being interpretive, and 1% critical (Dube and Pare 2003). The positivist perspective is accompanied by a broad commitment to the idea that the social sciences should emulate the natural sciences (Lee 1989). The researcher is seen to play a passive, neutral role, and does not intervene in the phenomenon of interest. An interpretive perspective addresses meaning, understanding, and interpretation, in a systemic and methodical way, and in the process does not require the criteria of prediction and control, upon which positivist science rests its claims (Hatch and Yanow 2003). Critical science (Willmott 2003) seeks to recall both the positivistic potential to support emancipation as well as the capacity to develop mutual understanding through the use of language enabling people to cooperate more effectively.

A recent but important addition to IS practice has been the advent of design science which is having an increasing influence on the discipline. The seminal paper by Hevner *et al.* (2004) provides "a concise conceptual framework and clear guidelines for understanding, executing and evaluating (design science) research" (p. 75). They go on to state that design science is fundamentally a problem-solving paradigm that seeks to "create innovations that define the ideas, practices, technical capabilities, and products through which the analysis, implementation, management and use of information systems can be effectively and efficiently accomplished" (p. 76). Furthermore they trace the roots of design science to Simon's highly-regarded publication of *The Sciences of the Artificial* (Simon 1996). In an earlier work Markus *et al.* (2002) outline their use of design science to address the challenge of developing executive information systems (EICs).

Interpretivism by its definition is fundamentally tied to hermeneutics. Malpas (2005) has described Hans-Georg Gadamer as the decisive figure in the development of twentieth century hermeneutics and indeed his long life spanned the whole of this period from his birth in 1900 to his death in 2002. An important facet of Gadamer's work was his immersion in the Greek tradition and in particular the program proposed by Socrates, Plato and Aristotle of pursing philosophy through dialogue and engagement with the *practical*. In fact both Plato and Aristotle saw "philosophy as engaging with practice (Moran 2000). Indeed Tredennick (1969) points out that Socrates insisted that he was not a teacher but a sort of intellectual mid-wife who helped others to

bring their thoughts to birth. After this overview of the IS philosophical landscape, the paper will now initially reflect on the philosophical underpinning of pragmatism.

3   Philosophical Underpinning of Pragmatism

The Oxford Dictionary of English(ODE 2006) defines pragmatism as follows:

> Dealing with things sensibly and realistically in a way that is based on practical rather than theoretical considerations.

This section outlines the philosophical tradition of engaging with the practical and then describes the origins and tenets of Pragmatism as a philosophical approach.

3.1   Engaging with the Practical

What we have to learn to do we learn by doing –Aristotle

Praxis (from the Greek *prasso* –doing or acting) concerns the theory of human activity and shares an etymology with pragmatism in the root meaning of *pragma* (deed, affair). According to Schrag (1999) the concept of praxis can be traced back to Aristotle to denote the "sphere of thought and action that comprises the ethical and political life of man, contrasted with the theoretical designs of logic and epistemology (*theoria*)". While praxis is now almost completely identified with Marxism, Heidegger in *Being and Time* sought to recover what he considered the real meaning of the term in Aristotle's conception of human praxis (Moran 2000). Hannah Arendt was deeply influenced by Heidegger's lectures on Aristotle and is considered as rehabilitating the notion of praxis in her account of "action" (Moran 2000). The concept of praxis is also considered to be very influential on the development of critical theory which links the term to the "phenomena of discourse, communication, and social practices" (Schrag 1999). In Eastern Europe the Praxis school published the Marxist journal *Praxis* during the 1960s and 1970s and ran a summer school that attracted Western scholars. The central concern of this group was to "study and influence the role of free creative activity in changing and shaping ethical, social, political, and economic life along humanistic socialist lines" (DeGeorge 2005). Karol Wojtyla (1979) was another influential phenomenologist who sought to reclaim praxis from Marxism by proposing his own theory of human action. McNerney (2001) contends that Wojtyla's magnum opus *The Acting Person* "can be understood in itself as a restatement of a philosophy of praxis" (p 126). The question of how to define human praxis is fundamentally based on how you define the human person and Wojtyla argued that the human person must be regarded as a self-determining subject who is the "efficient cause of his/her own actions" (p 126). This is in contrast to what he regarded as the de-humanising dogma of Marxism. Furthermore human activity operates inter-subjectively –within a community of persons (p 129). Work according to Wojtyla has not just an objective sense such as the transformation of nature into products but has the subjective sense of contributing to self-fulfilment (p 159). In Wojtyla's schema (1979 p. 11) a person revels himself in action:

> [Action] reveals the person and we look at the person through his action…Action gives us the best insight into the inherent essence of the person

and allows us to understand the person most fully. We experience man as a person, and we are convinced of it because he performs actions.

Similarly Goldkul (2004 p. 3) emphasises the importance of actions in the Pragmatist tradition.

> The primary concern, following a pragmatist position, in the empirical world is actions. This does not mean that a pragmatist is only concerned with actions and disregards other issues. A pragmatist researcher lets actions appear as something significant and fundamental to study.

The purpose of this section was to demonstrate that engaging with the practical has a long history within and without of the information systems world. Now the paper will examine the underlying tenets of the philosophical lens of Pragmatism as developed over a hundred and fifty years.

3.2   Pragmatism – its origins and tenets

According to Rescher the main idea underlying the philosophy of Pragmatism is the ability to produce a desired or intended result –what works out most effectively in practice (Rescher 2005) and its origin can be traced back to the ancient philosophy of the Sceptics (p. 748) and its initiator Pyrrho. The modern development of Pragmatism originates with the troubled but brilliant Charles Sanders Peirce, a Harvard chemistry graduate, whose greatest philosophical influence was Kant (Hookway 2005). Though now regarded as possibly the greatest American philosopher, he published no books and received little recognition in his own day, living out the last years of his life in poverty and illness. In what was a significant point of departure from his peers, Peirce was an admirer of the Medieval Scholastics and particularly the work of Duns Scotus (Kenny 2010). Hilpinen (1999) states that Peirce contended that the "meaning of a proposition or an intellectual conception lies in its practical consequences" (p. 651). He goes on to quote the Pragmatic Maxim of Peirce:

> In order to ascertain the meaning of an intellectual conception we should consider what practical consequences might conceivably result by necessity from the truth of that conception; and the sum of these consequences will constitute the entire meaning of the conception.

Though Peirce is regarded as the father of Pragmatism it was William James who put the philosophical approach on the intellectual landscape. James began his career in Harvard as a lecturer in anatomy and physiology but his attention soon turned to the emerging discipline of psychology and he instigated the first psychological laboratory in America. Coming from a very religious background, he attempted to reconcile "a scientific worldview with a belief in God, freedom and immortality" (Kenny 2010). James equated true beliefs with useful ones but Pierce disagreed with this formulation and even leading him to rename his original movement as "pragmaticism" to differentiate their viewpoints. William James was foremost a psychologist but came to believe that the problem his psychology research unearthed could only be solved in the domain of philosophy (McDermott 1999). His definition of truth published in Pragmatism in 1907 was extremely controversial. In this work he stated:

Truth happens to be an idea. It becomes true, is made true by events (p. 447). He and his followers were known for their slogan "What is true is what works" (Kenny 2010). His approach found spirited opposition in Europe by those who regarded his writings as the encapsulation of American individualism. Scruton summarises the Pragmatist agenda as the "pursuit of truth-science-is nothing but the attempt to spread agreement as far as we can" (Scruton 2004). John Dewey was another influential figure in the school of Pragmatism and applied the approach to, most famously, American education but in the course of his long academic career also wrote on social and political topics. According to Kenny (2010) he had the on-going objective of examining how "far methods of inquiry that had been so successful in physical science and in technology could be extended into other areas of human endeavour" (p. 790).

Moving to the IS discipline, the influence of Pragmatism is relatively recent and Baskerville and Myers (2004 p. 331) put the following case forward for Pragmatism in IS:

> We suggest the underlying philosophy shared by most forms of action research is pragmatism. As a philosophy, pragmatism concentrates on asking the right questions, and getting empirical answers to those questions. On its own it does not explain very much, but provides a method to help explain why things work (or why they do not work). There are four key action research premises that arise from pragmatist philosophy. The first premise is Peirce's tenet that all human concepts are defined by their consequences. The second is James' tenet that truth is embodied in practical outcome. The third is Dewey's logic of controlled inquiry, in which rational thought is interspersed with action. The fourth premise is Mead's tenet that human action is contextualized socially, and human conceptualization is also a social reflection.

Goldkuhl (2012) has undertaken to compare positivism and interpretivism and to reconcile their contribution to the IS debate. He contends that Pragmatism is an alternative to interpretivism in qualitative research in information systems (QRIS). He goes on the claim that "hitherto pragmatist thinking has played an important part in the evolution of IS research" (p 7). While stating that it is possible to "combine the two paradigms" (p 10), he acknowledges that there are certain irreconcilable epistemological differences (p 10):

- An interpretive stance aims for *understanding* that is appreciated for being *interesting* while

- A pragmatist stance aims for developing *constructive knowledge* that is appreciated for being *useful in action.*

He argues (p 10) that Pragmatism has had a significant albeit *implicit* influence on IS research and proposes that the perspective should be regarded as an explicit research paradigm in QRIS. However, we must be conscious that according to (Rescher 2005), Pragmatism is essentially epistemic in orientation and therefore raises questions about its relationship with the areas of ontology and ethics.

4 Phenomenological Realism – its origins and tenets

This work proposes to make a contribution by advocating "Phenomenological Realism" as a QRIS approach to information systems. Consequently, the paper now provides a background to both Realism and Phenomenology and their influence on the IS debates.

4.1 Realism

Williamson (2005) explains realism as primarily a direction not a position and contrasts it with anti-realism. He states that to believe that something "is somehow mind independent is to move in a realist direction; to deny it is to move in the opposite direction (p 787). Scruton (2004) points out that until recently philosophers such as Kant would have contrasted realism with idealism. Similarly he explains that a realist considers a phenomenon to exist independently of our "thoughts about it" and "our experience of it" (p 31). According to Boylan and O'Gorman (1995), the extraordinary rise of scientific realism during the 1970s "sounded the death knell of logical positivism" (p 130) and replaced it as the dominant philosophy of science. The scientific realist approach was a reaction to both the logical positivists and the relativist theories proposed by among others, Kuhn. They go on to explain the realist picture of the world as "like the face of a clock which has hidden mechanisms generating or causing the observable events on its face" (p 3). However realism has a long and much debated history and Copleston (1955) reminds us that one of the services of St. Thomas Aquinas and the schoolmen "in the matter of universals was to expose the falsity of ultra-realism" (p. 91). Lowe (2005b) tells us that when it comes to the definition of universals that realists are divided. Platonists argue that universals have a non spacio-temporal existence from all- for example- *red* things. On the other hand Aristotelians contend "that the universal *red* only exists inseparably from all particular *red* things (p. 933). Furthermore Maritain (1932) describes St. Thomas (following Aristotle) as a moderate realist. Later Thomists developed their view of moderate realism from the writings of St. Thomas, Aristotle, Boethius and St. Anslem, distinguishing between "the *matter* of the universal concept (i.e. the nature) and the universal *form*: To the matter they ascribe a being in the individual thing, while to the form they attribute a being only in the mind" (Stein 2002 p. 98).

4.1.1 *The Influence of Realism on the IS debate*

The underpinning of information systems research has recently being examined using a realist lens; in particular that of critical realism (Carlsson 2005, Mingers 2000, Mingers 2004b, Mingers 2004a). John Mingers has proposed the application of a contemporary version of Critical Realism, developed by Bhaskar (1978), to the information systems philosophical landscape. Mingers (2000) explains that a realist understanding of science "takes the view that certain entities-be they objects, forces, ideas and categories-exist in the world, independent of human beings and that we can gain reliable knowledge of them "(p. 1256). How we gain such reliable knowledge is a major debate in this paper. Furthermore he uses Bhaskar's taxonomy of the domains of the *Real, the Actual, and the Empirical* shown in figure 1.
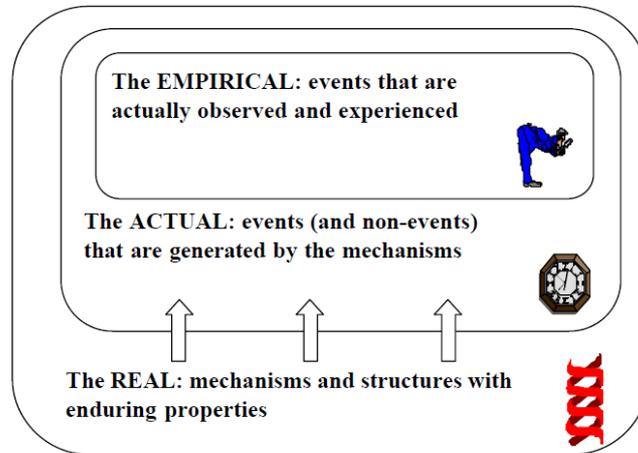
Figure1. The Real, the Actual, the Empirical (Mingers 2004a p. 9)

While he has been primarily an advocate of Critical Realism, Mingers (2001) has also presented a case for embodying information systems using the approach of phenomenology which leads us into the next section of the paper.

4.2 Phenomenology

Edmund Husserl was the founding father of Phenomenology, regarded as one of the most important philosophical movements of the twentieth century (Grossmann 2005). The system has had an immense influence in Europe in areas spanning psychology, law, values, aesthetics and religion (Rescher 2005). He considered that philosophy should be carried out as a rigorous science using the structured methodology of reason and his vision was that the phenomenological approach (of bracketing the natural world and a reduction to pure consciousness) could overcome and synthesise the radical disagreements of contemporary philosophy. Husserl's original work was in the area of mathematics and his most influential teacher was the philosopher Franz Brentano. His work underwent a transition from his earlier studies on the "phenomenology of mathematical and logical concepts" to the "transcendental idealism" developed in his later major work "*Ideas: General Introduction to Pure Phenomenology*" (Elveton 1970). Lauer (1965) argues that with the passage of time a precise definition of "phenomenology" became more difficult but proposed that the term could be traced back to a "distinction made by Kant between *phenomenon* or appearance of reality in consciousness, and the *noumenon*, or being of reality itself". However, he points out that Husserl rejected what he perceived as the "dualism" of Kant. Lauer continues to explain the phenomenology of Husserl as both a method and a philosophy. Method in so far as it provides the steps that must be followed "to arrive at the pure phenomenon, wherein is revealed the very essence not only of appearances but also of that which appears". In the realm of philosophy "it claims to give necessary, essential knowledge of that which is". Thus phenomenology advocates a "return to things because a "thing" *is* the direct object of consciousness in its purified form". This approach was in opposition to "illusions, verbalisms or mental constructions" implied by many contemporary movements. In connection with the philosophy of the mind, Horner and

Westacott (2000) explain that phenomenology "tries to describe precisely what happens when someone is conscious of something" and that the approach typically begins by "describing the way things actually appear to us, rather than discussing the role of brain processes in causing consciousness, or whether mind is identical to the brain". Moran (2000) proposes that the major contribution of phenomenology to contemporary philosophy is its conception of "objectivity-for-subjectivity" and one of the aspects of the early work of Husserl was its grounding in realism.

Engaging with the world is part of a tradition that goes back to Aristotle "who made frequent reference to concrete examples to illustrate his theoretical points"(Kenny 2010). According to Merleau-Ponty (2002) the central theme of Husserl's later phenomenology was the notion of the *Lebenswelt* usually translated as "life-world". Historically its genesis can be traced back to the *Lebensphilosophie* (philosophy of life) movement pioneered by philosophers such as Dilthey and Eucken in the second half of the nineteenth century (Surber 1999). Husserl, in his work *Experience and Judgment (1938)* emphasized the importance of returning to the life-world, the world of our ordinary experience (Moran 2000). Furthermore in the *Crisis of European Sciences*, Husserl understood the *Lebenswelt* as encompassing the totality of human endeavour including the realm of scientific endeavour. Additionally he contended that philosophy in the early twentieth century "threatens to succumb to scepticism, irrationalism and mysticism" (p. 3) for which the antidote, following Kant, was a return to "things in themselves" (Husserl 1970). Now I will support describe the importance of phenomenology the IS debate and to the methodological approach of QRIS in particular.

4.2.1 *The Influence of Phenomenology on the IS debate*

Claudio Ciborra clearly acknowledges the influence of phenomenology especially in his later work where he proposes that a return to its origins can provide an antidote to the *Krisis* he saw unfolding in the information systems field. He specifically admits his debt to Husserl's 1934 lectures on the *Crisis of European Sciences and Transcendental Phenomenology* and the resulting analysis that the "crisis comes about due to the separation between people and science" (Ciborra 2002). Martin Heidegger was a major influence on Ciborra who harnessed his ideas on technology to analyze such concepts as information infrastructure. However it must be remembered that Heidegger's phenomenology moved significantly away from many of the positions of Husserl. It is reasonable to deduce that Ciborra's development of the idea of *bricolage* was influenced by the suggestion of Heidegger in his work *Being and Time* that "our knowledge and basic way of encountering the world are obtained through the use of, and not the scientific description of, objects"(Ciborra 2000). Significantly, in a paper that has been very influential on the IS discipline, phenomenology was cited by Susman and Evered (1978) as a philosophical basis for action research. Introna and Ilharco (2004) provide a coherent account of phenomenology, discussing its central concerns and concepts, making some contrasts within the phenomenology movement, and providing a brief discussion of the phenomenological method. Their paper shows the value of the phenomenological approach and method by doing a phenomenological analysis of the phenomenon 'screen' and presenting a critical assessment of it.

This section has sought to position the philosophy of phenomenology firmly in the IS debate and to consider some important themes from its literature for this work. Now, I will present a justification that phenomenological realism is a pragmatic perspective and deserves to be included as a QRIS category.

4.3   Phenomenological Realism

Introna and Ilharco (2004) protest against the imprisoning of phenomenology within the "subjectivist paradigm" (p. 57). Moran (2000) explains that Husserl's early important work *Logical Investigations* was a realist phenomenology that attracted many bright students to his classes in Göttingen such as Roman Ingarden, Hedwig Conrad-Martius and Edith Stein. The other main leader of the phenomenological movement, Alexander Pfäender in Munich, also proposed a realist outlook. These philosophers were disappointed at Husserl's turning to idealism in his later career in Freiburg. As Nota (1988 p. 53) points out, Husserl's protégé, Edith Stein, as early as 1917 decided that only a realistic philosophy could be the answer to her phenomenological experience". Adolf Reinach is regarded as a co-worker of Husserl and one of the main protagonists of the initial impetus of Phenomenology. The early students found Husserl to be a highly focused academic who was often perceived as aloof. Reinach was for them the teacher *par excellence* of the phenomenological method. Dubois (2010 p. 6) describes Reinach's formulation of phenomenological realism as follows:

> Reinach saw that the rejection of the mind-independent existence of being and of a correspondence understanding of truth entails not only problems for logic and ontology, but it has the greatest consequences for the way in which one lives, for the way in which human society is built up and understood. But Reinach was not a naïve realist. Although he believed that, independent of human minds, there exists an infinite number of necessary and timeless truths, truth which are not merely analytic, but synthetic and informative. Dubois then quotes Reinach directly: "it is only purely phenomenological analysis which can give us that insight into essential relations which is evident and unburdened by any further doubt".

A distinct definition of phenomenological realism was not found in the literature. Consequently, based on my review of both realism and phenomenology above, I offer the following definition of phenomenological realism as I apply it to this study:

> Phenomenological realism is a philosophical worldview that recognizes the existence of an external objective world that is, however, perceived and understood by means of the stream of experiences of the subject.

Furthermore Phenomenological Realism is a paradigm that provides a fruitful lens to examine the *Lebenswelt* or life-world of human interaction that is a foundational aim of information systems. The concept of *Lebenswelt* (see section 4.2) appeared in the Freiburg lecture courses of Heidegger as early as 1919-23 where he focused on the world alienation and self-alienation "resulting from the objectivism in the formal-logical sciences and their assumption of unquestioned acceptance as the lead authorities in our culture" (Moran and Cohen 2012).

> The life-world is variously characterised by Husserl as the world that is 'prescientific' (*vorwissenschaftlich*), 'concretely intuited', 'pregiven'(*vorgegeben*), 'always already there' (*immer schon da*), 'on hand' (*vorhanden),* 'familiar', and 'taken for granted'. Husserl even claims that the 'life-world' is not a partial problem but the universal problem of philosophy (ibid. p. 190).

I will now propose the philosophical tenets of Phenomenological Realism in table 1 based on the traditional taxonomy of philosophy outlined by Quinton (2005) who divides the world of philosophy -like Gaul- into three parts: *theory of existence* (ontology), *theory of knowledge* (epistemology or justification of belief) and *theory of value* (ethics). Before adopting a philosophical view it is, I believe, imperative to apply this characterisation to such an undertaking. However, I understand that this is my initial development of a taxonomy for Phenomenological Realism based on my previous examinations of the literature. Consequently such a proposal is open to debate; which I would welcome.

Table 1: The Philosophical Lens of Phenomenological Realism

Ontology	Advocates a *moderate realism* in line with the philosophy of Aristotle and St. Thomas Aquinas as described in section 4.1 above. A primacy is given to the concept of *Being* (Lévinas 1998, Stein 2002, Inwood 2005, Lowe 2005a)
Epistemology	Incorporates the notion of *objectivity-for-subjectivity* (Moran 2000). Knowledge is perceived and understood by means of the stream of experiences of a subject.
Ethics	In the realist view truth is possible but difficult to attain (Maritain 1932). Phenomenologists such as Levinas argue that we must consider the *face* of the *Other* as an ethical lens (Costello and Donnellan 2008).

Having presented the context of both realism and phenomenology in a previous section, I have now argued that the Phenomenological Realism of the early Husserl can provide another paradigm for the philosophical underpinning of information systems in the twenty first century.

5   Discussion

I share the conviction that good theory must be constructed on solid philosophical structures. This viewpoint is also supported by Gregor (2006) who drew from, among others, the philosophical wellsprings of the interpretivist tradition which is very relevant to this study. Weber stresses that the status characteristics of a good theory depends on authors being "true to the philosophical position they adopt in relation to the theory" (Weber 2003). A motivation for this paper was Goldkuhl's (2012) contribution to the philosophical debate by discussing Pragmatism v's Interpretivism in qualitative information systems research. This paper argues that being pragmatic has a long history inside and outside of the IS domain and that adopting such a position

does not imply being an adherent of the philosophical doctrine of Pragmatism. Being pragmatic is part of a tradition that goes back to Aristotle "who made frequent reference to concrete example to illustrate his theoretical points" (Kenny 2010). Furthermore, the study proposes that Phenomenological Realism is an example of a pragmatic lens that synthesis two current themes found in the IS literature and could also qualify as an explicit QRIS paradigm. An example of the use of Phenomenological Realism in a life-world context is the study of information systems innovation in APC by Schneider Electric (Costello 2010). However a detailed presentation of the case is outside the scope of this study. Also this work responds to Mingers (2013 p.801) invitation that "we welcome some new voices to the conversation" concerning the underlying philosophy of the information systems field.

I propose that the implications of a realist phenomenology for the study of information systems include the following considerations using Moran's (2000) description of phenomenology as "objectivity-for-subjectivity":

- The taxonomy of the objective technological environment that encompasses the information system being studied.

- The relational milieu in which the technological artifact operates.

- The *Weltanschauung* (world view) of the subject engaging with the information system.

- The lived experience of the subject including such things as education, skills and competencies.

The study is limited in that the discussion section is speculative and requires the honing of academic criticism. Further work is required to investigate De Boer's (1972) contention that Husserl's transition to idealism was "a perfectly natural outcome of his development since the time he published the Philosophy of Arithmetic and the Logical Investigations" (p. 322). Furthermore Edith Stein's work on empathy addresses the nature of the communal aspect of information and knowledge exchange which requires additional exploration necessitated by the challenges of human to machine interfaces (Posselt 2005, Lebech 2004, Stein 2000, Sawicki 2000, Waltraut Stein 1989, Edith Stein 1989, Nota 1988). Now I will summarise the conclusions of this study.

6 Conclusions

Boland (1985) argued that Phenomenology was a preferred approach for information systems research. This paper has developed this line of thought by returning to the Phenomenological Realism of the early Husserl which, despite his drift to Idealism, was adhered to by his followers such as Scheler, Pfänder, Reinach, Conrad-Martius, Hering, and others (Stein 2002p. 562). Motivated by Goldkuhl (2012 p. 15) who stated that his paper "should be interpreted as a quest for having Pragmatism as a possible research paradigm within IS", I have argued that Phenomenological Realism is another lens that can be added to the *pragmatic* list of QRIS. The approach taken was to initially examine the origins of Pragmatism and outline its proposal as a philosophical lens for QRIS. Then, to support the argument for Phenomenological Realism, an overview of both Realism and Phenomenology was provided with particular reference

to the information systems philosophical discourse. While there has been a close relationship between phenomenology and the pragmatic tradition, this paper makes a contribution by re-instating a latent philosophical approach, Phenomenological Realism, from the initial movement of Phenomenology over one hundred years ago. This, I argue, is timely for the current debate on the philosophical underpinning of information systems research given the renewed interested in Realism championed by Mingers and others.

Finally, the following quote from Alasdair MacIntyre (2006 p. 65) sums up the enthusiasm with which Husserl's young students embraced Phenomenological Realism.

> Those students whose excitement on reading the *Logical Investigations* had brought them to Göttingen had been impressed in part by what they took to be Husserl's commitment to some form of realism and his denial of Kantian or any other form of idealism.

I agree with Goldkuhl that the present troika of positivism, interpretivism and critical should be opened up to other voices and viewpoints. There are over eighty theories on the AIS website (AIS Theories 2017) and my proposal for future work is that there should be a similar repository for IS philosophies. Are there researchers that would be willing to join in such an endeavour? Such debate is important for the future direction and fruitfulness of the discipline.

Acknowledgements

References

Ågerfalk, P. J. (2010) 'Editorial: Getting pragmatic', *European Journal of Information Systems* 19, 251–256 doi:10.1057/ejis.2010.22.

AIS (2016) 'Qualitative Research in Information Systems http://www.qual.auckland.ac.nz/ accessed August 2016',

AIS Theories (2017) 'Theories used in Information Systems https://is.theorizeit.org/ accessed June 2017',

Avison, D. E., Lau, F., Myers, M. D. and Nielsen, P. A. (1999) 'Action research', *Communications of the ACM,* 42(1), 94-97.

Baskerville, R. and Myers, M. D. (2004) 'Special Issue on Action Research in Information Systems: Making IS Research Relevant to Practice—Foreword', *MIS Quarterly,* 28(3), 329-335.

Benbasat, I. and Zmud, R. W. (1999) 'Empirical Research in Information Systems: The Practice of Relevance ', *MIS Quarterly,* 23(1), 3-16.

Phenomenological Realism

Bhaskar, R. (1978) *A Realist Theory of Science* Hemel Hempstead: Harvester.

Boland, R. (1985) 'Phenomenology: A Preferred approach to research on information systems.' in Mumford, E., Hirschheim, R., Fitzgerald, G. and Wood-Harper, T., eds., *Research Methods In Information Systems*, Amsterdam: Elsevier Science Publishers, 193-201.

Butler, T. (1998) 'Towards a hermeneutic method for interpretive research in information systems', *Journal of Information Technology,* 13(4), 285-300.

Carlsson, S. (2005) 'Developing Information Systems Design Knowledge: A Critical Realist Perspective', *The Electronic Journal of Business Research Methodology,* 3(2), 93-102, available online at www.ejbrm.com.

Chua, W. F. (1986) 'Radical Developments in Accounting Thought', *The Accounting Review* (61), 601-632.

Ciborra, C. (2000) 'A Critical Review of the Literature on the Management of the Corporate Information Infrastructure' in Ciborra, C. U., ed. *From Control to Drift : The Dynamics of Corporate Information Infrastructures*, Oxford: Oxford University Press, 15-40.

Ciborra, C. (2002) *The Labyrinths of Information: Challenging the Wisdom of Systems,* Oxford: Oxford University Press.

Coghlan, D. and Brannick, T. (2005) *Doing Action Research in Your Own Organization,* Second Edition ed.*,* London: Sage Publications.

Copleston, F. C. (1955) *AQUINAS, A Pelican Book,* Penguin Books, Ltd.; 1963 Reprint edition (1955).

Costello, G. J. (2010) *Innovation and Information Systems: A Case for Ecological Systems Theory*, unpublished thesis PhD Thesis, National University of Ireland, Galway.

Costello, G. J. and Donnellan, B. (2008) 'Seeking the Face of Innovation with the Ethical Compass of Emmanuel Levinas' in León, G., Bernardos, A., Casar, J., Kautz, K. and DeGross, J., eds., *IFIP International Federation for Information Processing, Volume 287, Open IT-Based Innovation: Moving Towards Cooperative IT Transfer and Knowledge Diffusion,* , Boston: Springer, 97-117.

Cranefield, J. and Yoong, P. (2007) 'To whom Should Information Systems Research Be Relevant: The Case for an Ecological Perspective', in *Proceedings of the 15th European Conference on Information Systems (ECIS2007)* June 7-9 2007, St.Gallen, Switzerland

Curley, M. (2006) 'The IT transformation at Intel', *MIS Quarterly Executive,* 5(4), 109 – 122.

Davison, R. M. and Martinsons, M. G. (2011) 'Methodological practice and policy for organisationally and socially relevant IS research: an inclusive–exclusive perspective', *Journal of Information Technology,* 26, 288-293.

DeGeorge, T. T. (2005) 'praxis' in Honderich, T., ed. *The Oxford Companion to Philosophy*, Second Edition ed., Oxford Oxford University Press, 751.

Dobson, P. and Love, P. (2004) 'Realist and Postmodernist Perspectives on Information Systems Research: points of connection', *Australasian Journal of Information Systems,* 12(1).

Dube, L. and Pare, G. (2003) 'Rigor in information systems positivist case research: Current practices, trends, and recommendations', *MIS Quarterly,* 27(4), 597-635.

Dubois, J. M. (2010) *Judgment and Sachverhalt: An Introduction To Adolf Reinach's Phenomenological Realism* Springer; Softcover reprint of hardcover 1st ed. 1995 edition (4 Dec. 2010).

Elveton, R. O. (1970) 'Introduction' in Elveton, R. O., ed. *The phenomenology of Husserl : selected critical readings / edited, translated, and with an intro. by R. O. Elveton* Quadrangle Books: Chicago

Fitzgerald, B. and Howcroft, D. (1998) 'Towards Dissolution of the IS Research Debate: From Polarisation to Polarity', *Journal of Information Technology,* 13(4), 313-326.

Fotion, N. (2005) 'Logical Positivism' in Honderich, T., ed. *The Oxford Companion to Philosophy*, Second Edition ed., Oxford Oxford University Press.

Goldkuhl, G. (2004) 'Meanings of Pragmatism: Ways to conduct information systems research', in *2nd International Conference on Action in Language, Organisations and Information Systems (ALOIS-2004), 17-18 March, 2004, Linköping University, Sweden*,

Goldkuhl, G. (2008) 'What kind of Pragmatism in Information Systems Research?', in *SIG Prag Inaugural meeting, Dec 14, 2008, Paris*,

Goldkuhl, G. (2012) 'Pragmatism vs interpretivism in qualitative information systems research', *European Journal of Information Systems,* 21(2), 135-146.

Gregor, S. (2006) 'The Nature of Theory in Information Systems', *MIS Quarterly,* 30(3), 611-642.

Grossmann, R. (2005) 'Phenomenology' in Honderich, T., ed. *The Oxford Companion to Philosophy*, Second Edition ed., Oxford Oxford University Press, 695-697.

Hatch, M. J. and Yanow, D. (2003) 'Organization theory as an interpretive science' in Tsoukas, H. and Knudsen, C., eds., *The Oxford handbook of organization theory: Meta-theoretical perspectives*, New York: Oxford University Press, 63-87.

Hevner, A. R., March, S. T., Park, J. and Ram, S. (2004) 'Design Science in Information Systems Research', *MIS Quarterly,* 28(1), 75-105.

Hilpinen, R. (1999) 'Peirce, Charles s(anders)' in Audi, R., ed. *The Cambridge Dictionary of Philosophy*, New York Cambridge University Press, 651-654.

Hirschheim, R. A., Klein, H.-K. and Lyytinen, K. (1995) *Information systems development and data modeling : conceptual and philosophical foundations* Cambridge Cambridge University Press

Honderich, T., ed. (2005) *The Oxford Companion to Philosophy,* Second Edition ed., Oxford Oxford University Press.

Hookway, C. J. (2005) 'Peirce, Charles Sanders' in Honderich, T., ed. *The Oxford Companion to Philosophy*, Second Edition ed., Oxford Oxford University Press, 685-688.

Horner, C. and Westacott, E. (2000) *Thinking through Philosophy: an Introduction,* Cambridge: Cambridge University Press.

Husserl, E. (1970) *The Crisis of European Sciences and Transcendental Phenomenology : An Introduction to Phenomenological Philosophy ; translated by David Carr* Evanston: Northwestern University Press.

Introna, L. D. and Ilharco, F. M. (2004) 'Phenomenology, Screens, and the World: A Journey with Husserl and Heidegger into Phenomenology' in Mingers, J. and Willcocks, L. P., eds., *Social Theory and Philosophy for Information Systems.*

Inwood, M. J. (2005) 'Heidegger,Martin' in Honderich, T., ed. *The Oxford Companion to Philosophy*, Second Edition ed., Oxford Oxford University Press, 371-375.

Kaplan, B. and Duchon, D. (1988) 'Combining Qualitative and Quantitative Methods in Information Systems Research : A Case Study', *MIS Quarterly,* 12(4), 571-586

Kenny, A. (2010) *A New History of Western Philosophy,* Oxford University Press.

Klein, H. K. and Myers, M. D. (1999) 'A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems ', *MIS Quarterly,* 23(1), 67-94.

Lauer, Q. (1965) *Phenomenology : its genesis and prospect,* New York Harper & Row.

Lee, A. (1989) 'A Scientific Methodology for MIS Case Studies', *MIS Quarterly,* March 1989, 33-50

Lévinas, E. (1998) *Otherwise than being, or, Beyond essence* Pittsburgh, Pa.: Duquesne University Press.

Lowe, E. J. (2005a) 'being' in Honderich, T., ed. *The Oxford Companion to Philosophy*, Second Edition ed., Oxford Oxford University Press.

Lowe, E. J. (2005b) 'universals' in Honderich, T., ed. *The Oxford Companion to Philosophy*, Second Edition ed., Oxford Oxford University Press, 933-934.

MacIntyre, A. C. (2006) *Edith Stein: A Philosophical Prologue, 1913-1922,* Rowman & Littlefield.

Malpas, J. (2005) 'Hans-Georg Gadamer ' in *The Stanford Encyclopedia of Philosophy (Winter 2014 Edition), Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/win2014/entries/gadamer/>.* .

Maritain, J. (1932) *An Introduction to Philosophy (translated by E.I. Watkin),* London: Sheed & Ward.

Markus, M. L., Majchrzak, A. and Gasser, L. (2002) 'A Design Theory for Systems that Support Emergent Knowledge Processes', *MIS Quarterly,* 26(3), 179-213.

Mårtensson, P. and Lee, A. S. (2004) 'Dialogical Action Research At Omega Corporation', *MIS Quarterly,* 28(3), 507-536.

McDermott, J. J. (1999) 'James, William' in Audi, R., ed. *The Cambridge Dictionary of Philosophy*, New York Cambridge University Press, 446-448.

McNerney, J. (2001) *Footbridge towards the other: a philosophical investigation into the notion of the human person in the writings of Karol Wojtyla : with special reference to the paradigm of the neighbour* unpublished thesis M.Litt Thesis ,Department of Philosophy, University College Dublin, Ireland.

Merleau-Ponty, M. (2002) *Phenomenology of perception translated by Colin Smith (first published as the Phénomènologie de la perception in 1945),* London: Routledge.

Mingers, J. (2000) 'The contribution of critical realism as an underpinning philosophy for OR/MS and systems', *Journal of the Operational Research Society,* 51, 1256-1270.

Mingers, J. (2001) 'Embodying information systems: the contribution of phenomenology', *Information and Organization,* 11(2), 103–128.

Mingers, J. (2004a) 'Re-establishing the Real: Critical Realism and Information Systems' in Mingers, J. and Willcocks, L., eds., *Social Theory and Philosophy for Information Systems Research*, Chichester: Wiley, 372-406.

Mingers, J. (2004b) 'Real-izing information systems: critical realism as an underpinning philosophy for information systems', *Information and Organization,* 14, 87–103.

Mingers, J., Mutch, A. and Willcocks, L. (2013) 'Critical Realism in Information Systems Research', *MIS Quarterly,* 37(3), 795-802.

Moran, D. (2000) *Introduction to Phenomenology,* London ; New York :: Routledge.

Moran, D. and Cohen, J. (2012) *The Husserl Dictionary,* London ; New York: Continuum.

Nota, J. (1988) 'Edith Stein and Martin Heidegger', *Carmelite Studies*, 50-73.

ODE, ed. (2006) *Oxford Dictionary of English , Second Edition, Revised,* Second Edition ed., Oxford Oxford University Press.

Orlikowski, W. J. and Baroudi, J. J. (1991) 'Studying information technology in organizations: Research approaches and assumptions', *Information Systems Research,* 2(1), 1-28.

Quinton, A. (2005) 'philosophy ' in Honderich, T., ed. *The Oxford Companion to Philosophy*, Second Edition ed., Oxford Oxford University Press, 702-706.

Rescher, N. (2005) 'pragmatism' in Honderich, T., ed. *The Oxford Companion to Philosophy*, Second Edition ed., Oxford Oxford University Press, 747-751.

Schrag, C. O. (1999) 'Praxis' in Audi, R., ed. *The Cambridge Dictionary of Philosophy*, New York Cambridge University Press, 731.

Scruton, R. (2004) *Modern Philosophy: An Introduction and Survey,* London: Pimlico.

Simon, H. (1996) *The Sciences of the Artificial* The MIT Press; third edition

Stein, E. (2002) *Finite and Eternal Being: An Attempt at an Ascent to the Meaning of Being (The Collected Works of Edith Stein, vol. 9) Translated by Kurt F. Reinhardt,* Washington D.C. : ICS Publications.

Surber, J. P. (1999) 'Lebensphilosophie. ' in Audi, R., ed. *The Cambridge Dictionary of Philosophy*, New York Cambridge University Press, 915.

Susman, G. I. and Evered, R. D. (1978) 'An Assessment of the Scientific Merits of Action Research', *Administrative Science Quarterly,* 23(4), 582-603.

Tredennick, H. (1969) 'Introduction ' in *Plato: The Last Days of Socrates*, Penguin Classics.

Weber, R. (2003) 'Editor's Comments : Theoretically Speaking', *MIS Quarterly,* 27(3), iii-xii.

Williamson, T. (2005) 'realism and anti-realism' in Honderich, T., ed. *The Oxford Companion to Philosophy*, Second Edition ed., Oxford Oxford University Press.

Willmott, H. (2003) 'Organization theory as a critical science? Forms of analysis and 'new organizational forms' ' in Tsoukas, H. and Knudsen, C., eds., *The Oxford handbook of organization theory: Meta-theoretical perspectives*, New York: Oxford University Press, 88-112.

Wojtyla, K. (1979) *The Acting Person (Issue 10 of Analecta Husserliana),* D. Reidel Publishing Company.

Zmud, R. (1996) 'Editor's comments: On Rigor and Relevancy ', *MIS Quarterly,* 20(3).

About the Author

Gabriel J. Costello is a Lecturer in Engineering at the Galway-Mayo Institute of Technology since 2001. Prior to this he worked for twenty years in the telecommunications industry where he held engineering, supply chain and product management positions. In 2010 he completed a PhD in Management Information Systems at the J.E. Cairnes School of Business & Economics, National University of Ireland, Galway in the area of information systems innovation.

Research interests include:

- The management, theory, philosophy and teaching of innovation
- The socio-technical challenges of the transition to sustainable energy communities.
- Phenomenology, and in particular the works of Edith Stein.

He has over 50 peer-reviewed publications that include: *Journal of Information Technology, Communications of the Association for Information Systems, Irish Journal of Management, Journal of the Knowledge Economy, European Journal of Engineering Education, Journal of the All-Ireland Society for Higher Education AISHE-J, International Conference on Information Systems (ICIS), European Commission Innovation Yearbook, European Conference on Information Systems (ECIS) and the Philosophy of Management Conference.*

He can be contacted at gabrielj.costello@gmit.ie