

FACT OR FICTION: THE PHILOSOPHY OF FICTIONS IN IS RESEARCH

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Abstract

In its quest for knowledge and understanding the Information Systems (IS) field has generally been torn between positivist and interpretivist approaches. However, in this paper an approach that accepts many of the underlying beliefs of both positivism and interpretivism is presented: the fictive approach. This blended approach – most comprehensively developed by Vaihinger - reveals how much of what we do in the IS field can be seen as creating and working with fictions. From the abstractive to the aesthetic all fictions are evident to some extent in the IS discipline. While the fictional approach has its challenges it is paradigmatically creative, rich and holistic; all important and arguably necessary characteristics when it comes to understanding Information Systems. Perhaps by legitimizing and exploring fictions in all their forms the IS field may finally mend the tear between the two warring paradigms and move forward in a bid to achieve the disciplines raison d’etre: making better sense of Information Systems.

Introduction

While some argue that the Information Systems (IS) discipline has achieved a great deal in its short time (DeSanctis 2003; Robey 1996) it is clear that there is a strong undercurrent of concern about its progress (Benbasat and Zmud 2003; Benbasat and Weber 1996). The discipline of IS simply hasn't done enough to achieve the same degree of power and prestige bestowed on its more established disciplinary counterparts (Benbasat and Weber 1996). In a bid to overcome its tenuous position in the academic community, the field of IS has stressed the importance of the natural sciences model in its research. As Hevner et al. (2004) explains, any discussions on how IS research should occur are firmly grounded in the philosophies of the natural sciences: "that truth exists and that it can be known" (p.98). The underlying philosophy is based on the logic of rationality, which is itself systematic, certain and transparent. Such logic is of tremendous use in the act of discovery and has been crucial for the many great advances of the natural sciences (Vaihinger 1924). There is a view within IS that by continuing to focus more directly on the model and logic of the natural sciences the discipline of IS may achieve similar advances. Furthermore, the model and its underlying logic is seen as one way of achieving the credibility and legitimacy the discipline so clearly desires (Lyytinen and King 2004). Therefore, the natural sciences model is not only firmly entrenched in the discipline but is also seen as a way of gaining the legitimacy and credibility it has clearly craved for such a long time.

While many adhere strongly to the natural sciences model as a way to pursue research in IS, doubts have been raised as to its suitability for the IS field. As Hevner et al. (2004) and Lee (2000) have asserted Information Systems phenomena are different from the phenomena studied in the natural sciences. Information Systems – when they do not completely defy definition – are an intricate arrangement of many different constructs that rarely mirror reality. In fact there are some strong assertions in the field that the only thing one can really know about an Information System are the ideas we hold about them (Hirschheim 1985). Here lies a typical stand-off between a party of believers and a party of non-believers (Hirschheim 1985). What further complicates this stand-off is that realism/naturalism and idealism/interpretivism – especially in the Information Systems arena – are pursued as mutually exclusive paradigms (Weber 2004); it is not possible to be both a realist and an idealist or a so-called positivist-interpretivist/interpretivist-positivist.

The main contribution of this paper is to offer fictions as a philosophical base on which to pursue research in IS; one that is a paradigmatic blend of positivism/naturalism and interpretivism/idealism. Based on the work of Vaihinger (1924) this paper endeavors to show how fictions and their associated fictional activity may allow us to move forward in the search for knowledge and understanding of Information Systems. To this end the paper starts with some background information, contextualizing the fictive approach in the IS literature. Following on from this the fictional approach is presented in more detail, comparing and contrasting the approach with the paradigms it aims to unite: positivism and interpretivism. Not only can the fictional approach liberate us from many of the inflexibilities and difficulties of these two contending approaches but it also provides us with a useful taxonomy for IS research. The next section outlines this taxonomy uncovering how much of what we do in Information Systems can be seen as creating and working with fictions. From the abstractive to the aesthetic, all fictional types are evident to some extent in the IS discipline. This section on fictional types highlights the practicality of the fictive approach for individual researchers and the discipline alike; it is a useful vantage point to view the strengths and weaknesses of fictions we have favored in the past but also makes clear the fictions that remain relatively unexplored; areas that may reveal important information for furthering knowledge and understanding of Information Systems into the future. While the fictive approach is a useful vantage point for reviewing past work and identifying avenues for future work it is an approach in its own right. It is the purpose of the 'risks and benefits' section to provide in more detail what the particular challenges as well as the benefits of using the fictive approach are. The paper will conclude with some final reflections.

Background

There has been a long-running debate in the IS discipline over what particular philosophical approach is the most suitable for the study of Information Systems. This debate has even been referred to as a paradigm war (Mingers 2004). In a much earlier characterization of this war Mumford et al. (1985) stated that it was essentially a debate

over truth. On the one side were the *forces of the good*: the positivists. On the other side were the *forces of the better*: the non-positivists, of which the interpretivists were a main contender. The feeling from those who identified with the *forces of the better* was that the positivists were dominating the field of IS almost completely. Mingers (2004) asserts that in the more recent history of IS there exists a truce between both groups – either out of boredom or exhaustion - both realize the value of each others work. However, the truce does not appear to be an easy one; the non-positivists continue to feel anxious about a field that is generally dominated by positivist research. As the latest ICIS 2008 track theme on research methods states; “Different from the natural sciences, the choice of the appropriate research method is still a major challenge in IS. While the so-called positivist paradigm seems to dominate some IS research, a remarkable number of researchers and scholars do not feel comfortable with this paradigm.” (Frank and Majchrzak 2008). Therefore, while the non-positivists continue to feel dominated by positivist research the debate over which philosophical approach is more suitable for Information Systems continues.

What the above debate tends to stress is the differences between the philosophical positions of positivism and non-positivism, in particular that of positivism and interpretivism. They are each purported to have different views of the world and different ways of making sense of the world. In essence they are paradigmatically opposed; they have different ontologies, epistemologies and methods. However, there is reason to believe the philosophical positions of positivism and interpretivism may have more in common than initial appearances suggest. Weber (2004) certainly feels that the differences between the paradigms are shallow rather than deep. Furthermore, he argues that by concentrating on what the approaches have in common might be a more productive discussion to be having in the field of IS. Likewise, this view resonates with researchers further afield. For instance, in the broader social sciences Guba and Lincoln (2005) state that a blending of paradigms and approaches – although limited to the non-positivist paradigms - can and already is happening with beneficial results. As they state: “the various paradigms are beginning to “interbreed” such that two theorists previously thought to be in irreconcilable conflict may now appear, under a different theoretical rubric, to be informing one another’s arguments” (Guba and Lincoln 2005 p.192). Furthermore, this blending of paradigms can result in some very valuable insights. While interpretivism and positivism appear irreconcilable it is not unreasonable to suggest that these paradigms may be blended and this potential blending to result in valuable insight. Furthermore, this productive blending could be especially beneficial in the IS field; where a rather uneasy truce between the two paradigms exists.

While there is the possibility of reconciling positivist and interpretivist approaches through a blended approach there are no obvious candidates. Critical theory is an alternative to positivist and interpretivist approaches (Mingers 2004; Klein and Myers 1999; Gregor and Jones 2007). However, critical theory is almost invariably claimed to be a distinct approach in its own right (Guba and Lincoln 2005); it critiques both positivism and interpretivism and has a unique set of emancipatory principles that makes it a completely separate paradigm. While critical theory is a valuable addition to the repertoire of philosophical approaches in IS it does not meet the typical criteria for a blended genre; it does not blend or bridge the two distinctive paradigms of positivism and interpretivism. Mingers (2004) also asserts that other paradigms such as post-modernism and actor network theory have joined critical theory as potential alternative approaches in the field of IS. Yet, none of these alternatives have been classified or pursued as a blend of positivism and interpretivism; they do not aim nor claim to be positivistic interpretivism, or vice versa, interpretivistic positivism. Therefore, despite the veritable smorgasbord of philosophical approaches available to the IS researcher and the potential benefits of a blended interpretivist positivist approach none are readily apparent.

While this might be the case there is a philosophical approach that aims to reconcile the two; the fictive approach. Developed most comprehensively by Vaihinger (1924), the fictive approach accepts both realism and idealism. Vaihinger called his fictive approach idealistic positivism as well as positivistic idealism. In this approach Vaihinger rejected the superiority of either idealism or positivism and tended to concentrate on the interplay between the two. He believed there was a real world, the world of matter, and that we made sense of this world through both positivistic and interpretivistic means – or to use his words through facts and fictions. It is the purpose of this paper to present the fictive approach as a blended approach for the study of Information Systems.

The philosophy of ‘As if’ and the fictional approach

I called this work, The Philosophy of ‘As if’ because it seemed to me to express more convincingly than any other possible title what I wanted to say, namely that ‘As if’, ie. appearance, the consciously-false, plays an enormous part in science, in world-philosophies and in life. (Vaihinger 1924 p.xii)

In justifying the title for his book *Vaihinger* (1924) concisely summarises his philosophical approach; that fictions are important and necessary constructs for the human endeavor. At its heart the fictional approach relies on a biological understanding of the world; in particular Darwinism and the theory of evolution. *Vaihinger* (1924) maintained that the mind was like any other organ in the human body and had evolved over time to ensure the survival of its species. *Vaihinger* asserted that in order to make sense of the world the mind used both rational logic and non-rational logic. Rational logic was important for discovering the laws of nature; its main goal was to be a direct reflection of reality. However, rational logic was not - according to *Vaihinger* - enough to make our way more effectively in the world. We also had to make use of non-rational logic; logic that produces consciously false constructs in an effort to make sense of the world. This fictional world was just as important as the “so-called real or actual world (in the normal sense of the word)” (*Vaihinger* 1924 p.xivii). In *Vaihinger's* (1924) comprehensive survey of all the branches of sciences – existing at the time – he revealed that many significant advances in science were fictions; the Linnaean system, Adam Smith's theory, atomic theory and differential calculus. Therefore, according to *Vaihinger* the consciously false – of which all these theories are – plays a significant part in the human endeavor. Furthermore, we construct these fictions because we must, because life as we know it wouldn't be possible otherwise.

According to *Vaihinger* (1924) fictions themselves were perhaps better understood by examining three of their main aspects; their relation to hypothesis, their linguistic analysis and their relation to error and truth. These three aspects are outlined in more detail below:

Hypothesis relation

The statement, *All men are created equal*, is an example of a fiction. As a hypothesis it would ultimately fail; it cannot submit itself to the same tests as hypothesis and be proved true and real. However, the statement as a fiction is justified because it is a useful and necessary ideal; one that it is difficult to imagine how we could do without. In comparing the fiction to the hypothesis, fictions are more of an auxiliary construct than the hypotheses. Hypotheses submit their reality to the test and demand verification. They want to “be proved true, real, and an expression of reality” (*Vaihinger* 1924 p.85). Fictions on the other hand are temporary scaffoldings to be destroyed if no longer required. Where hypotheses submit themselves to the test of verification, fictions submit themselves to the test of justification. The justification being whether they are useful and necessary.

Linguistic analysis

We treat all matter ‘as if’ it were created of atoms. This is an example of comparative apperception. We treat the real (matter) *as if* it were the impossible and unreal. All fictions are derivations of this same process. We act in the ‘as if’ manner because doing so enables us to understand and deal with life better than we could otherwise. Fiction is, as *Vaihinger* (1924) asserts, “merely a conscious, more practical and more fruitful error” (p.94).

Error and truth

The last clarifying aspect of fictions is their relation to error and truth. *Vaihinger* (1924) asserts that these limits are as moveable as those between cold and warm. For instance, the objective difference between cold and warm is merely one of degree. However, as we all well know cold and warm are subjective terms. It depends very much on the circumstances. One might call a beer warm when it is say, 10 degrees Celsius whereas they might call a pie cold at the same temperature. It depends on the context and the object. Furthermore, because of the same subjective nature of truth we could not say that the person was not telling the truth when they called the beer warm and the pie cold. As *Vaihinger* (1924) states “Truth is merely the most expedient degree of error, and error the least expedient degree of ideation, of fiction” (p.108). Our conceptual world is true not when it merely coincides with the external world (a typical understanding of truth) but when it extends beyond such a simple reflection to act effectively in that world; “to gauge objectivity and to act therein” (*Vaihinger* 1924 p.108).

Keeping the above explanations of *Vaihinger* in mind it might prove useful to compare the fictive approach alongside both positivism and interpretivism; the two philosophical approaches it is a compromise between. The table below compares the fictive approach against the positivistic and interpretivistic approaches along three typical paradigmatic scales; ontology, epistemology and methodology. There are of course many who would and do disagree with these characterizations. However, they are presented for the purposes of explanation - as a heuristic – to give the reader a clearer understanding of what a fictive approach is by comparing it with approaches they may be more familiar with.

Table 1 – Paradigm comparison

	Positivist	Interpretivist	Fictionalist
Ontology	Realism: the world exists independently of the observer.(H)	Idealism: the only things that can be known for certain are our ideas. (H)	Relativism: the real world exists as do our ideas. Our ideas may or may not correlate with the real world. (V)
Epistemology	Objectivist: discovery of natural laws. (G&L)	Subjectivist: discovery of ideational constructs (K&M)	Dualist/constructivist: development of auxiliary constructs. (V)
Methodology	Experimental/manipulative; verification of hypotheses; chiefly quantitative (G&L)	Field studies; ethnographies (K&M); search for meaningful relationships and their consequences for action (C&M); chiefly qualitative (G&L)	Methodological pluralism; justification of fictions; quantitative and qualitative. (V)

Adapted: Hirschheim 1985 (H), Guba and Lincoln 2005 (G&L), Klein and Myers 1999 (K&M), Cohen and Manion 1994 (C&M) and Vaihinger 1924 (V).

In order to make the fictive approach clearer let us highlight the above paradigmatic differences with the use of a particular phenomenon. Because we are in the field of Information Systems, let us focus on the phenomenon of an Information System. Again, the approach is simplistic and any effort to actually correctly define an Information System using each of these paradigms is likely to be met with some criticism – and perhaps worthy of a separate discussion/publication in its own right. However, again for the purposes of explanation let us examine the phenomena of an Information System using each of the three approaches.

For the strict positivists an Information System would be seen as an actual real world thing; the Information System itself would exist whether there was anyone there to observe it or not. Typically, they would approach the study of Information Systems with an objectivist epistemology. That is, they would approach their studies with a strong sense of rationality and would be interested in discovering the natural laws or rules that govern Information Systems. Due to their objectivist stance positivists would consequently be interested in the verification of hypotheses. They would want to know the facts; they would want to build particular models that were mirror reflections of systems as they exist in the real world. One example of this – although arguably not the strictest form of positivism – is Ron Webers (1997) work with Information Systems. Weber (1997) states that Information Systems are real world entities. These systems have properties and attributes, which “*really* exist in the world” (p.34). He asserts that there is a right way of modeling an Information System and his efforts are focused on this. For instance, in one of his examples when building an Information System he states ‘consider the attribute of a person called “name”...Name is not a property of a person ... it is an attribute’ (p.35). Here we see that there is a right way and a wrong way to do things and mostly this is concentrated on the model reflecting a certain and immutable reality.

Contrasted with the positivists are the interpretivists. The interpretivists would view the Information System as completely dependent on the mind; the only thing that could really be known about the Information System would be the representations of them in our minds (Hirschheim 1985). Interpretivists would approach their study of Information Systems subjectively; they would be interested in uncovering the meanings associated with Information Systems; the ideational constructs. Their methodologies would therefore concentrate on the search for meaningful relationships within that Information System. Klein and Hirschheim (1987) provide an interesting example of building an Information System based on interpretivism that can be contrasted to Webers (1997) work. They state that – in contrast to the realist view of the world – the interpretivists view the Information Systems as a construction of the mind. The Information System along with its properties and attributes are all constructions of the mind. Without the perceiver there would be no Information System. Therefore, when engaging in Information System building there would be no one right way of doing things because reality is subjective. When adopting an interpretivistic approach the best a person can do is to rely on his or her own “socially preconditioned pre-understanding of the subject matter” (Klein and Myers 1999 p.9) and realize that this will change according to who is involved. In this situation there is no one ‘right’ way of doing things.

In contrast to the positivist and interpretivist approaches the fictive approach would accept that there were many aspects of the Information System that were real – in the typical sense of the word – but also many that were not. So, the users and the computers are actually real things that may have a real interaction. However, the Information System is also composed of many ideational constructs that are as important if not more so than the real things. The way we actually know the system or make some sense of it is through both rational and fictive (non-rational) means. The rational aspects of thought are appropriate when we want to discover natural laws that govern the real world. However, it is not possible to understand or effectively deal with Information Systems on this basis alone (Hevner et

al. 2004). In this case Vaihinger (1924) maintained that we need to go beyond such straightforward and linear understandings to more complex methods. This is what Vaihinger (1924) terms the fictions. Fictions are temporary structures created for the purposes of sense-making. While fictions are consciously false, they are useful and necessary because we make better sense of the various phenomena – including Information Systems - than we could do otherwise. In the above example of building an Information System the fictive approach would accept that there were some real-world constructs that encompassed an Information System. For example, people and computers would be considered real-world things. There would be certain things about people and computers that would be immutable and uncoverable by typical positivistic measures; these would be the facts. However, there are many things about an Information System that are not real – in the typical sense of the word. For instance, properties and attributes of people and computers are not real things. They are simply things that allow us to understand and deal more effectively with the Information System overall. We act ‘as if’ people and computers had properties and attributes because it allows us to deal with Information Systems more effectively than we could otherwise. The model of the Information System is dependent more on the justification of it being necessary and useful rather than only being judged on the criteria of being an absolute mirror reflection of reality or alternatively on its ability to uncover meaningful relationships.

Vaihinger was not only significant for his introduction of a paradigm that essentially repaired the division between positivism and idealism. More importantly for this paper - and the field of IS in general – he developed a taxonomy of fictions. Through his particular fictive approach he showed how all types of fictions have been essential for the advancement of science and life in general. It is this taxonomy that will be used to critically reflect on the research that has already been done in the IS realm but also to identify areas in which we might further our knowledge.

Fictional Types

Vaihinger's (1924) philosophy of ‘As if’ contended that in order to make sense of the world we developed both facts and fictions. Facts were concerned with establishing mirror reflections of reality; in discovering natural laws. In contrast to facts were fictions; temporary structures admitted and known to be false but despite their untruth were necessary and useful in making sense of our world. Vaihinger not only provided some general principles for his particular philosophy, including how fictions worked logically, he also presented a classification of his fictional system. He did so according to how strongly they departed from the real world. According to Vaihinger there were semi-fictions – those that still had a close connection with reality – and there were pure fictions – those that contradicted reality altogether. The purpose of the following sections is to show how much of what we do in the field of Information Systems can be viewed as creating and working with fictions. Furthermore, in seeing this work as fictions we can also critically analyse the work we have done – both the strengths and the weaknesses – as well as the areas which we might explore further to deepen our knowledge of Information Systems into the future.

Abstractive

Light and darkness, black and white, life and death are merely the artificial products of rationalistic abstraction; they may be necessary, with all their inaccuracy, for purposes of reference, but when applied to reality they must always be used with caution. (Lotze from Pflaiderer 1884 p.81)

When Vaihinger (1924) introduces his taxonomy of fictions he does so with the abstractive fiction. An abstractive fiction is where things or constructs in the real world are simplified for the purposes of understanding. For instance, reality itself is composed of a myriad of detail; so much so that the mind would be overwhelmed if it didn't have some sort of filtering mechanism. This filtering mechanism is the abstraction, it is where the mind “temporarily neglect[s] a number of characters and select[s] from the more important phenomena” (p.19). Some examples that Vaihinger introduces as abstractive fictions are “the meridian of Ferro, the determination of the zero point, the selection of water as the measure of specific gravity” (p.19). Vaihinger (1924) maintains that our whole classificatory system as well as our ability to differentiate between concepts is totally reliant on our ability to develop abstractive fictions. He argues that while these concepts are extremely useful and necessary they are fictions; they do not correspond directly to ‘things’ that exist in the real world. Here the reader can see that unlike strict positivism fictionalism maintains that while there is a real world from which we abstract the abstraction itself is an ideal. Likewise because fictionalism acknowledges a real world as separate from the observer it diverges from fundamental interpretivist stances. An abstractive fiction is the first point of departure from strict correspondence with a given reality.

For research in general, as well as more specifically in Information Systems, the propensity to abstract is both significant and necessary. The ability to construct schemas, models and diagrams in the field of IS is fundamental to what we do; both as researchers and practitioners. Almost every aspect of study in IS is imbued with abstractive fictions; from the theories we rely on and develop to the methods we expound for the implementation and design of Information Systems. To take a popular theory in IS and show its abstractive fictional nature let us take the Technology of Acceptance Model (TAM) as presented by Davis et al. (1989). TAM is a theoretical model that has enabled us to gain a great deal of understanding about a particular area of Information Systems; namely computer acceptance behaviors. However, it is important to highlight that TAM is a fictional abstraction. It focuses on two main constructs as being more important than others when trying to predict whether end-users will accept a given technology; perceived ease of use and perceived usefulness. However, the fictive nature of this theoretical abstraction must be stressed. The constructs of TAM are no mere reflections of reality. One cannot see, touch or feel a 'perceived ease of use' or a 'perceived usefulness' construct. However, like all other abstractive fictions TAM should be acknowledged for what it is; for its utility and not for its reflection of an absolute objective reality. As McCoy, Galletta and King (2007) warn, TAM should be used with caution. They state that while it has been found to be useful in a number of "different IS adoption situations and contexts... it might not hold in all cultures" (p.81). Here we see the potential of the fictional approach to act as an important bridge between positivism and interpretivism. That is, with abstractive fictions; the various schemes, models, diagrams and theories that exist in the IS field; both the reality and the idealistic are acknowledged and brought into a unified thought structure. The reality of the things that are being abstracted from are acknowledged as real. However, the idealistic is also given credence; the things believed to be most important about those things are idealistic; they are fictions. The value of the fictional approach is in acknowledging that while the abstraction may be a farce it is a necessary and useful way of understanding various IS phenomena.

Symbolic

Metaphor is a tool so ordinary that we use it unconsciously and automatically, with so little effort that we hardly notice it. It is omnipresent...It is conventional... and it is irreplaceable. (Lakoff and Johnson 1980 p.xi)

Diverting further from reality than the purely abstractive fictions are the symbolic or analogical fictions - also referred to by Vaihinger (1924) as the *tropic* fictions. Symbolic fictions may be best described in common terminology as metaphors; where one thing is understood in terms of another. An example of a symbolic fiction is the metaphor *Organization is a machine*. This metaphor maps the most salient features of the machine concept to the organization concept. Therefore, aspects such as efficiency and effectiveness are transferred from the machine to the organization. This particular symbolic metaphor has resulted in many useful theories about organizations (Morgan 1997). Furthermore, as Vaihinger (1924) maintains our symbolic fictions are essential for human cognition. Other more contemporary researchers agree. According to Lakoff and Johnson (1980) as well as Morgan (1997) our whole conceptual system is symbolic or analogical in nature. The symbolic fiction is a good example of marrying positivism and interpretivism. The machine – the source domain of the analogy is seen as a real entity and so too are many aspects of the organization – the target domain. However, the transferal of the significant characteristics (by its nature employing the abstractive fiction) from one concept – the machine - to the other concept – the organization is completely idealistic. We treat the organization *as if* it were a machine but we are aware of the fictive nature of doing so; the organization is in actual fact not a machine. The fictive approach diverts further from reality than abstractive fictions as they are two levels removed from it; they employ abstraction as a necessary initial step but then go further in the transferal from that which is abstracted.

While the study of symbolic fictions may not be as noticeable in the field of IS as abstractive fictions, they are nonetheless evident. For instance, a number of researchers have made clear the power of metaphor in the search for meaning and understanding of various IS phenomena. Kendall and Kendall (1993) were among the first with their research into the methodologies used for systems development. In their study they unearthed several different metaphors that corresponded to a particular systems development methodology. The metaphors were significant in that they brought new understanding to a critical area of IS theory and practice; systems development. Similar work conducted by Couger et al. (1993) showed how important metaphor/analogy was for arriving at creative and innovative solutions to IS related problems. Others tended to agree; Porra (1999; 2005) showed the importance of the colony metaphor over the machine and organism metaphor for highlighting aspects of human empowerment and autonomy and Wells et al. (2005) demonstrated their importance for designing effective IS interfaces. In the broader

context of the disciplinary community the power of metaphors have also been recognized. In commenting on Orlikowski's scaffolding metaphor, Swan (2006) stated "it embraces, so well, notions of construction, building, production and social ordering - concepts that are so pervasive in social theories and languages of knowledge and technology (the social construction of technology, being a prime example)." (p.467). Most recently, Behrens (2007) has used metaphor to investigate the research diversity of Information Systems, finding a potential bias in the ways we prefer to structure and understand Information Systems. From the literature it certainly appears that metaphor/analogy is recognized as a powerful way of understanding IS phenomena.

The fictive approach represents a genuine attempt to reconcile positivism and interpretivism at the most fundamental level. Therefore, how we structure and understand Information Systems using a fictive approach is more cohesive and unified. For instance, it acknowledges the real and the unreal in our underlying conceptual structures; in our analogies and metaphors. In doing so, there is an acceptance that there are real things – physical things that can be reached out and touched as well as the physical actions of those things - that exist independently of our observation of them; such as machines and some aspects of organizations. However, there are the unreal or idealistic aspects; the characteristics we believe to be most important about machines that we use to structure and understand the organization. We act *as if* one were the other. The fictional approach is significant in that it recognizes the fictiveness of this operation; that the metaphor is simply a useful and necessary way of understanding and dealing with real world phenomena. Furthermore, we recognize the transience of such structures as well as their appropriateness. For instance, it may be more useful and necessary to think of the organization as an organism or a culture in some contexts. By using a fictive approach we are not tied to our analogies as if they were actual things that exist in the real world; they allow us to move forward in our understandings to develop more useful and necessary analogies depending on the context.

Heuristic

When you see a sundial or a water-clock, you see that it tells the time by design and not by chance. How then can you imagine that the universe as a whole is devoid of purpose and intelligence, when it embraces everything, including these artifacts themselves and their artificers? (Cicero trans. McGregor 1986 pp.158-159)

While the fictions previously described show certain heuristic value there are fictions whose most notable characteristic is in their ability to serve and facilitate discovery. On a sliding scale of fictional forms the heuristic fictions represents a certain turning point. This is the point where thought starts to break free from the constraints of the real world. Heuristic fictions do not make simple deviations from reality by "more or less arbitrary alterations" (Vaihinger 1924 p.39) of it, they substitute the absolutely unreal for the real. Vaihinger (1924) gives many examples of heuristic fictions in science such as the Ptolemaic cosmic system and Newtonian laws of gravitation. Perhaps the most salient of all heuristic fictions though, is that of teleology. Teleology is a heuristic fiction because it works toward the discovery of real, natural phenomena with the absolutely unreal ie. design or purpose. As Bedau (1992) states there is no objective truth in teleology but it has enabled us to understand many complex situations better than we could otherwise. Heuristic fictions, like the abstractive and symbolic fictions described previously, blend both positivistic and interpretivistic paradigms. A heuristic fiction accepts the validity of the real world: the phenomena it seeks to understand, as well as the validity of the idealistic: the fiction that is created as a temporary structure to aid in the understanding of the real.

Just as Vaihinger (1924) uncovered many significant heuristic fictions in the realm of science likewise a number of heuristic fictions can be seen in the field of IS. For instance, the many aspects of design that are visible in IS are saturated with heuristic fictions. When we design models and diagrams, these are heuristic fictions. They are heuristic in the sense that the models themselves exist solely for the purpose of gaining some understanding of a real system. They are fictional in the sense that they are not a direct reflection of an actual system. A rather specific example of the heuristic nature of modeling in IS is in the area of data modeling. Simsion and Witt (2005) assert that good data modelers work toward a given solution in a very cyclic way, often with more than one workable model at a time. Simsion and Witt (2005) further strengthen their heuristic view of design by stating that there is "no single correct answer" (p.7) but many possible answers that will work equally well. Furthermore, there is a certain amount of creativity and intuitive judgments that go into the design process "data modelers ..., like architects, cannot rely on simple recipes to produce the best design" (p.7). This is very similar to the general understanding of heuristics in that they are *rules of thumb*; methods that are used to arrive at what would be close to the best possible answer.

While modeling is a rather specific case of the heuristic fictions in IS, we certainly work within a much broader framework of fictions that serve and facilitate discovery. For example the most predominant metaphor we rely on in IS research to structure organizations is the organization as machine metaphor (Porra 1999, 2005; Behrens 2007). This is not only a very teleological understanding of the organization but is also a heuristic fiction. Organizations are seen as teleological systems. Everything within the organization is seen as if it were working toward a particular goal or purpose; the departments, the technology and even the people. Regardless of whether we are working with specific cases of data modeling or within the broader teleological view of the organization heuristic fictions are helpful and arguably necessary in allowing us to make sense of Information Systems phenomena. Furthermore, such an approach is not exclusionary; it does not demand that the user approach their area thinking that only the real and correspondence with the real, is the 'be-all and end-all'; likewise it does not exclude the validation of the real.

Practical (Ethical)

[T]he higher aspects of life are based on noble delusions. Thus our theory clearly leads to a practical view of the world very different from the ordinary one. (Vaihinger 1924 p.84)

On the scale of fictions the practical fictions are almost as far from reality as one can get; the practical fictions also known as the ethical fictions are those that not only contradict reality but are in themselves contradictory (Vaihinger 1924). The statement outlined earlier, *All men are created equal*, is an example of an ethical fiction. If this statement was treated as a hypothesis and was submitted to the test of reality it would be difficult indeed to prove its truth. However, this statement not only contradicts observation but is contradictory in itself. An absolute position of equality resulting from nothing, is as ethically valuable as an absolutely necessary one. Be that as it may, the ideational construct forms a significant and important part of how we understand our own behavior and the behavior of others. Equality forms an indispensable part of how we form and live in society. Indeed it is difficult to imagine how we could do without such valuable and noble delusions – and also whether we would want to do without them. As Vaihinger (1924) concludes, “Thou art a man and shouldst possess these noble sentiments – such is the command of the idealist and of society” (p.44). However, while the practical fictions may appear quite idealistic they are still a blend between the extremist stances of positivism and interpretivism. That is, they recognize the untruth of their existence; there is a reality that they contradict. Again, the value of these particular untruths is in their practical nature; while all men may not be created equal it helps us to act *as if* they were.

As far as the mainstream IS literature is concerned it is more difficult – though not impossible – to uncover ethical fictions. There is a noticeable discourse concerned with ethical issues and it is here that the ethical fictions can be seen. The discourse in IS concentrates on ethical issues in organizations and also on how we act as researchers. The ethical concerns of interest to Information Systems in organizations appear to be largely situated in the heuristic fiction of the organization as a teleological system - as outlined previously. This is the view that in order to achieve their predefined purposes and goals – usually wealth generation - organizations need people to behave ethically. People who behave unethically as a part of or through Information Systems generally put organizations at risk in terms of their ability to achieve maximum wealth. For instance, Moores and Chang (2006) discuss software piracy in terms of how much money businesses lose due to such unethical conduct. Banerjee et al. (1998) approach their examination of computer information systems misuse in a similar way stating that the estimated cost of such unethical conduct was in the billions of dollars per year in the US alone. Stewart and Segars (2002) examine the ethical behavior of organizations as a whole and again appeal to the understanding of organizations as a teleological system; organizations that act ethically will be rewarded with consumer trust and return business and thereby fulfill their predefined goal of wealth generation. Gattiker and Kelley (1999) are among the few that do not situate their study within a teleological understanding of organizations; their focus appears to be solely based on the ethical dilemmas involving computer technology.

While ethical behavior is a significant - although certainly not a mainstream - concern in IS practice it has also received some attention in relation to IS research. Gove et al. (2006) look at how appropriate it is for researchers to access commercial websites to collect data as well as ways to handle the ethical issues involved - appropriateness as well as the legalities - with sensitivity and openness. Similarly, Kock and Davison (2003) look at IS researchers but the focus here is on the unethical act of plagiarism in the IS research academy. While the literature that concerns itself with ethical behavior is not vast in the IS discipline it appears that there is a surge of interest; the International Conference on Information Systems (ICIS) 2008 has made its theme *Ethics, Design and Consequences of IT*. Just as Vaihinger (1924) uncovered many important ethical fictions in the human endeavor so too are they revealed in the field of IS.

While the concepts of right and wrong as well as equality are not a part of the real world – the natural world – they are an important part of how we make our way in that world. The ethical fiction, accepts a world that is real - in the typical positivistic sense of the word but also a world that is idealistic – in the typical interpretivistic sense of the word. This is the world of concepts that are not only contradictory to reality but to themselves. In accepting both these worlds, the ethical fiction creates for us a melded world – a world in which things ultimately make sense.

Aesthetic

Mythology, in so far as it may be regarded as the common mother of religion, poetry, art and science, shows us the first expression in free constructive activity of the inventive faculty, of imagination and of fantasy. It is here that we first find products of fantasy that do not correspond to reality. (Vaihinger 1924 p.81)

When outlining his anatomy of fictions Vaihinger (1924) is careful to separate what he calls the scientific fictions (the four types presented above) from the aesthetic fictions which he prefers to call figments. The atom he states is a fiction, Pegasus a figment. “Aesthetic fictions serve the purpose of awakening within us certain uplifting or otherwise important feelings. Like the scientific, they are not an end in themselves but a means for the attainment of higher ends.” (p.82). Myth is an example of an aesthetic fiction. Despite it’s untruth it is a necessary part of how we make sense of the world. As Campbell (1973) points out, even in the absence of an effective general mythology we will produce myth in our own individual form. This is perhaps most obvious in the area of psychology where through dreams people produce their own version of the larger mono-myth. Each of us in our own specific way make sense of the world and our place in it through the basic elements of the mono-myth; separation, initiation and return. Furthermore, as Freud concedes while the myth may not be true it does reveal certain basic truths about our minds; the beliefs and values that we need in order to survive regardless or even in spite of the facts before us. All aesthetic fictions give us a way of dealing more effectively with the facts of life than we could otherwise. Beauty, poetry and simple acts of storytelling are the things that make life as we know it possible and arguably worthwhile. The real is given value through the unreal.

Like the symbolic and ethical fictions aesthetic fictions are not as obvious in the IS realm as the abstractive and heuristic fictions. Having said this, the importance of aesthetics is recognized both in the practice and research of IS. For example, in the area of systems design we not only have to consider aspects of functionality but we must also consider their aesthetics. This is more commonly known in IS as the ‘look and feel’ of a system. We must think not simply of whether it is possible to use the system but whether people will actually *want* to use it. A big part of this is to make it aesthetically pleasing to the user (Dix et al. 1993; Hong et al. 2004). Additionally in the activity of design there is just as much reliance on art as there is on science. As Hevner et al. (2004) state systems design relies very much on the creativity, intuition and experience of the designer. Aesthetics are also seen as being inspirational for the field of IS more generally. For instance, when Introna (2005) reflects on Ciborra’s work he not only talks of Ciborra’s influence in the field with his ideas on creativity and strategy but makes clear Ciborra’s passion for aesthetics: “In Claudio's [Ciborra] world there were no "mere objects." For him there were beautiful objects, objects with style, charisma and sensuality, and there were ugly objects - objects that were drab, functional and offensive to his acute sensuality.” (p.513) This view was not only important in the actual design activity of systems but was seen by Introna (2005) as an inspiration to the IS community as a whole. Storytelling has also been recognized as an important way of engaging IS students in the core concepts and skills of IS development courses (Ramiller 2003) as well as transferring knowledge in organizations to build Information Systems (Swap et al. 2001). Aesthetic fictions can be uncovered without too much effort on the part of the finder in the realm of IS just as Vaihinger (1924) did in everyday life. While beauty, myth and storytelling are not real things they are nevertheless important and necessary departures from reality; ones that allow us to make sense of all aspects of life; both the real and the unreal.

Risks and benefits of fictions to IS research

The fictional approach is compelling as it provides an easy-to-use and simple taxonomy for IS research, but it would be naïve to present the fictive approach without addressing its challenges. The biggest challenge – and it is not a trivial one - is in acknowledging and trusting to the unknown. As outlined previously Vaihinger (1924) maintained there were two types of thought; rational thought and fictive thought. Rational thought relies on the logic of rationality, fictive thought relies on fictive activity. Where rational logic has developed linear, step-by-step methods for uncovering natural laws, fictive activity has not done the same for its temporary thought structures; where

rational logic is clear and obvious, fictive activity is not; and where one can quite confidently rely on laws in rational logic there are no such sureties with fictive activity. As Vaihinger asserts, fictive activity is irregular, complex and largely hidden. As he states, fictive thought must traverse the hidden by-paths of thought; arriving at its destination of understanding in a rather complicated and seemingly 'wasteful' way. If one is to rely on the fictive approach one must accept the irregular, complex and hidden nature of the fictive activity. In many circumstances it would be easier – as Vaihinger suggests - to clothe the subjective in a cloak of objectivity: to treat assumptions falsely as hypotheses. However, to do so would also ignore the significant benefits of the fictive approach; those of creativity, holism and richness. Such benefits are distinct advantages and even necessary when it comes to the search for knowledge and understanding in the field of IS.

Creativity

Vaihinger (1924) maintained that fictive thought was creative thought. While Vaihingers conceptualization of creativity was developed independently of, and much earlier than current conceptualizations of creativity, the two appear to have strong parallels. Of the most widely accepted and frequently cited definitions (Harrington 1990), creativity is seen to be a fulfillment of at least three conditions: originality, adaptiveness and realization (MacKinnon 1963). Vaihingers conceptualization of creative thought satisfies all three conditions. Vaihinger maintained that in order to make sense of the world thought had to develop novel structures. Unlike rational thought whose novelty and originality was tightly constrained by the real world – in that it had to develop hypothesis that had to mirror reality - fictive thought was not so constrained. Fictive thought could divert from reality either partially or completely; being either a small deviation or a complete removal. Vaihinger also asserted that fictive activity was adaptive; fictive thought had developed as a response to real situations and problems. Furthermore, despite the clear untruth of fictions they were a necessary and useful way of making sense of the world. Perhaps because of the biological basis for the philosophy of fictions Vaihinger dealt with the adaptiveness of fictive thought extensively. On the condition of realization Vaihinger also contended that true fictive thought sustained the original insight – evaluating, elaborating and developing it to the full. However, Vaihinger also maintained that this development of creativity was not a free-for-all. One still has to justify their creations; on an individual level as well as a disciplinary and/or societal level. This conceptualization of creativity matches well with current theories of creativity in that there is a dimension of creativity that spans from private creativity on the one end to social creativity on the other end (Albert and Runco 1990). Therefore, while Vaihinger maintained his own specific reasons for fictive thought being creative these reasons correspond well to current conceptualizations and theories of creativity; fictive thought not only satisfies the definitional requirements of creativity but also recognizes the importance of bridging the private/public divide.

While the literature on creativity may not be a mainstream concern in the IS field its importance to research and practice cannot be overestimated. As Hevner et al. (2004) assert, a prime distinction between the two paradigms they believed existed in IS - behavioral science and design science - lie in creativity. Hevner et al. (2004) maintains that the behavioral science paradigm is rooted in the natural sciences, whose purpose is to discover natural laws. The design science paradigm, on the other hand, seeks to create and innovate. It is interesting that Vaihinger (1924) also makes this distinction but he goes further in his reasoning for the differences. For Vaihinger the differences lie in the roles of different thought processes required for these different paradigms. Vaihinger maintained that rational thought was necessary and important for acts of discovery; hence its thorough development in the natural sciences. Fictive thought is important for the branches of science where a direct correlation with reality is not possible or desirable; where instead of hypotheses that must and could be proved one invented temporary thought structures. This notion of thought structures is very similar to Weick's (1989) work with disciplined imagination in theory building; with the temporary thought structures of Vaihingers corresponding well with Weicks thought trials; one builds or creates fictions and then subjects them to a certain discipline, the test of justification. This is perhaps where Vaihinger offers his most important contribution as a philosophical approach applied to the field of IS. That is, he not only recognizes the importance of creativity in distinguishing between the two main paradigms Hevner et al. (2004) identified in IS but provides further insight into the creative process. As Schaper (1966) states, Vaihinger was significant for his formulation of a "systematic appraisal of the trial and error method, with as much emphasis on the fertility of error and conjecture as any disciple of Popper today could wish for" (p.234). The fictional approach is significant in that it recognizes the importance of creativity in thought and provides a systematic appraisal of this type of thought. This strong recognition of creativity as well as its evaluation does not appear to be so well catered for in other more traditional IS paradigms. Perhaps it is in this acknowledgement of creativity as an essential part of

human thought and sense-making that the fictional approach might offer the biggest advantage to the field of IS; one that is not easily captured by other approaches.

Holism

Holism refers to the idea that any one thing, whether it be an object, an idea, or a living entity is not entirely reducible to its parts. It is a rather old concept – one that can be traced back to Aristotle and his *Metaphysica* – *The whole is more than the sum of its parts* (*Metaphysica* 10f-1045a). However, holism is a very current concept as well; it is seen as a fundamental building block of many theories we recognize as being important today. For instance, General Systems Theory - an important precursor to other more recent theories such as chaos theory (Gleick 1987; Glendinning 1994) and complex adaptive systems (Simon 1996) - held the concept of holism as a central tenet for the theory. As Von Bertalanffy (1976) the father of General Systems Theory said of his theory: “[It is a] general theory of wholeness of entire systems in which many variations interact and in which the organization produces a strong interaction”. More recent developments of this theory include complexity theory. In *The Sciences of the Artificial* Simon (1996) argues that holism is critical for any understanding of a complex system. Simon (1996) like Von Bertalanffy before him maintains that any study of a system requires an understanding of holism; an acknowledgement of “vitalism” (p.170) that cannot be accounted for in the natural sciences. Vaihinger (1924), also recognized the significance and importance of holism to thought and knowledge; like Simon he also asserted that holism was not a concept that could be accounted for by the natural sciences model. Vaihinger – unlike Simon – went into greater explanation for this difference providing more detail at the logical level. Vaihinger maintained that rational thought – being a linear process- adapted well to the discovery of natural laws, but was not enough to account for the rather elusive *je ne sais qua* we must deal with in everyday life. It is only through fictive activity that we can think holistically and – more importantly - develop theories, knowledge and understanding that are holistic. There certainly appears to be a strong link between Vaihinger and the systems theories of today and indeed there is. When one reads Von Bertalanffy (1976) they will find that he names Vaihinger as one of the three most important influences on his development of general systems theory. Therefore, Vaihinger's philosophy not only recognizes the importance of fictive activity in developing holistic understandings it has been an important contributor to many significant theories we rely on to this day.

The concept of holism is recognized as an important part in developing knowledge and understanding of Information Systems. Klein and Myers (1999) pay particular attention to holism when they explain the hermeneutic circle: “the idea of the hermeneutic circle suggests that we come to understand a complex whole from preconceptions about the meanings of its parts and their interrelationships” (p.71). However, as Klein and Myers point out this is a very interpretivistic understanding of holism; it does not readily appear to include the real world as being an important part of developing holistic knowledge and understandings. Likewise, Galliers (1985) asserts the importance of holism in searching for an IS paradigm and also excludes positivistic notions in achieving holism. However, while Galliers (1985) ends up siding with the interpretivists in his search for holism in an IS paradigm, he does raise Checkland (1981) as an important figure when discussing the failure of traditional science and its inability to account for holism; the inevitable problem of reductionist thinking encompassed in the natural sciences model that excludes the possibilities of holism. Interestingly enough, Checkland (1981) is an important lead to Vaihinger (1924) and an approach that is a blend between interpretivism and positivism. Checkland is a significant figure in the area of systems thinking; particularly in his efforts to translate general systems theory to practice. Checkland also naturally relied strongly on the work of Von Bertalanffy (1976) the father of general systems theory. As stated previously Von Bertalanffy relied on Vaihinger as one of his most important guiding lights. While it may not be openly recognized many theories that rely on holism as their prime foundation – from general systems theory through to chaos and complexity theory - have had some of their deepest sustaining roots in Vaihinger's work. However, although the fictive approach offered by Vaihinger is holistic, it does not reject reality or ideas, as the ultimate measure of truth.

Richness

Richness here refers to the idea that there is a wide variety and diversity of things. If we look at richness from a paradigmatic level then we look at the richness of the ontology, epistemology and methodology. As Vaihinger (1924) points out it is in this area that interpretivism and positivism start to become problematic. Interpretivism and positivism are by their nature exclusionary paradigms; each denies the existence of the others position when it comes down to ‘what counts’. However, because of their exclusive approach they necessarily deny richness in their

fundamental beliefs. On the other hand the fictive approach is a more accepting and conciliatory approach - a compromise - and it does this at a very fundamental level. As Vaihinger (1924) elaborates “In order to attain the purpose of its activity as completely and quickly as possible, namely, to deal with independent events and to render them possible for or dependent on our will, thought or the logical function employs the most diverse means.” (p.6). Vaihinger's approach recognizes the importance of the real world as well as the world of ideas; his approach also recognizes the various paths thought has to take in order to make sense of these worlds. Vaihinger's approach is one that is paradigmatically rich in ways interpretivism and positivism are not; it recognizes the real and the unreal, the subjective and the objective, as well as the many different ways in which we go about our sense-making.

While paradigmatic richness may not be openly recognized as an essential requirement in developing knowledge and understanding of Information Systems it should nevertheless prove beneficial. As Lee (2000) points out, IS is concerned with a technological system as well as a social system and therefore encompasses a wide variety of phenomena. Furthermore as Ngwenyama and Lee (1997) assert “A dimension of the subject matter that social scientists examine, that natural scientists do not examine, is what the field of phenomenology calls the ‘lifeworld’. The lifeworld, among other things, is the world of consciousness and humanly created meanings” (p.149). The fictive approach acknowledges the world of consciousness and humanly created meanings – the so-called ‘lifeworld’ as well as the real world – the natural world. However, instead of focusing on only one of these to the exclusion of the other, the fictive approach focuses on the interplay of both. Unlike the interpretivists who reduce everything to sensations or sensational contents or the positivists who reduce everything to matter (Vaihinger 1924) the concept of reality in the fictional approach is not uniform. On the contrary the notion of reality in the fictional approach is more varied and inclusionary; it does not see reality as an either/or proposition, as a choice between mind and matter. The fictive approach recognizes the “two-fold concept of reality” (Vaihinger 1924 p.xlv) as well as the different ways in which we search for knowledge and understanding in this resulting dual world. In bridging the interpretivist and positivist paradigms the fictional approach offers a hybrid approach to IS research; one that is rich as a consequence.

Conclusions and implications

The debate over what particular paradigm is best for the study of Information Systems has raged for some time. Much of the dialogue tends to focus on the differences between positivism and interpretivism. However, there is reason to believe that the two paradigms of positivism and interpretivism may have more in common than what the above debate tends to suggest (Weber 2004). Furthermore, as Guba and Lincoln (2005) have suggested paradigms with such apparently irreconcilable differences have been blended into new approaches in the past. This paper has presented the philosophy of fictions as one such blended approach; an approach that essentially reconciles interpretivism and positivism. The fictive approach shows that not only is a reconciliation between positivism and interpretivism possible but arguably of great benefit to the study of Information Systems. At one level much of what we do in Information Systems is create and work with fictions. From the abstractive fictions of models and schemas to the aesthetic fictions of graphical user interfaces IS appears to rely strongly on fictions. The fictive approach also provides us with a taxonomy that highlights the strengths and weaknesses of our work; that we prefer to work with abstractive and heuristic fictions rather than symbolic, practical and aesthetic fictions. While the fictive approach has its challenges; namely recognition of a thought process that is largely hidden, complex and indirect it does have many significant benefits for the study of Information Systems. The fictive approach is paradigmatically creative, holistic and rich; all important and arguably necessary characteristics when it comes to deepening our knowledge and understanding of Information Systems. Perhaps by legitimizing and exploring fictions in all their forms the IS field may be closer to achieving its *raison d’être*; making better sense of Information Systems.

Limitations

This paper does not attempt to provide a comprehensive or exhaustive account of fictions. Rather, the purpose of this paper has been to present Vaihinger's (1924) work as a blended approach for IS research. As such the endeavor has been to work from Vaihinger's account of fictions in formulating this alternative. In trying to communicate what is important and critical about fictions as an alternative I have in turn created my own fiction; an abstractive fiction that leaves out a myriad of detail while trying to focus on the most important and significant issues. It is quite possible of course that despite my best intentions one of the myriad of details that were left out should not have been. However, it is hoped that the work in this paper – the abstractive fiction of the paper – can meet the test of

justification. That is, it is a useful and necessary auxiliary construct, to be used in the search for knowledge and understanding and consequently discarded when it is no longer useful.

Implications

In the following sections I will conclude the paper with my own thoughts on the implications of the fictional for IS researchers and the IS discipline. These implications are of course limited by where the paper exists in the larger discourse; they are given in the hope of encouraging reflection and promoting further ongoing discussion.

IS Researchers

As a researcher in the IS discipline I have found the major contending paradigms in the IS field difficult to maintain. Positivism is certainly attractive to me; it offers a very straight-forward view of Information Systems and the methods used for IS study have been honed over the years to be obvious, transparent and linear; I like its directness and ‘fuss-free’ approach. Furthermore, it is arguably easier to feel a part of the IS discipline, to collaborate and communicate with others; it is after all one of the most favored approaches. Perhaps it is a secure and safe option, which is naturally appealing – both to new and experienced researchers alike. However, for many of the areas I have been interested in over the years, areas such as IS success and failure, I have found the approach problematic. True it is systematic, certain and transparent but this lies in stark contrast to my areas of interest; people – that rather large and troublesome aspect of Information Systems are, at least in my experience, rarely certain and transparent. Due to this particular failing of strict positivism I found interpretivism quite compelling. There are no hard and fast rules one has to follow. Everything is subjective; this of course gives power to human interpretation, something I believe to be very important in the things we study. However, for me the approach is too yielding, too flexible. There is no ‘right’ answer – I find this lack of certainty quite destabilizing - interpretivism all too often fits in with the many criticisms I have heard over the years; that it is more or less wishful thinking. Critical realism – the other major contending paradigm in the IS field – as an approach to studies in IS is a little too ‘real’ for me. True, it does give credence to the subjective but too little in my opinion. Additionally, I find it difficult to be convinced that theories etc. are real things that exist in the real world (Gregor and Jones 2007) – like a table or a chair is real – but I also tend to agree with Vaihinger (1924) in that such a belief may be dangerous for a discipline. Believing in theories etc. – basic abstractions – as real and true makes them harder to be knocked down and for another more useful and necessary one to take its place; it is easier for a discipline to spiral into dogma. To me, each major paradigm in IS has some significant difficulties that I – at least – find hard to overcome.

While the fictional approach has its own unique set of challenges I find compelling due to its provision of another vantage point on which to view Information Systems and their problems; a new way of seeing what it is we have done in the past and the things we might do in the future. One of the weaknesses I believe the fictive approach highlights is our propensity in the discipline to get caught up in pursuing the subjective as the objective. That is to confuse fiction with fact. So, when we propose a solution to a problem - whether this be some theoretical model or a particular design solution - we start believing that this is *the* answer. The fiction that is nevertheless useful and necessary, becomes a fact. We become tied and attached to it as a real thing – as truth. It then becomes harder and harder to knock down that model or solution – how dare we and how can we argue with a fact. This is not a trait limited to researchers themselves it passes on to the way we teach our future practitioners and practitioners themselves. How many times have I seen some textbook propose the correct way to model a problem; how many times have I seen a teacher mark a student's ER diagram as incorrect and how many times have I been presented with an inflexible solution by my IT department as the right and correct way of doing something? The answer is many, many times – and of course although I don't like to admit it myself - I have also done these very things.

The point I'm trying to make here is that it becomes very easy to believe that the fiction is the fact and very difficult to undo this belief once new information comes to light. “Hmmm... well that is an exception, an anomaly”, we will say. Regardless of whether we are researchers or practitioners our daily working lives and our progress through it become incredibly difficult and frustrating when fiction is confused with fact. At times it can come to an abrupt halt. On the other hand if we look at particular theories and models as fictions then it is arguably easier to make progress. This is where the practical nature of the fictive approach comes in: one is only tied to their models and theories in a rather transient way. However, while the fictive approach is practical it diverts from true pragmatism in a very significant way: pragmatism states that the practical is always the true, the fictive approach asserts that even untruth may be practical. Therefore, while the models and theories we develop divert from the truth – perhaps even

contradicting it entirely – they are nevertheless temporary structures that are necessary and useful ways of allowing us to understand problems in the IS domain. Therefore, when new information comes to light it is easier to destroy or adjust these structures. The fictive approach is a compelling and practical approach that helps overcome potential deception both at an individual level as well as at a disciplinary level; it helps prevent both from spiraling into dogma.

IS Discipline

The fictive approach represents a novel but not entirely foreign lens for surveying the IS research landscape. The fictive approach combines the key understandings of both interpretivism and positivism into a completely new form; it combines both the world of matter and the world of ideals. While the form may be new the elementary principles are familiar. It therefore provides us with a way of analyzing and critiquing our work with fundamental paradigmatic beliefs that are already known to us. However, because the fictive approach combines these beliefs in the way it does; being a blend of interpretivism and positivism it provides fresh insight into the ways in which we have preferred to structure and understand Information Systems. That is we prefer to structure and understand Information Systems using the abstractive and heuristic fictions. Perhaps this is due to the largely praxis-based nature of the discipline. However, the symbolic, practical and aesthetic fictions are just as important when trying to make sense of Information Systems. Symbolic fictions are essential for human cognition and so are an important aspect of working with and creating Information Systems. Practical fictions form an indispensable part of how we understand our own behavior as well as the behavior of others and are integral to any studies of Information Systems that are concerned with a human-technology interaction. Aesthetic fictions give us some insight into the seemingly superficial aspects of Information Systems that are no less important in working with and creating Information systems than any other fiction. While their significance is recognized to a certain extent in the IS literature the symbolic, practical and aesthetic fictions remain relatively unexplored. Therefore, the fictive approach provides us with a fresh perspective not only on the work we have done but on the work we have yet to do; exploration of areas that may lead us to a deeper understanding of Information Systems.

For many years the IS discipline has been consumed, in one way or another, by the debate between the interpretivists and the positivists. This debate has ebbed and flowed over the course of IS history; at times being a turbulent force in the daily life and activities of many IS researchers and at other times not so much. However, the debate remains at the forefront of disciplinary consciousness – while we may enjoy the quiet times we are aware that such apparent calm is not the same as peace; the debate still consumes space and time in the IS discipline. As Weber (2004) has pointed out this debate has been both distracting and destructive; distracting in the sense that it has taken the focus off the main game – working forward toward a deeper understanding of Information Systems; destructive in the sense that neither side appears to recognize the value of the others work in Information Systems - we don't recognize the value in the work because we don't recognize the value in the approach. However, it would be difficult to argue that neither approach has done anything for the discipline. Each has contributed in their own way to the knowledge and understanding of Information Systems. The fictive approach shows that it can and is possible to recognize the value in both interpretivism and positivism. Furthermore, the fictive approach shows that interpretivism and positivism can be united and exist – one along-side the other – in a blended approach. As Weber (2004) asserts looking at the similarities between the approaches is perhaps a more fruitful discussion to be having. The fictive approach instantiates this desire showing how elements from both positivism and interpretivism can be combined into a single productive paradigm. Perhaps the biggest benefit of the fictive approach comes with its sense of hope; that it is possible to recover from the ruins of a paradigm war.

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