
The Emergence of Interpretivism in IS Research

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This paper investigates aspects of the history and current state of interpretivism in IS research. The emergence of interpretivism is explored through the identification of a network of IS researchers working in the interpretive tradition, through an examination of the role of mainstream and alternative IS journals, and through an analysis of the rhetoric used to support interpretive claims. The paper contributes to analysis of the development of the IS field as a whole, and provides some conceptual ideas and a reference point for further work in this relatively neglected area of research.

Interpretivism—Construction of IS field—IS journals—Rhetorical analysis

1. Introduction

Interpretive methods of research adopt the position that our knowledge of reality is a social construction by human actors. In this view, value-free data cannot be obtained, since the enquirer uses his or her preconceptions in order to guide the process of enquiry, and furthermore the researcher interacts with the human subjects of the enquiry, changing the perceptions of both parties. Interpretivism contrasts with positivism, where it is assumed that the “objective” data collected by the researcher can be used to test prior hypotheses or theories.

Interpretivism represents one strand in information systems research, although it has been dominated in terms of quantity of publications by positivist approaches (Orlikowski and Baroudi 1991). Despite the dominance of positivism, there are signs that interpretivism is gaining ground, and the epistemological choice between interpretivism and positivism is an important issue for IS researchers. The objective of this paper is to investigate aspects of the genealogy of interpretivism in information systems research, or in other words, to trace its emergence up to the present time and to consider its possible future.

This paper can be considered as one response to the appeal by Preston (1991) for MIS to research itself. Preston argued the need for IS researchers to critically examine the underlying assumptions and theoretical constructs which shape our understanding of MIS, and thus its practice. An earlier paper concerned with the development of the IS field (Banville and Landry 1989) argued that any attempt to assess the state of a particular scientific discipline must proceed with the implicit or explicit help of a model as to what a scientific discipline is and how it develops. This paper will use aspects of the work of Latour (1987) from the sociology of science to provide this help.

The paper is organized as follows. The next section provides an introduction to

some of the concepts developed by Latour concerning the social construction of scientific communities. This is followed by the main heart of the paper, where the emergence of interpretivism in the IS field is explored in some detail, including a description of the work of key proponents, an analysis of the role of journals, and an examination of the use of rhetoric in interpretive claims. The final section of the paper discusses themes arising from the preceding analysis and develops some conclusions.

2. The Social Construction of Scientific Communities

A key concept in Latour (1987) is that science in action, as opposed to accepted science, is a controversial and contested social process of fact construction, in which those who are trying to establish certain "facts" need to enrol and mobilise a broad community of supporters sufficient to overcome particular opposition. On the nature of individual work in science, Latour argues that:

Fact construction is so much a collective process that an isolated person builds only dreams, claims and feelings, not facts. (p. 41)

The social process of fact construction is particularly interesting where a controversy is involved, in other words where there are strongly-held and differing views. The controversy we consider in this paper is that of interpretivism versus positivism in IS research.

Latour notes that a major problem in trying to construct a scientific community or *network* who support a particular set of "facts" is that people tend to either ignore new ideas, or take them up but *transform* them. The building of a network, in our case the interpretivist school in IS, involves negotiations between parties that may break down at any point. One approach to the problem of network-building is to:

... enrol others so that they participate in the construction of the fact; (and) ... *control their behaviour* in order to make their actions predictable ... I will call *translation* the interpretation given by the fact-builders of their interests and that of the people they enrol. (p. 108)

Latour argues that the simplest way to transform a set of allies into a whole that acts as one is to tie the assembled forces to one another by means of a *machine*. Latour's concept of a machine includes both a physical machine, such as an astronomical telescope for example, or a more general system such a scientific laboratory. Latour considers that:

A machine, as its name implies, is first of all, a machination, a stratagem, a kind of cunning, where borrowed forces keep one another in check so that none can fly apart from the group. (p. 129)

In the context of this paper, IS journals can be considered as machines or stratagems for enrollment and control. The editors of a journal enrol the editorial board and the referees, and attempt to control the behaviour of prospective authors, and to make their actions predictable. The journal is a powerful "machine" in the context of academic life, since published papers in "high quality" journals are the basis of academic career advancement. The measurement of quality is controversial, and fact-builders need to tie together a sufficient network of interested parties to be able to define high quality in their own terms.

In summary, Latour sees networks of people, and their organization through devices such as machines, as critical in understanding the process of fact construction in science, and the resolving of scientific controversies. The claim which will be investigated in the rest of this paper is that interpretivism is a valuable approach to

studying IS in organizations, or more strongly that it is a better method than positivism for this purpose. The first of these claims is controversial and the second is even more so, since positivism remains the orthodox approach published in the mainstream IS journals (Orlikowski and Baroudi 1991, Iivari 1991).

3. The Controversy of Interpretivism in IS Research

In this section, we will use Latour's "second rule of method" on how to investigate scientific claims:

- (a) by looking at the stage the claim we chose as our departure point is at;
- (b) by finding those people who are striving to make this claim more of a fact and those who are striving to make it less of a fact;
- (c) by checking in which direction the claim is being pushed by the opposite actions of these two groups of people . . . (p. 59)

3.1. *Stage of the Claim*

The claim that interpretivism is a valid approach to research on IS in organizations has penetrated the mainstream IS community to the extent that it is taken seriously, at least in written material which discusses research methodology. For example, the newly appointed senior editor for theory and research of *MIS Quarterly* wrote the following (DeSanctis 1993, p. vii):

On the empirical side, we welcome research based on positivist, interpretive, or integrated approaches. Traditionally, *MIS Quarterly* has emphasized positivist research methods. Though we remain strong in our commitment to hypothesis testing and quantitative data analysis, we would like to stress our interest in research that applies interpretive techniques, such as case studies, textual analysis, ethnography, and participant/observation.

Further support for the view that interpretivism is being taken seriously in IS research is given below, where a group of significant authors working in this tradition are identified. They are divided into particular groups in terms of the main substantive area of their writings, but the groups are not independent, in the sense that they often communicate and reference each others' work, and they can all be considered to be elements of the network of the interpretivist school of IS.

3.2. *The Fact-builders*

Systems Design. An important body of work which is centrally based on the interpretive approach to research on information systems is that carried out by Boland (1979, 1985). Boland uses phenomenology and hermeneutics as the philosophical bases for his research. He argues that the use, design and study of information systems is best understood as a hermeneutic process. Boland has used these ideas to carry out specific empirical work in a variety of settings, and one of the most interesting of these is an interpretive description of the experience of systems design from the perspective of a systems analyst employed by a credit company (Boland and Day 1989).

A second influential piece of work on systems design from an interpretive perspective is the book by Winograd and Flores (1986). They draw heavily from Heidegger (1962) who argued that the separation of subject and object denies the unity of being-in-the-world. Winograd and Flores derive the conclusion that a new orientation is needed for IS design, with action as the primary focus. They maintain that commitment is the basis for language, and that in creating new computer-based IS, we are designing new conversations, connections and commitments.

The above authors' work is largely conceptual in nature, but there is also a body of work which is primarily empirical in orientation. For example, Schneiderman and Carroll (1988) describe "ecological studies" which "confront design problems on their own terms," involving the collection of detailed qualitative information, particularly through interviews with analysts. This style of research is interpretive and inductive, rather than seeking to confirm or disconfirm hypotheses. An interesting ecological study in this tradition is that by Curtis et al. (1988), based on interviewing personnel from 17 large software projects.

Organizational Intervention and Management of IS. The above research was theoretical or empirical in nature, but a second stream of work from an interpretive perspective is concerned with direct intervention. A well-known body of work here is based on the soft systems methodology (SSM) of Checkland in the UK (Checkland 1981, Checkland and Scholes 1990). SSM embodies a philosophy of organizational intervention that sees different individuals and groups as constructing interpretations of the world, the interpretations having no absolute or universal status. The purpose of the intervention is to reconcile these views sufficiently to achieve organized action. As well as spawning a large academic literature, SSM has been used extensively by a variety of management practitioners in the UK (Mingers and Taylor 1992), involving a considerable number of applications in the IS area. Checkland (1981, p. 19) notes that SSM implies a model of social reality in the phenomenological tradition, and his work provides a basis for concrete action from an interpretive stance.

Walsham (1993) is also concerned with practical intervention on the management of IS. He describes a general theoretical approach to IS research from an interpretive position, drawing on the work of Kling (1987), Giddens (1984) and Pettigrew (1990). Walsham uses his approach to provide detailed interpretations of three in-depth case studies of information systems in specific organizational and cultural contexts. He draws conclusions for IS practice in the areas of strategy, design and development, evaluation, and implementation; the work aims to provide some vocabulary and issues for debate in any particular practical context.

Social implications of IS. The book by Zuboff (1988) has been widely cited in the IS and management literature as an insightful and well-researched piece of work on the current and possible future implications of the use of information technology in modern society. She coined the term "informaté" to describe the process whereby IS yield new information at all levels, and she appealed for this to be used as an opportunity for enhanced democracy and the fuller utilisation of human potential. Her work is based on interpretive methods and she comments interestingly on her epistemological stance:

Researchers must have a theory of reality and of how reality might surrender itself to their knowledge-seeking efforts. These epistemological fundamentals are subject to debate but not to ultimate proof . . . My own commitment to understanding social phenomena has been fundamentally shaped by the study of phenomenology and, in particular, its application to sociology and psychology. (p. 423)

A second "supporter" of interpretive methods, who is concerned with the social implications of IS, is Orlikowski. She has published two high quality empirical papers, which employed the techniques of organizational ethnography. The study on

which the papers are based was carried out over an eight-month period, and concerned the use of CASE tools designed to increase software productivity in a consulting firm. The first case description (Orlikowski 1991) draws on the work of Foucault (1979), and examines the extent to which information technology deployed in work processes can facilitate changes in forms of control and organizing. The second case description (Orlikowski 1992) draws on structuration theory (Giddens 1984), and provides an interpretation of the various stages in the use of the software tools from the perspective of the tool users.

CSCW and AI. The area of computer-supported cooperative work (CSCW) has already produced a significant body of work from an interpretive stance, perhaps since researchers in this field must necessarily confront the "rich multivalent social relationships of work places" (Kling 1991). For example, Kyng (1991) argues that new approaches are needed involving mutual learning between designers and users, so that designers learn about the application area, and users learn about new technological possibilities. Kyng notes, however, that there are limits to mutual learning, and that developers do not become skilled practitioners and users do not become technical experts; thus he argues that one of the challenges of co-operative design is to support creative collaboration despite the fundamental differences among the participants. Suchman (1994) also adopts an interpretive approach to the design of CSCW systems. She argues the need to move towards a view of information technology production and use based on multiple voices in extended networks engaged in ongoing dialogue, rather than on notions of detached engagement and segmented practices which divide up the process of systems design.

An earlier book by Suchman (1987) was concerned with human-machine communication and can be considered of relevance to both CSCW and artificial intelligence (AI). She applied ethnomethodological approaches to distinguish between the plans and the situated actions of human beings, and used this to argue for new approaches to systems design which recognise the limits of machine behaviour compared to the situated interpretation of human actors. In discussing group work, she adopts the premise that the significance of action is an essentially collaborative achievement of human beings, a clear statement of an interpretive position in this area.

Star (1989) also writes interestingly about AI from an interpretive stance, in discussing the problem of arriving at coherent communication despite the existence of multiple viewpoints. She draws from research on problem solving in scientific communities, including the work of Latour, to identify four different types of "boundary object," which are plastic enough to adapt to local needs, but robust enough to be used by different communities of actors. She argues that distributed artificial intelligence could learn from this work and develop its own boundary objects.

3.3. *The Opponents*

Some "supporters" of the claims for interpretivism in IS research have been identified above, and Latour's work suggests that we also need to identify "opponents." The difficulty here is that it is hard to find any explicit opposition to the more modest claims of interpretivism, but on the other hand the massive body of work from a positivist stance can be taken to imply an implicit rejection of interpretive claims. This seeming paradox can be explained by the observation that supporters of positivism do not in general need to justify their epistemological position, to journal editors

and referees for example, since it is the dominant and accepted approach in the mainstream journals. The simplest approach for opponents of interpretivism to adopt is to ignore it, and to direct their work towards the established journals which accept positivism without question. Latour argues that stronger fact claims need less argument to support them, and when they become "tacit knowledge" they are in a better position than when they need to be argued for on every occasion. Positivism in the mainstream IS literature can be regarded as having this status of tacit knowledge.

Landry and Banville (1992) discuss various groups in the IS field, and they label the followers of the dominant approach of positivism and the orthodox model of science as the "mainstream navigators." They argue that facing this group are the "knights of change" who put forward new methods, theories or philosophies of science that, in their opinion, are needed for IS research. The latter group, who include supporters of interpretivism, are viewed by Landry and Banville as favouring methodological pluralism, and it is noted that they are mainly found among researchers interested in the so-called "human" and "social" aspects of IS. Landry and Banville also identify a third group concerned with bringing together the various methods in some unified paradigm, who they call the "unity advocates," and we will examine this latter group in more detail in the following subsection.

3.4. *Directions of Change*

The third component of Latour's "second rule of method" in investigating a scientific controversy is to analyze in which direction the claim is being pushed by the opposite actions of the fact-builders on both sides of the debate. Some preliminary analysis of this issue will be made here, and further analysis will be developed later in the paper.

A first point of interest is to look at any changes of direction with respect to interpretivism which have taken place in recent years, and a good example is provided by *MIS Quarterly*. The editorial call in March 1993 for research based on positivist, interpretive or integrated approaches, which was quoted more fully earlier in the paper, can be contrasted with a corresponding editorial statement some three and a half years before, in October 1989:

A paper in the Theory and Research category should satisfy the traditional criteria for high quality scholarly research. It should be based on a set of well-defined hypotheses, unbiased and reproducible procedures for collecting evidence that supports or refutes the hypotheses, and sound analytical procedures for drawing appropriate conclusions from the evidence. (Emery 1989, p. xi).

We see here clear support by the chief editor for positivism as the only acceptable approach, so there has been a marked change in recent years towards the interpretive position on the part of *MIS Quarterly*, at least in terms of stated editorial policy.

A second illustration of a recognition of interpretivism, and a response to it, is the recent interest in "integrated approaches," put forward by Banville and Landry's "unity advocates." A good example is the paper by Lee (1991) which, although it addressed the area of organizational research in general, is relevant to the IS field in which Lee has frequently published. Lee argues that positivist and interpretive approaches are not opposed and irreconcilable. He suggests three "levels of understanding," namely the subjective understanding of the human participants in any social situation, the interpretive understanding of the researcher arising from the researcher's in-depth contact with the participants, and the positivist understanding

arising from formal testing in an “objective” way by the researcher. Lee then argues that the levels of knowledge are complementary, and that positivist and interpretive approaches can be combined. For example:

... an interpretive organizational researcher who needs to choose among competing interpretive understandings might narrow down the possibilities with the help of the empirical and logical rigours of positivism. Based on each of the interpretive understandings, the interpretive organizational researcher could develop alternative positivist understandings and then rule out the ones whose consequent predictions are disconfirmed through controlled empirical testing. (p. 355).

The above quotation can be viewed, in the language of Latour, as an attempt to enrol both interpretivists and positivists and to translate their interest into a new shared reality of integration. Lee’s views here would be strongly opposed by some supporters of interpretivism on the grounds that they confuse and conflate contradictory epistemological positions. For example, why should the interpretive organizational researcher wish to “choose among competing interpretive understandings”? A major plank on which interpretivism rests is that alternative interpretive understandings can be valuable by offering different but equally interesting insights. A second criticism of Lee’s statement from an interpretive position is that, even if the researcher wishes to choose between understandings, the choice involves the subjective intervention and understanding of the researcher, and cannot be carried out by “the empirical and logical rigours of positivism.” Orlikowski and Baroudi (1991, p. 16) characterise this critique of Lee’s views as the “strong constructionist view” and argue that:

For proponents of (this) ... view, however, no triangulation (of positivist and interpretive methods) is possible, for there is no sense in which the interpretive perspective can accommodate positivistic beliefs. Interpretive research is seen to be based on philosophical assumptions which are essentially different from those of the positivist perspective. The role of interpretive research then, is not to complement positivist investigations, but to replace them.

4. The Role of Journals

It was argued earlier that a journal can be viewed as a machine, in the sense of Latour, which ties together a network of interested parties and controls aspects of their behaviour, such as the definition of high quality research. Journals contribute in this way to the formation of a scientific discipline. The concept of a “discipline” is normally used in a wholly positive sense in the IS field, and there is considerable irony in this simple usage. A more complex view of a discipline can be related to the work of Foucault (1979), who argued that we have created “disciplinary societies” in which individuals self-regulate their behaviour to conform to various materialistic norms, which reproduce technologies of control by the powerful. Foucault’s analysis of the means by which this occurs is relevant to us here:

The success of disciplinary power derives ... from the use of simple instruments; hierarchical observation, normalizing judgement and their combination in a procedure that is specific to it, the examination. (p. 170)

Academic journals are a good example of such a disciplinary instrument, with the examination being the refereeing process. Burrell (1988) notes that disciplinary power, as defined by Foucault, should not necessarily be seen in a negative sense, since it can be argued that it helps to convert human effort into something useful.

However, Foucault talks about disciplinary power as a force to “bind them (people) with their own ideas” and to create “docile bodies” who do not question existing paradigms and power structures. The relevance of this brief discussion of the work of Foucault is that we need to be reflective about the nature of disciplinary power, and that the role of particular journals in the formation of the IS discipline is controversial in terms of whether it should be viewed positively or negatively.

4.1. *Publication Choice and Coverage*

In order to examine some of the changes or transformations which have taken place in the IS journals, related to the emergence of interpretivism in recent years, a set of eight publications was chosen for analysis. The purpose of the discussion below is to use the publication analysis to illuminate some of the transformations which have taken place, rather than to provide a comprehensive picture across all IS journals.

Orlikowski and Baroudi’s earlier analysis of research methodologies in the IS literature forms a helpful basis for comparison with more recent work, and they chose a set of four publications representing “the largest forums for publishing IS research . . . these currently inform the work of most information systems researchers.” On the same grounds, three of these were selected for this study: *MIS Quarterly*, *Communications of the ACM*, and the *Proceedings of the ICIS Conference*. The fourth publication used earlier, *Management Science*, was not included here, since it is not primarily an IS journal and publishes only a small number of IS papers in relation to the other three publications. However, *Information Systems Research* was added to list of mainstream publications for analysis. The grounds for this are that it only started publication in 1990, making it unavailable for the earlier study, but that it has already established a reputation as an important IS journal.

As a contrast to the mainstream US publications, two other categories will be analyzed below. The first of these includes one journal only, namely *Accounting, Management and Information Technologies*. This was chosen on the grounds that it started publication in 1991 with the explicit aim of soliciting and encouraging the contributions of interpretive researchers. The second category consists of three UK-based journals, namely the *Journal of Information Systems*, the *Journal of Information Technology*, and the *European Journal of Information Systems*. Orlikowski and Baroudi noted that they had excluded the European journals from their survey and, thereby, “we have limited the survey’s exposure to nontraditional research work.” We include three such journals here, in order to investigate this view concerning the more “nontraditional” nature of European IS journals.

The discussion below examines the stated views of the editors of the above publications regarding interpretivism, where given, and considers all articles published in the period from the start of 1992 to the middle of 1993. Table 1 provides a summary of the chosen publications and the specific issues which were examined in detail.

4.2. *Criteria for Classification*

The criteria used by Orlikowski and Baroudi (1991) to distinguish between positivist and interpretive articles form a good starting point for the discussion here. Positivist articles were identified on the basis of evidence of formal propositions, quantifiable measures of variables, the use of hypothesis testing, and the drawing of inferences about phenomena from a sample to a stated population. They also identified a set of “descriptive studies” in the positivist tradition, which were categorised on the basis of providing straightforward “objective” and “factual” accounts of phenomena,

TABLE 1
Publication Choice and Issues Examined

Publication	Number of Issues Examined	Period of Coverage
<i>MIS Quarterly</i>	6	March 92–June 93
<i>Communications of the ACM</i>	18	January 92–June 93
<i>Information Systems Research</i>	6	March 92–June 93
<i>Proceedings of the ICIS Conference</i>	1	December 92
<i>Accounting, Management and Information Technologies</i>	6	January 92–June 93
<i>Journal of Information Systems</i>	7	January 92–July 93
<i>Journal of Information Technology</i>	6	March 92–June 93
<i>European Journal of Information Systems</i>	5	May 92–July 93

with no explicit recognition of the problematic nature of such accounts, and often with no theoretical grounding.

In contrast to the above, interpretive papers provided evidence of a nondeterministic perspective, an intent to increase understanding of the phenomena within a specific cultural and contextual setting, and an examination of the phenomena and the setting from the perspective of participants. It is worth noting here that a number of the articles examined for this paper were difficult to classify, particularly those which showed interpretive leanings. Such papers exhibited some of the characteristics of an interpretive paper, as given above, but did not exhibit others. These papers are of particular interest to this article, since they can be thought as representing partial transformations from positivism towards interpretivism, and some of these “ambiguous” papers will be discussed in some detail.

One final classification point is relevant, namely Orlikowski and Baroudi’s category of “critical” papers. These were to be identified on the basis of evidence of a critical stance towards taken-for-granted assumptions about organizations and IS, and a discussion of the historical, ideological and contradictory nature of existing social practices. Orlikowski and Baroudi found no papers in their survey which fit this category, but some papers are identified as in the critical category in the analysis below.

4.3. *Mainstream IS Publications*

The current stated editorial policy for *MIS Quarterly* encourages interpretive papers, but no single empirical paper can be unambiguously classified as interpretive in the period examined. A possible exception is the paper by Newman and Robey (1992) which examines the social process of user-analyst relationships. It is, however, a doubtful case since there is a strongly deterministic feel to much of their discussion:

A positive feature of process models is their *faithful account of actual experiences* . . . process models adopt the strategy of *explaining what can be predicted* (italics added) (pp. 250-251)

Nevertheless, there is evidence of investigation of the phenomena of user-analyst relationships within specific cultural and contextual settings and from the perspective of participants, so the article may be classed as having strong interpretive leanings. In the language of Latour, the paper can be thought of as involving a relatively small transformation from a positivist approach, retaining some of the philosophy and language of positivism, including concepts such as prediction.

A second paper in *MIS Quarterly* that is difficult to classify simply is that by Kendall and Kendall (1993), in which they examine the use of metaphors by IS users in 16 different organizations. The focus on metaphors clearly implies a direct concern with interpreting the perceptions of IS participants. However, the study is not contextualized, in the sense that no attempt is made to directly relate the use of particular metaphors by given participants to elements of the specific organizational contexts. In addition, there is a deterministic feel to their conclusions on the relationships between particular metaphors and their "key attributes" and "corresponding methodologies." The paper is probably best classified as not interpretive, if one were forced to choose, although the focus on language and perceptions indicates some inclination towards an interpretive stance, and thus again some minor transformative move away from positivism.

We turn now to *Communications of the ACM* and note firstly that no formal editorial policy on the acceptability of interpretive submissions has been published, although the "Social Aspects of Computing" editor has argued that computer scientists need to embrace "organizational informatics" as a key area of research (Kling 1993). This could, however, be taken to include both positivist and interpretive positions or could be restricted to one of them. As an illustration of the type of "organizational informatics" article which appeared in the journal over the period studied, Clark (1992) investigated corporate systems management based on in-depth interviews with senior executives. Despite being concerned with participants' perspectives, namely those of the chosen executives, the paper can be classed as "descriptive" positivist since there is no evidence of a nondeterministic perspective, the phenomena are not described in their specific cultural and contextual setting, only one participant perspective is given in each case, and this person's views are taken at face value.

There was, however, one recent interpretive empirical article published by *Communications of the ACM* in the special issue on participatory design. Wagner (1993) describes an ethnographic research project which studied the social practices of managing time for surgical operations in a large hospital, as seen by the different occupational groups such as doctors and nurses. Output from the study includes a set of ethical questions such as whether a person's use of working time should be transparent to others or private. No deterministic solution to such issues is proposed, but instead it is argued that systems designers should adopt a conscious process-oriented approach to ethical issues during systems design.

The stated editorial policy of *Information Systems Research* is to publish the "full variety" of IS research (Swanson 1990), although the paper cited in this editorial that relates most closely to interpretive methods is Newman and Noble (1990), which is ambiguous in terms of its classification. The reported research in this latter paper is certainly qualitative, but this should not be confused with interpretive studies, since a qualitative article can have strongly positivist overtones in its deterministic explanation of social events. Indeed, Newman and Noble's paper leans in this direction, and is certainly not strongly constructionist, as defined earlier. With respect to the papers examined from 1992 onwards, no empirical papers from an interpretive perspective were published.

Our final publication in this section on mainstream IS outlets is the 1992 *ICIS Proceedings* (DeGross et al. 1992). None of the published papers in these proceedings are empirical papers adopting an interpretive perspective. Nevertheless, the "research

in progress” descriptions include one clearly interpretive study on the social construction of geographical information systems, one of the panels investigated empirical applications of structuration theory from an interpretive stance, and one of the workshops at the Conference was devoted in part to ethnographic methods, which are strongly linked to an interpretive stance.

4.4. *An Alternative Journal*

The stated editorial policy of *Accounting, Management and Information Technologies* is worth quoting at some length, since it has made a major effort to define and promote the submission of both interpretive and critical articles:

The journal is open to established topics and approaches . . . as well as to more openly interpretive and critical analysis . . . we encourage hermeneutic studies of the design and use of information systems . . . of particular interest are histories which problematize the notion that innovations in information technologies inevitably spell progress . . . we especially want to encourage field research which avoids a naïve sense that one can just see, record or report accurately. (Boland and O’Leary 1991)

We have already quoted one interpretive empirical paper published in *Accounting, Management and Information Technologies* (Orlikowski 1991), and in the later period from 1992 onwards six empirical articles can be identified which adopt an interpretive or critical stance. As an illustration of the type of article in this group, Bloomfield et al. (1992) describe an episode in the development of management information systems for resource allocation in the UK National Health Service. They describe the process of construction of the systems at three sites, and identify how a variety of interpretations of the purposes of the systems by different individuals and groups led to radically different outcomes. The paper satisfies all three of Orlikowski and Baroudi’s criteria for interpretive studies, since the phenomena are examined from the perspective of the participants, they are analyzed within a specific and detailed cultural and contextual perspective, and outcomes are regarded as nondeterministic, in that the complex interactions and interpretations of individuals and groups are seen to result in heterogeneous resultant systems.

4.5. *Three UK-based journals*

The *Journal of Information Systems* has no explicitly stated policy on research methodology or epistemology, but an investigation of editorials and journal contents from 1992 onwards indicates a pluralist perspective. There are several general papers which adopt a broadly interpretive or critical stance, such as that of Jackson (1992) who suggests an integrated programme for critical thinking in information systems research. In addition, there are a number of papers, including a special issue, which are based on soft systems methodology (SSM), although none of these papers describe empirical studies in particular contexts. In one of the papers in the special issue, Gregory (1993) discusses the use of SSM in IS and notes that:

It seems that in information systems circles the term “interpretivist” is now being used to denote methods that imply a social system is open to more than one interpretation, while the term “positivist” is used to denote methods that imply there is only one valid account for a social situation. In this sense SSM is interpretivist, as opposed to positivist, in its account of social events. (p. 155)

The *Journal of Information Technology* similarly has no stated editorial policy on epistemology, but again published articles suggest a pluralist view on the part of the

editors. There was, however, only one explicitly interpretive empirical article in the period studied, namely that of Madon (1992) on computer-based information systems for decentralized rural development administration. She describes her epistemological stance as follows:

... the interpretive nature of the objects studied means that knowledge can only be acquired by understanding and interpreting the process of interaction between people in a particular social setting. (p. 21)

In a recent paper in the *Journal of Information Technology*, Galliers (1993) makes an appeal for a broadening of the epistemological approach in IS research in order to improve the contribution of research to practice:

... it is precisely the newer, post-positivist approaches that appear to have most utility in terms of undertaking research with respect to the management and utilization of IT in organizations, and not the positivist approaches which seem to be favoured by many, particularly in the North American context. (pp. 96-97)

The editorial policy of the *European Journal of Information Systems* is explicitly stated as pluralist in its first issue (Liebenau and Smithson 1991), although it is unclear what view is taken on epistemology, other than a passing reference to qualitative research methods, which may be intended to include interpretive approaches:

(The purpose is) ... in general to raise the quality of scholarship and discussion in this area (IS). This can be achieved by both improved research design in the traditional sense, through better sampling and more appropriate statistical analysis, as well as through the insight that can be provided by case studies and more qualitative research methods. (pp. 1-2)

With respect to papers published from 1992 onwards, several of them contain empirical data and show evidence of interpretive leanings, although this stance is not spelt out explicitly. For example, one of the papers in the special issue on Greece (Darzentas and Spyrou 1993) describes the creation of an information system for primary health care on the island of Samos. The approach was based on soft systems methodology, focused on the perceptions of different stakeholder groups, and the study was carried out with a major effort to understand the system in its context. The authors' work is based on an interpretive stance, although they do not develop the implications of this for other contexts in any substantial way, which limits the scope of the conclusions from the study.

5. The Use of Rhetoric in Interpretive Claims

Latour's work on science in action paid special attention to the use of rhetoric in scientific arguments in general, and in the scientific literature in particular. He describes the use of various rhetorical devices such as referring to former texts, introducing figures and diagrams into the text which take on the nature of fact, and moving cautiously from evidence to higher levels of generality. On this latter point, Latour suggests that in order to write texts which "withstand the assaults of a hostile environment," a middle way is needed between reticence and excessive claims:

... prove as much as you can with as little as you can considering the circumstances. If you are too timid, your paper will be lost, as it will if you are too audacious. (Latour 1987, p. 51).

We focus in this section on aspects of the rhetoric used to justify interpretive articles which have been published in the IS literature. A new categorisation of weak to strong rhetoric in interpretive studies is developed, and the strengths of rhetorical claims are

related to the contexts in which the articles were published in order to examine any connections. For example, one connection we might expect to see would be a more conciliatory rhetoric on the strengths of the claims for interpretivism in those journals which were mainly associated with positivist approaches. If a journal is considered as a machine for enrolment and control, an author who wishes to use a strong version of interpretivism may deliberately avoid those journals where such papers require a major transformation from current views.

5.1. *The Rhetoric of the Exploratory Study*

A relatively weak claim for interpretive studies is to argue that they are of an “exploratory” nature, and that their findings can be the later subject of a more rigorous positivist approach. This type of claim is made by Lyytinen and Kendall (1992) as follows:

The research setting can vary between exploratory and replication research. In exploratory studies, we are searching for conjectures and hypotheses that could be chosen as targets for testing in later research. In replication research, we are searching for evidence that can confirm our hypothesized knowledge claims. (p. 7)

This passage was written as part of the introduction by the editors of the proceedings of an *IFIP Working Group 8.2 Conference* on “The Impact of Computer Supported Technologies on Information Systems Development” (Kendall et al. 1992). The proceedings themselves included a number of papers from an interpretive stance, including Davies and Nielsen (1992) which we will refer to again later in this section.

The integrationist rhetoric of Lee (1991) could be considered to be a slightly stronger claim for interpretivism than that of the “exploratory study,” since Lee seemed to argue for an equal role for interpretive and positivist approaches. However, a more detailed examination of Lee’s position suggests that he believes that interpretive findings can later be subjected to positivist testing and, on this basis, Lee’s version of the integrationist position can be viewed as largely synonymous with the exploratory study position. The paper by Lee was published in *Organization Science*, whose editors appear to be sympathetic to interpretive approaches, although they classify them as part of “heretical research methods” (Daft and Lewin 1990).

5.2. *The Complementary Approach Rhetoric*

A stronger claim than that of the exploratory study is to see interpretive approaches as complementary to those of positivism, but of an equal status. The one paper that was identified earlier as leaning heavily towards interpretivism in *MIS Quarterly* in the period studied, namely that by Newman and Robey (1992), provides a clear example of the complementary approach rhetoric, where their “process models” were developed using a broadly interpretive approach in contrast to factor models which are positivist:

Factor and process models can be complementary approaches to research. Ideally, factor research should establish strong empirical connections between antecedent conditions and later outcomes, while process research should examine the streams of activities that explain the connections . . . Despite the complementarity between factor and process models, they differ in form and should *not* be combined into a single model. (p. 251)

A second paper which uses the rhetoric of the complementary approach is that by Orlikowski and Baroudi (1991) in *Information Systems Research*. Whilst they argue that there is a “persistent bias towards positivist research studies,” and “much can be

gained if a plurality of research perspectives is effectively employed to investigate information systems phenomena," they also say:

We must clearly state that it is not our intention to replace the positivist perspective with critical or interpretive ones. Rather, researchers should ensure that they adopt a perspective that it is compatible with their own research interests and dispositions, while remaining open to the possibility of other assumptions and interests. (p. 24)

5.3. *The Rhetoric of Appropriate Research Issues*

Moving towards stronger claims for interpretive approaches, we find some authors who argue not just for complementarity, but also for the claim that certain research issues are best suited to an interpretive approach. For example, Davies and Nielsen (1992) describe an ethnographic study of configuration management and documentation practices and justify their approach as follows:

The work reported in this paper is primarily concerned with a practical perspective on information systems development in general and configuration management in particular. The analysis of practices is central to the research work presented here. This means that the research methods are less inclined towards experimental approaches and more inclined towards contextually dependent observational approaches. The context is argued to be the primary source of research data, and from this data the research object of configuration management and documentation practices can be recorded and analyzed. The approach is fundamentally interpretive. (p. 181)

It is interesting to note that this paper was published in the edited IFIP conference proceedings referred to earlier (Kendall et al. 1992), in which the editors used the "exploratory study" rhetoric. There is no hint of this in the Davies and Nielsen article, which takes a much stronger rhetorical line in justifying its interpretive claims. One interpretation of this is that conferences provide an opportunity for a much wider range of views, being less tightly controlled forums than journals.

A broader claim for the value of interpretive methods is made by Walsham (1993), in a book in the Wiley Series on Information Systems, who discusses the limitations of positivist methods as reported in the existing literature in understanding the social processes involved in the design, development and use of information systems in an organizational context, and proposes interpretive methods as an alternative:

... much of this (the existing) literature reflects a rational-economic interpretation of organizational processes, and a positivist methodology which is based on the view that the world exhibits objective cause-effect relationships which can be discovered, at least partially, by structured observation. Many researchers have noted the limitations of such approaches ... (the) style of research being proposed in this book ... (involves) *broadly interpretive methods* of research, aimed at producing an understanding of the *context* of the information system, and the *process* whereby the information system influences and is influenced by its context. (pp. 4-5)

A third author employing the rhetoric that certain issues are best addressed by interpretive rather than positivist approaches is Preston (1991). He argues the need for "*critical* reflection upon the MIS craft" and says the following concerning the value of interpretive studies:

Ethnographic studies ... provide a platform upon which to challenge the theoretical claims imported into and elaborated on in MIS. They provide a critical tension which reveals inadequacies both in the theories and resulting information technologies. The schism between

theory/technology and practice is thereby exposed and problematized. The acontextual nature of MIS, its failure of researchers to situate their theories in action, constitutes the major problem of MIS. (p. 67)

The above strong rhetorical claim was made in *Accounting, Management, and Information Technologies*. A final paper in this section from the same journal, that by Orlikowski (1991), is interesting in not making any particular rhetorical claims for her interpretive approach other than increased understanding of the implications of deploying IT in organizations:

The aim of this paper is to use the insights of my field study . . . to provide some understanding about possible control and organizing consequences of deploying information technology in work processes . . . The insights gained here provide a grounded basis from which to continue empirical investigations of the implications of deploying information technology in organizations. (p. 100)

As noted earlier in the paper, stronger fact claims need less argument to support them, and interpretivism can be considered to have this status of tacitly accepted knowledge in *Accounting, Management and Information Technologies*.

5.4. *Replacement of Positivism Rhetoric*

The strongest claim for interpretive approaches which could be made would argue for the demise of positivism and its replacement by interpretivism. Some of the papers above, particularly in the last section, could be taken to support this claim in particular application domains, but the author has been unable to find any paper published in the IS literature which makes this claim in a totally general sense. Readers should not be misled into thinking that this latter claim is never heard, but it tends to occur, for example, in the rhetoric in the corridors outside the conference rooms rather in the papers inside them.

The area of accounting overlaps considerably with information systems, and *Accounting, Organizations and Society* publishes many papers which are anti-positivist, and thus can provide us with an example of such a rhetorical claim. Arrington and Schweiker (1992), in an interesting article concerned with rhetoric in accounting research, make their own position clear:

To put it bluntly, and without argument, our own view is that accounting research is dominated by a positivistic and economic orthodoxy that constrains both the domain of accounting knowledge and the scholars who work to produce it . . . (pp. 513-14)

6. Discussion and Conclusions

In this paper, we have traced some elements of the emergence of interpretivism in IS research. The description of the proponents of interpretivism showed that there are a number of solid bodies of work adopting an interpretive stance in at least the following areas: systems design, organizational intervention and management of IS, social implications of IS, CSCW and AI. The authors of this work, together with others, constitute a network which can be called the interpretivist school of IS research.

Further evidence for the emergence of interpretivism in IS comes from the changing policies, contents and type of journals. The total dominance of a small number of orthodox journals with an explicit positivist philosophy has changed. A researcher who wishes to adopt an interpretive or critical perspective can either submit their

papers to the mainstream IS journals, where in at least one case there has been an explicit shift in editorial policy to permit such articles, or they can aim their work at a journal such as *Accounting, Management and Information Technologies*, which has demonstrated strong support for such methods. Alternatively, their work could be targeted at one of the European journals which, as we have seen, tend to have no explicit policy with respect to interpretivism, but have shown their willingness to publish interpretive papers.

The above discussion could be considered naïve, since career advancement, particularly in the USA, tends to be strongly weighted towards publications in the “best” journals, which are normally taken to be those in the mainstream. In the case of IS, positivism is still the underlying philosophy of most articles published in the mainstream journals, and it is understandable if authors choose to follow this route. However, orthodoxy has its own perils, since it is not immutable, and the orthodox in a few years time may well have shifted. In addition, individuals are capable of making judgements that take account of criteria other than narrow self-advancement, and may choose to focus on interpretive or critical approaches if they find them more satisfying for their work.

The interpretivist school is not homogeneous in its knowledge claims, as we saw in the analysis of the rhetoric used to justify various interpretive positions, which were classified on a scale from “weak” to “strong” rhetoric. Some interesting connections could be observed between the tone of the rhetoric used and the publication outlet in the examples given earlier. The mainstream IS journals only contained the “exploratory study” rhetoric or “complementary research” rhetoric, whereas the stronger “appropriate research issues” or tacit knowledge rhetoric could be found in the alternative journals. It is not clear whether this arose because authors change their rhetorical style to suit the discipline of a particular journal, or whether the authors who genuinely support weaker interpretive claims tend to aim their work at the more orthodox journals. In any case, we can conclude that rhetoric plays a vital part in justifying claims for interpretivism in IS research, and thus that further investigation of this previously unexplored phenomenon would be worthwhile.

So where is interpretivism in IS research going in the future and will we see more interpretive papers in the mainstream IS journals? On the one hand, it could be argued that the noticeable shift towards interpretivism in the editorial policy of journals such as *MIS Quarterly* is of recent vintage and thus, given the time lags in carrying out research and publishing it, we might expect to see significant response to the policy change a year or two from now. On the other hand, one could argue that no such response is likely to occur, since it is safer for authors to stick to positivist orthodoxy. A further support for this latter view is that positivist research is typically less time consuming than interpretive methods such as ethnography, certainly in elapsed time terms, and thus authors are likely to choose the former in response to our “publish or perish” age.

This paper has aimed to contribute to the sociology of IS research, with particular reference to the interpretivist school, but the scope and depth of coverage of the topic could be valuably extended by further research. Firstly, a vigorous debate on similar issues has taken place in other disciplines than IS (see, for example, Guba (1990) in the field of education), but space restrictions did not permit any comparisons with these other fields, or a discussion of their mutual relationship with IS. Secondly, many other issues are relevant if one were attempting to provide a fuller picture of the

network of the IS interpretivist school, including personal relationships, promotion committees, conferences, and the composition of editorial boards. A fuller genealogy of interpretivism in IS would require a much broader study than has been described here. Nevertheless, it is hoped that the paper will provide a valuable reference point for any future work in this domain.

Finally, concepts from the work of Latour have been used to aid the discussion throughout, and it seems appropriate to end by turning the analysis round on to this paper itself. Who is this author trying to enrol, how does the paper aim to translate their interests, what rhetoric has been employed to achieve this, and what network is being affected? The target audience for enrolment is all IS researchers, but those likely to be influenced could be considered to be researchers with interpretive leanings. The paper attempts to define their interests as being served better by explicit recognition and discussion of the interpretivist position in IS. Rhetoric is employed throughout the paper to present interpretivism in a generally favourable light; for example, even the title of the paper has rhetorical force, since it implies that interpretivism *has* emerged, and perhaps by implication will continue to grow. The author's aim is to contribute to the building of the interpretivist network in IS research, although no author can be sure that such intentional actions have their intended consequences.*

* Susan Leigh Star, Associate Editor. This paper was with the author 1 month for 1 revision.

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