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The Origins

The first decade of the Philosophical Foundations mini-track at AMCIS has come to an end. Ten years of a lively discourse on a variety of topics hinging on philosophy, systems theory and ethics have left the core supporters of the track emotionally attached to the community of participants and the international effort that first grew out of the frustration of four individuals (Bunker et al., 2004, 2005) who felt strongly about promoting a more philosophical, systems-theoretical and ethical agenda for the information systems research field.

At the time, it was difficult to find conference forums or publishing outlets for articles that built upon philosophy, systems theory or ethics. The general feeling amongst the founding members of the track was that the IS field considered ideas of many world-class philosophers too detached from IS research practice to be interesting or important. Similarly, systems theory had fallen out of fashion despite the fact that the very ideas of a computer and an information system originated from the concepts of that theory. Global computer networks finally provided us with the technological basis for realizing systems envisioned by others decades earlier. Our final concern was that using information technology to solve wicked, global-ethical problems such as starvation, poverty or disease seemed way down on the list of the field's research agendas.

About The Discourse

The first nine years of the Philosophical Foundations of Information Systems mini-track have been reviewed twice (Bunker et al., 2004, 2005). These papers summarizing the first eight and nine years of the track conclude that published papers represent a wide variety of themes and topics. While themes around philosophers, systems theory and ethics have been prevalent, no one topic, theory, philosophy or research approach has dominated. Moreover, while countries like the U.S., Australia and England often appear on the list of authors, the complete list of authors represents a bulk of the world.

Since plenty of the mini-track has already been documented, we are focusing on the discourse. What were some of the topics and concerns of the authors of the track? We exemplify some of the discourse of the mini-track in Table 1 (paraphrased for brevity).

We have included all presenters of the first two conferences and some highlights of the tenth year of the track.

AMCIS 1 (Pittsburgh) (A Panel preceding the inception of the mini-track):
"Philosophy is an important reference discipline in the IS field." *(Haynes, Hirschheim, Hodges, Porra)*

AMCIS 2 (Phoenix) (The First Philosophical Foundations of Information Systems Mini-Track):
"The identity of the IS field is closer to philosophy than science." "Information technology becomes bundled with a number of philosophical presuppositions." *(Seni, Hodges)*

"The most important question for the IS field to ask concerns the nature of humanness because the field is involved in the design of human computer based systems." *(Porra)*

"Philosophy can be useful for understanding group problem solving, because the nature of the problem a group attempts to solve affects its approach to validate truth." *(Rana, Turof, Czech)*

"The underlying assumptions of expert systems don't hold for general-use expert systems." *(Cass)*

"Knowledge based systems are usually expert systems, but expert systems do not work well in this new role, because they cannot react to user-provided data." *(Musshoff, Zhang)*

"With human intervention, cybernetic systems capable of environmental scanning can introduce intentionality or wisdom into an information system." *(Wyman)*

"Since the information systems research field is moving toward interpretivism, it might benefit from a Lakatosian model, which suggests a harmonious co-existence of positivistic and interpretivist approaches." *(Bharadwaj)*

"An information systems architecture can be designed based on a framework of general systems theory and Greco-Roman architecture." *(Saraswat).*

"Information system users perceive information systems as corresponding to real world states of affairs through logical models, but designers of information systems must produce a formal specification of these. The interplay of the two ways of perceiving the world should show throughout the systems analysis and design process." *(Gregory)*

"A discipline is not a profession. A profession can be made up of a variety of disciplines overlapping with other professions." "Tools are a visible sign of assumptions of a discipline. Within a discipline there are three roles: a tool maker, tool user and the inheritor of the discipline." *(Bunker, Dean)*

"Universities are competent on delivering content knowledge, but the concept of developing skills is not as well developed." *(Chaudhury, Mallick, Rao)*

"IT has been a catalyst for the postmodern movement -- actually stimulating its growth, but how does one distinguish between modernist and postmodernist IT?" *(Wells)*

"Managers consider investments in ISs against the backdrop of continuous organizational change. The objective of the field should be to find better ways of thinking about change and adaptation." *(Kanellis, Paul)*

"Both philosophers and scientists are unable to find agreement on central concepts let alone their validation. In that sense, we are in good company. Einstein had little evidence supporting this conception of relativity when he first proposed it." *(Khazanchi)*

"Soft System Approaches may be desirable, but to make them feasible in information systems design requires that we understand what "free will" means in a context of patterned, apparently rule-covered behavior toward clear objectives." *(Probert)*

"Most commonly used ethical principles are insufficient to help decision-makers to deal with cultural diversity. AIS should establish a cross-cultural code of behavior for IS researchers and professionals that considers the issues of cultural variation." *(Cohen)*

"Designing information systems has not kept up with aesthetics: the true, the good and the beautiful. The design practices have remained within the Lockean tradition or reliance on supposed unproblematic facts." *(Ivanov)*

AMCIS 11 (Omaha):

"Since IS artifacts are purposeful creations intended to create new realities, alternative ways of explaining phenomena such as intentional action, adaptive behavior and environmental and cultural selection are needed." *(Hovorka)*

"Historical research may help close the gap between theoretical and practitioner knowledge." *(Beachboard)*

"Heidegger's phenomenological view of history in *Being and Time* can help developing criteria to evaluate e-heritage information retrieval systems." *(Monod, Klein)*

"In the Kuhnian sense, the information systems research field has matured. It has developed many normal science research streams. In order to continue the growth, the field has to go beyond the IT artifact in search for discoveries that will create revolutions within the field." *(Taylor)*

"Semiotic analysis helps in interpreting the ways different organizations afford meanings to positive and negative events and how this knowledge affects business processes." *(Susarapu, Dhillon)*

"Understanding Churchman's inquirers and their characteristics may be critical to the direction and focus of future knowledge management research." *(Peachey, Hall)*

Table 1. Some highlights of the discourse in the Philosophical Foundations of Information Systems mini-track.

Some Patterns

Another way of analyzing the history of the track is to search for patterns. In our analysis, we have included all papers including keywords philosophy/philosophical, systems/systems theory, assumptions, foundations, and ethics. The graphs will show how many papers the track had each year that listed these notions as keywords or included these words in the abstract.

One pattern that emerged in the analysis was a wave. With this, a topic or notion appears, gathers interest, and then subsides. This could be followed by another wave of interest. This is illustrated for the topic of design and development in Figure 1. In it, each dot represents a mini-track paper which contains the keyword or abstract terms of design and development. The dots are aligned with the year of publication. The emergent pattern shows the first wave beginning in 1996, followed by another wave starting in 2002.
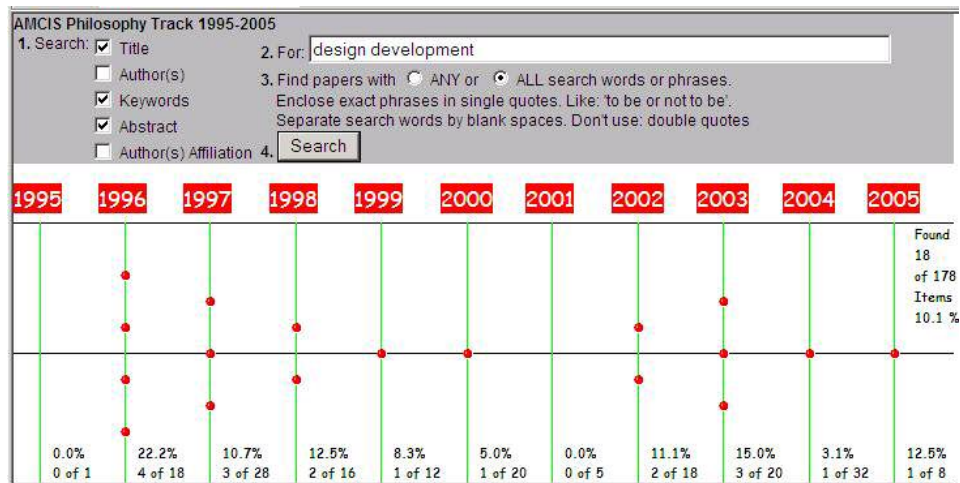
Figure 1. A wave pattern for the mini-track topic of design and development.

Similarly, the issue of knowledge management appeared in waves. This is shown in Figure 2.
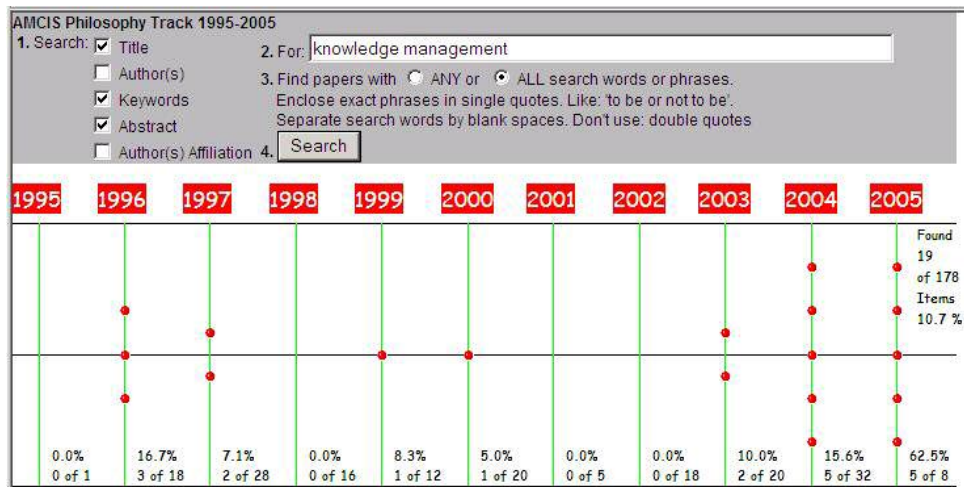
Figure 2. A wave pattern of mini-track papers about knowledge management.

Another pattern occurred for recent phenomena where papers appeared suddenly when the topic was popular. For example, e-commerce was first used in 1999 as a mini-track keyword or abstract term. Its pattern is shown in Figure 3.

AMCIS Philosophy Track 1995-2005
1. Search: ☑ Title   2. For: commerce
             ☐ Author(s)   3. Find papers with ⦿ ANY or ○ ALL search words or phrases.
             ☑ Keywords   Enclose exact phrases in single quotes. Like: 'to be or not to be'.
             ☑ Abstract   Separate search words by blank spaces. Don't use: double quotes
             ☐ Author(s) Affiliation 4. [Search]

| 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |

Found 5 of 178 Items 2.8 %

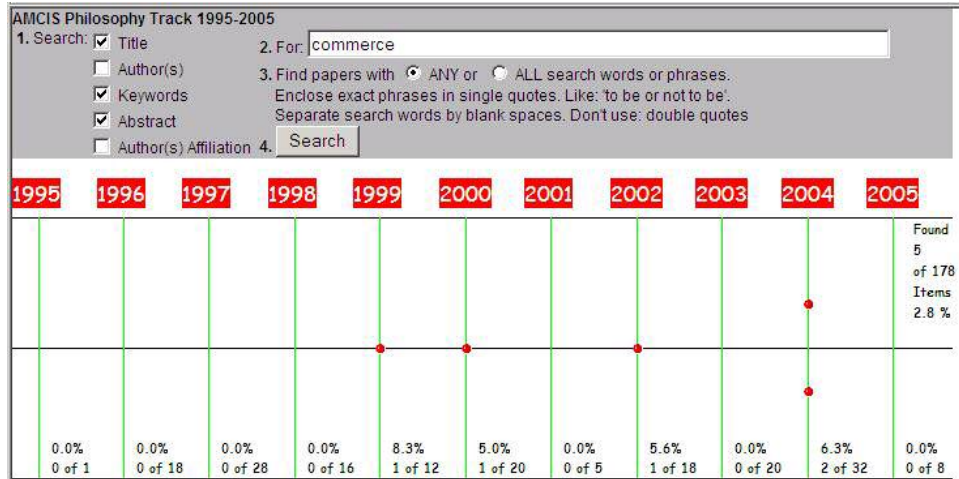| 0.0% | 0.0% | 0.0% | 0.0% | 8.3% | 5.0% | 0.0% | 5.6% | 0.0% | 6.3% | 0.0% |
| 0 of 1 | 0 of 18 | 0 of 28 | 0 of 16 | 1 of 12 | 1 of 20 | 0 of 5 | 1 of 18 | 0 of 20 | 2 of 32 | 0 of 8 |

Figure 3. A recent phenomenon pattern for the topic of e-commerce.

A pattern of fairly consistent appearance was found for the Philosophical Foundations mini-track terms of phenomenology, inquiring systems, epistemology, ethics, and frameworks. This is expected given the nature of the mini-track. A representative pattern diagram is shown for inquiring system in Figure 4.

AMCIS Philosophy Track 1995-2005
1. Search: ☑ Title   2. For: Churchman inquiring
             ☐ Author(s)   3. Find papers with ⦿ ANY or ○ ALL search words or phrases.
             ☑ Keywords   Enclose exact phrases in single quotes. Like: 'to be or not to be'.
             ☑ Abstract   Separate search words by blank spaces. Don't use: double quotes
             ☐ Author(s) Affiliation 4. [Search]

| 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |

Found 25 of 178 Items 14.0 %

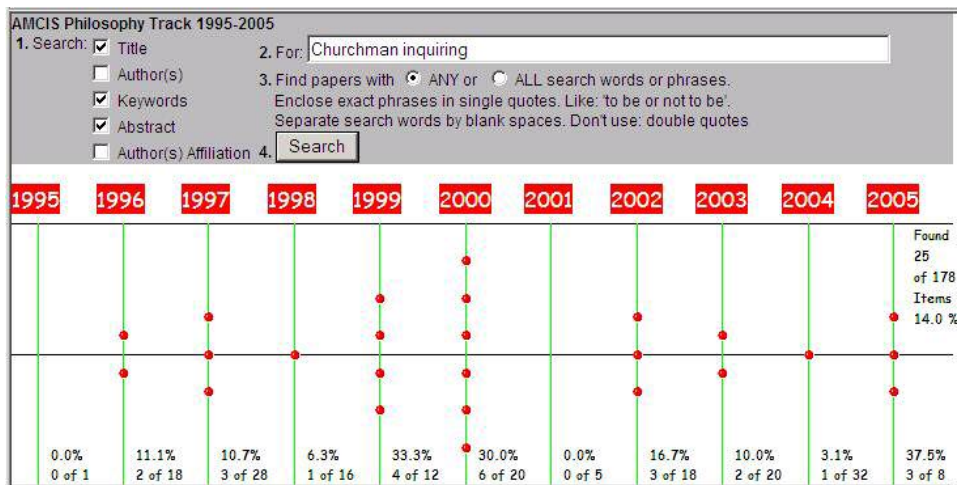| 0.0% | 11.1% | 10.7% | 6.3% | 33.3% | 30.0% | 0.0% | 16.7% | 10.0% | 3.1% | 37.5% |
| 0 of 1 | 2 of 18 | 3 of 28 | 1 of 16 | 4 of 12 | 6 of 20 | 0 of 5 | 3 of 18 | 2 of 20 | 1 of 32 | 3 of 8 |

Figure 4. A consistent interest pattern for inquiring systems.

A final pattern that emerged is that of a spike for the keyword ontology/ontological. This is shown in figure 5. Clearly, it shows a burst of activity in 2004.

AMCIS Philosophy Track 1995-2005
1. Search: ☑ Title
☐ Author(s)   2. For: ontol
☑ Keywords   3. Find papers with ○ ANY or ● ALL search words or phrases.
☑ Abstract   Enclose exact phrases in single quotes. Like: 'to be or not to be'.
☐ Author(s) Affiliation 4. [Search]   Separate search words by blank spaces. Don't use: double quotes

| 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |

Found 25 of 178 Items 14.0 %

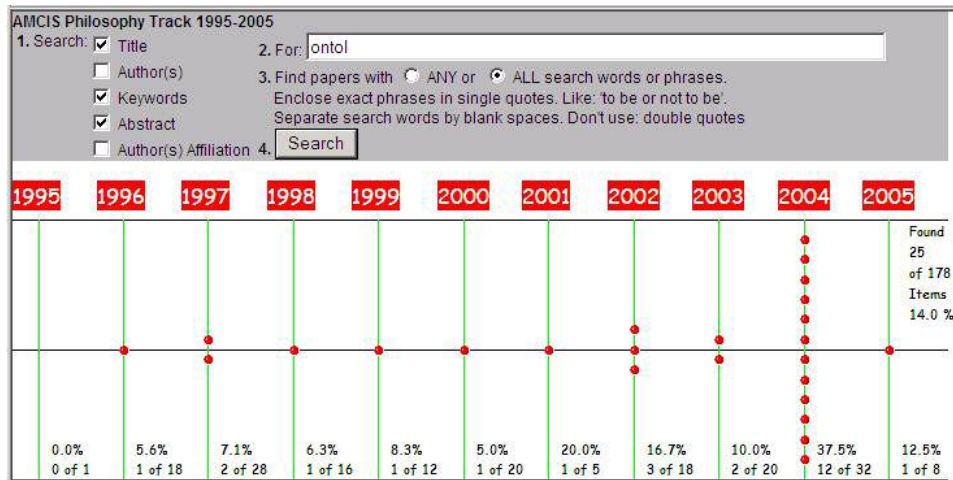| 0.0% | 5.6% | 7.1% | 6.3% | 8.3% | 5.0% | 20.0% | 16.7% | 10.0% | 37.5% | 12.5% |
| 0 of 1 | 1 of 18 | 2 of 28 | 1 of 16 | 1 of 12 | 1 of 20 | 1 of 5 | 3 of 18 | 2 of 20 | 12 of 32 | 1 of 8 |

Figure 5. A spike in the number of papers regarding ontology.

Analysis of keywords and abstract terms resulted in interesting activity patterns. It showed that some topics appear consistently while others come and go in waves. And interestingly, one topic gathered a large amount of activity that was concentrated over a short time frame to form a spike.

Some conclusions

The patterns presented in this section present only a preliminary sample of a more comprehensive search for patterns occurring in the Philosophical Foundations mini-track over the past decade. We hope that a more comprehensive analysis will shed light on the evolution of this mini-track in terms of topics and the overall direction. We also believe that similar analyses of other AMCIS mini-tracks and tracks of other IS conferences can serve as a concrete foundation for understanding the past, present and future of the Information Systems Research Field.

Since the inception of the Philosophical Foundations mini-track some things have changed. The field's main publishing outlets, <u>Information Systems Research</u> and <u>Management Information Systems Quarterly</u> have both published articles with far reaching philosophical underpinnings (i.e., Porra, 1999), articles based on systems theory (i.e., Porra, et al., 2005). Moreover, in the light of the recent events relating to terrorism, monumental corporate fraud and natural disasters journals such as these will undoubtedly welcome articles with ethical concerns. With the growing popularity of interpretive research approaches the awareness of the need to disclose the ontological and epistemological stances has increased. In all these areas, however, more work needs to be done.

Moreover, the 40-year old field is still struggling to understand its own meaning (Benbasat and Zmud, 2003; DeSanctis, 2003, Ives et al., 2004). This debate is primarily based on individual viewpoints and loosely relating theories. The task of philosophy is to reflect upon fundamental assumptions and the subject matter of disciplines like ours.

While thought provoking and interesting, the current debate about the IS field can provide for a philosophical discourse for years to come.

In the area of systems theory, an encouraging sign of the changing attitudes of the field are public announcements of prominent scholars calling for *"putting the system back to information systems"* (Lee, undated). Replacing information systems notions with "Web-sites" and "business processes" has left scholars and practitioners without a way of bridging between human activity and the IT-artifact. Without a system concept, complex and consequential interactions between the two are often missed. This is reflected in the words of one Systems Analysis and Design class student working on implementing a *Customer Relationship Management System* for a non-profit health care provider: *"They don't have a Web site, so there is no system to investigate."* Not emphasizing the systems concept may lead to conceptions of information systems being not much more than fancy electronic brochures.

Also in the area of ethics, work remains to be done. For decades, scholars like Churchman, Mumford, and Mason have reminded IS scholars that information systems should be used for the betterment of human kind. To date the field's most prominent journals do not articulate their ethical stances. Moreover, few papers published in IS journals have a clear ethics. Achieving global good (Porra, 2001) largely remains an individual inclination. While there is no reason to doubt that most IS scholars hold high personal ethical standards, the next step should be to make this stance public.

Exemplified by central messages of the authors above, the mini-track has served a purpose as a forum for bouncing novel ideas about the field, information systems and people who design and use them. We have seen far reaching concepts and ambitious ideas leaving many in the audience baffled about how to implement them. For certain, anyone attending the track has received plenty of food for thought concerning the processes by which some ideas turn into the fabric of a field while others remain in the periphery. An important contribution of the track is to acknowledge that all ideas are important as long as they can be made useful. In the process, the participants of the mini-track have become part of a small but tenacious community of minds who will undoubtedly continue to push the boundaries of status quo by questioning whether we have in fact even begun to understand what humankind can do with computers.

The future of the Philosophical Foundations of Information Systems looks bright. The track is based on a timeless agenda and an evolving topic. Philosophy of information systems may go in and out of mainstream, but as an area of investigation, it is not about to disappear as long as humans continue to use computers.

It is human nature, however, to ponder about the future of the track. We see at least two alternative directions to take. The Philosophical Foundations of Information Systems track could continue as is. It seems that it continues to attract a steady and faithful following to the foreseeable future.

Another, a more ambitious route would begin with an inventory of the history of the track as exemplified in this paper. The purpose of such inventory would be the identification of potentially viable sub-tracks and their authors. The purpose of the main-track would thereafter be to foster and support an independent evolution of the sub-tracks in the spirit the Philosophical Foundations of Information Systems participants are accustomed to. Whichever future the track will decide to choose for it self, we are convinced that it has grown a core fully capable of expanding the philosophy of the track onto other good and kind endeavors alike.

References:

Benbasat, I. and R.W. Zmud (2003). The Identity Crisis Within th IS Discipline: Defining and Communicating the Disciplines Core Properties. *MIS Quarterly*, 27, 2, pp. 183-194.

Bunker, D., Cole, M., Courtney J.F., and JD. Haynes (2004). A Philosophical Foundations of Information Systems (PFIS): Past, Present and Future Directions. *Proceedings of the Tenth Americas Conference on Information Systems*, New York, NY, (August) 2004, pp. 4189-4194.

Bunker D., Cole, M., Courtney, J., Haynes, J., and S. Richardson (2005). Philosophical Foundations of Information Systems: A Review of the First Ten Years. *Proceedings of the Tenth Americas Conference on Information Systems*, Omaha, NE, (August) 2005, pp. 8266-8269.

DeSanctis, G. (2003) The Social Life of Information Systems Research: A Response to Benbasat and Zmud's call for Returning to the IT Artifact. Journal of the Association for Information Systems, 4, 7, (December) pp. 360-376.

Ives, B., Parks, M.S., Porra, J. and L. Silva (2004). "Phylogeny and Power in the IS Domain: A Response to Benbasat and Zmud's Call for Returning to the IT Artifact" *Journal of the Association for Information Systems*, 5, 3, pp. 108-124.

Lee, A. (undated). "Five Challenges to the IS field," *http://www.people.vcu.edu/~aslee/bitworld/sld003.htm*.

Porra, J. (1999). "Colonial Systems," *Information Systems Research*, 10, 1 (March), pp. 38-69.

Porra, J. (2001). "A Dialogue with C. West Churchman," *Information Systems Frontiers*, 3, 1, pp. 19-27.

Porra, J., Hirschheim, R. and M.S. Parks (2005). "The History of Texaco's Corporate IT Function – A General Systems Theoretical Interpretation", *MIS Quarterly*, 29, 4 (December, 2005) pp. 721-746.