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MAPPING THE CONCEPTUAL DOMAIN: A CONTRIBUTION TO THE 'THEORY / PRACTICE' DEBATE.

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ABSTRACT

Despite the recent debate on the relevance of theory to practice, we may be sure that successful practitioners do indeed have theories or mental maps that guide them along their intended course. By linking material maps of the physical world to theories of the social, this paper suggests that features of maps and mapmaking can help us understand more of the nature and purpose of theory.

I. INTRODUCTION

It has or it might have been said that when the Italian entrepreneur Cristoforo Colombo set out from Spain on the first of his now famous voyages in 1492, he really didn't know where he was going. Furthermore, when he 'got there' he didn't have a clue where he was. And then when he finally returned to Spain in the following year, he couldn't say with any certainty where he had actually been! Maybe so – but the fact that evolved, is that Columbus (as he is better known) was more or less able to reproduce this feat on three subsequent occasions. It would seem to be the case that if he did not possess a map at the outset, then we might at least be sure that he was able to produce a workably decent one at the time¹.

Aspects of this anecdote deserve deeper attention and we might return to a couple of points to conclude the story. But the principal purpose of its telling here is simply to establish a position from which to comment on the recent and unprecedented ISWorld debate that focused broadly on the 'relevance of research', whatever this might be taken to mean.

Some may recognize or interpret the debate as a variant on the seemingly perennial 'theory versus practice' dichotomy that as we shall see, has been around for centuries. Others may not. The position taken here is that material maps and social theory (or mental maps) may be treated as essentially the same thing – material maps are theories about the natural or physical world, while theories are in turn maps of the social, or conceptual world. They are both tools intended to help us navigate, understand, convey, discuss and share our experiences with others, including the facilitation of learning that would not otherwise be possible. To extend the metaphor a little – research and its methods are a form of conceptual cartography with which considerable equivalence may be found in the techniques, activities, and tools of geophysical mapmaking. If so, then it might be reasonable to assume that by reflecting on what we know of maps and map-making, something in turn might be learned of the nature and purpose of theory, and perhaps even its relationship to practice.

Before proceeding further, this position paper should be considered only as initial thoughts on this topic – criticisms, corrections, and comments are thus all welcome. In the next section some of the broader issues and features of maps (and by inference theories) will be identified for consideration. Some implications of these issues will then be briefly discussed together with concluding remarks in the third and final section of this short paper.

II. ISSUES FOR CONSIDERATION

The idea of theory as map is not particularly new or innovative. For example Ziman [1978], argues the case with far more elegance and authority than is possible here. Additional ideas of particular excellence pertaining to maps and the social issues surrounding their construction, can be found in Wood [1992], and it would be hard to imagine a more fascinating and intelligent commentary on issues of wider metageographical conceptual representation than in the work of. Other foundations for the views expressed here lie in the work of social theorists, especially those architects of Actor-Network Theory such as: Latour [1987, 1999], Callon [1998], and Law [1999], among others.

MAPS

Maps lie – or at least they seriously misrepresent! To put it another way, it is not possible to depict a three-dimensional sphere, such as the world, accurately on a flat two-dimensional plane without considerably distorting the relationships of relative sizes and distances. In addition, traditional maps of the world promoted, and continue to promote an ethnocentric vision of the world that favors the Northern hemisphere, and in particular, Western Europe (which in these terms includes the USA).

Since only a full-scale replica of the world could accurately depict the world, then it is clearly necessary NOT to show many things. Decisions about what needs to be excluded means that maps can never be disinterested (see below). Can we extrapolate from this assertion that theories in IS can never capture the full richness of the social milieus they purport to represent (even if they do look good on a 2 x 2 grid)? Certainly. As with maps, exclusion decisions are necessary for the packaging of a theory (paper writers have to make decisions about what not to include in their work for example). And ethnocentric? Without doubt the IS research view of the world is an overwhelmingly Anglo-Saxon middle-class one that others I am sure, will be able to illustrate far more adequately than space allows for here.

Maps embody a history they help construct. They mark historicity – indeed they create a topology of history itself, and like the problems with ethnocentric geography, similar criticisms can and have been leveled at traditional historians and their accounts (for a first-class critique see Hodgson [1993]. These accounts often depict history as a class-driven series of sequential events that are causally conjoined. British history for example, is almost entirely defined in terms of royalty (kings and queens), their battles and the resulting changing face of empire, just as world history largely and traditionally was defined in terms of a few western European countries and their aristocracies. Sub-Saharan Africa, according to the conventional story, contributed almost zero over the last 500 years of world history. Do theories play a similar role in the history of the IS world? Well, the current debate began with a request as to what theories might have had any significant impact on IS practice. QED?

Related to the idea of historical construction, maps do not grow or develop, although the skills of mapmaking (research tools and methodologies) do. Maps therefore sooner or later become out of date as geological and political landmarks change. Thus, new and usually technically improved maps are drawn. Similarly, specific social theories may become outdated or outgrown. This author has argued such a case for classical diffusion theory for example [McMaster, 2001, McMaster et al., 1999, 1997] as new socio-technical models evolve (such as 'Actor-Network Theory' mentioned above) that seem more adequately equipped to provide better explanatory frameworks than those they replace.

Maps serve the interests of their makers. Ask a McDonalds fast food outlet for a map of the city or region you happen to be in, and the map you see will be defined in terms of McDonalds outlets. The Hereford Mappa Mundi may have been a 'theory' about how medieval English pilgrims could get to Jerusalem and back again, and Pakistani and Indian maps of that region variously show Kashmir as part of those respective countries. Interests then might be commercial, religious or political, or they might serve some other purpose entirely, but although often masked, disguised, or hidden, those interests are nevertheless present. What or whose interests are represented and served by IS theories? Most doctoral IS candidates no doubt have very specific ideas about this!

Maps construct - not reproduce - the world. The usual perception is that maps somehow objectively mirror reality, when actually they are collections of opinion, guesswork, estimates, notions, pragmatic decisions, and other amorphous elements that contribute to the imbroglia of their (social) construction. The result is that rather than 'mirroring' reality, maps offer instead a window or lens on reality that colors, clouds, distorts, and otherwise affects how we see and interpret the world. Maps may be said to *create* the world. Consider Columbus's first landfall in the Caribbean. Was this strange land upon which he'd arrived perhaps Cathay? Could it have been Cipango? Or might it instead be islands off the coast of India reached by his unusual Western approach - Westwards India? Yes, that seemed likely and certainly would do. Having made such a decision, he threatened to 'cut out the tongue' of any man who said that it was otherwise! A powerful argument - and the islands are thus now known as the 'West Indies'.

Maps empower by working. If maps work by serving interests, that they do work at all is truly remarkable. The London underground map provides an excellent example of a very successful theory about how to get around England's capital city reliably. The highly stylized material 'map' however bears little resemblance to the geophysical world it purports to represent, yet most people are able to use it successfully. Thus by 'working', maps and theories may be said to empower their users, as well as of course their attributed authors.

There is much more that might be said about maps, but we will now try to draw some tentative conclusions.

III. DISCUSSION AND CONCLUSIONS

One issue of considerable importance is clearly the relevance of particular maps or theories to their intended use. An amusing but true story was recently reported in the UK's national news media about Mr. Eric Abbott, a 56-year-old yachtsman and retired painter from Cheshire in Northwest England. On the 10th August 2000, Mr. Abbott was rescued by the Royal National Lifeboat Association (a voluntary coastguard rescue service) for no less than the eleventh time. In the last year alone he cost about £55000.00 in coastguard rescue bills. It was found that he had been using AA Roadmaps (the UK equivalent of the American AAA or Rand McNally Road Atlas) for inshore and offshore navigation in the Irish Sea! Mr. Abbott remains unrepentant, but took up the offer of a free Royal Yachting Association navigation course [Guardian, 2000]. Clearly maps and theories should be fit for their intended purpose.

Whether practitioners have a use for theory, however, seems to be something of a non-issue. If a practitioner by some twist of unlikely good fortune were to blindly 'stumble across' unexpected success the first time, perhaps as some believe Columbus through sheer good luck might well have stumbled across La Isla Española, it could never be repeated. But it is! And it is repeatable precisely because practitioners have at least an internal mental map (theory) about how to conduct such activity. One problem for practitioners at least in some organizations is that they don't necessarily get opportunities to reflect on how they conduct their practices. This problem may be due to commercial pressures and the need to move on quickly from one job to another. Nor can they find the time to articulate their ideas, perhaps in writing, for the purpose of learning, sharing, and discussion with others inside or beyond their organizational boundary. It may be the case that they might not actually want to share their ideas with others - information has long been thought of as synonymous with power. Why would they want to divulge the secrets of their

success to others? Furthermore, in many organizations even the most trivial and well-known theories are often treated as "Company Confidential".

It seems to me that the really important issues in this general area are those that focus on ways and means of encouraging collaboration and learning between researchers and practitioners. Action research, as it has become known in IS research as in other domains of the social sciences, offers the most promising prospects currently available for achieving and building such collaborative relationships. Much has been written about action research over the years including Sandberg [1985], Avison [1998], and Iau [1997], but I would recommend the recently published Reason and Bradbury [2001] for those interested in exploring in greater depth participative methods of researching and working. Lack of space prohibits detailed discussion of action research here. However in brief, it is a systemic approach that emphasizes research 'with' rather than 'on' people, participative and collaborative relationships between 'researchers' and 'practitioners' (including rethinking and redefining these very terms!), and importantly, on the kinds of mutual learning that becomes possible as a result of such synergic arrangements.

Let me finally conclude by returning to one or two interesting features about our Italian friend Columbus. If he didn't know where he was going, where he was, or where he had been, then the most remarkable aspect of the story for IS researchers must surely be that he managed to undertake this highly speculative voyage at someone else's expense! His proposal must have been truly impressive – so much so that the Spanish monarchs, Queen Isabella and King Ferdinand fully financed the trip in its entirety. What might we lesser mortals learn from such a document if it were available?

Others however may not have been quite so impressed. Could it perhaps have been the same event that inspired Columbus's equally famous contemporary and fellow countryman, Leonardo da Vinci, to observe that, *"he who loves practice without theory is like the sailor who boards a ship without a rudder and compass, never knowing where he may be cast"* [Kline, 1972]?

END NOTES

¹ There is an argument and at least a possibility that Columbus had access to something similar to the so-called 'Vinland Map', a (reputedly) medieval Viking map showing much of the lands of the North Atlantic, including the eastern coastline of Newfoundland. The Vikings had established a settlement in North America 500 years earlier, and Columbus was certainly known to have had trading links with their Icelandic colonies.

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Tom McMaster joined the University of Salford in 1993 where he works as a lecturer and researcher in Information Systems at the University's Information Systems Institute. He is a member of IFIP WG8.2, the AIS, and a founding member of IFIP WG8.6, the IRIS Association (Information Systems Research in Scandinavia), and the UKAIS. His research interests include both the theory and the practice of information systems, including the development of new explanatory models based on emerging social theory (e.g. Actor-Network Theory), Systems Thinking (especially the use of 'Soft Systems' Methodologies), process improvement, and the implementation of new technologies for use in organizational settings.

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