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This is the author version of an article published as:

**Foth, Marcus and Odendaal, Nancy and Hearn, Gregory N. (2007)
The View from Everywhere: Towards an Epistemology for
Urbanites. In Proceedings 4th International Conference on
Intellectual Capital, Knowledge Management and Organisational
Learning (ICICKM), Cape Town, South Africa.**

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The View from Everywhere: Towards an Epistemology for Urbanites

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Abstract: Information and knowledge management in line with a traditional epistemology equates knowledge with science. This approach assumes that knowing is trans-historical and universal, and strives to arrive at unassailable justifications for truth claims by defining the necessary and sufficient conditions for which a proposition is known to be true. Imagining an idealised knower, without emotions or history, the goal is absolute abstraction and universal solutions. Traditional epistemologists operate under the assumption that certainty is only achieved by stripping away all but the bare reasoning required to make inferences; thus rendering the social, historical and economic context of the knower irrelevant. The perspective of this idealised knower is a 'view from nowhere' (Nagel, 1986). In this paper we analyse and critique this view in the light of its applicability to the situation and needs of urban dwellers. The findings of our analysis allow us to call for a broadening of knowledge discourse beyond science and technology. We argue for the development of an epistemological model which takes into account and values transitory, informal, soft, implicit, contextual and tacit forms of knowledge, and its sources and utility outside the hard sciences. This model requires policy changes towards a democratisation of knowledge production and exchange and an acknowledgement of the significance of supporting education and urban community networking as mechanisms which enable knowledge sharing and participation in knowledge societies. Our proposed epistemological model supports a 'view from everywhere'. We hope it can uncover policy as well as technical opportunities and help inform ways and approaches to enable the social and community appropriation of information and communication technology for local knowledge production and exchange.

Keywords: urban informatics; epistemology; knowledge management; cities; urban studies; information and communication technology; tacit knowledge, contextualisation; social networks; South Africa

1. Introduction

The emerging dialogue between the two relatively young disciplines of community informatics and knowledge management is promising to deliver a better understanding of the way knowledge is created, embedded, communicated, stored, shared and managed in community settings. At the core of community informatics research are people and technology. Specifically, community informatics considers the application of information and communication technology (ICT) for the socio-cultural and economic development of communities (Gurstein, 2000). Evoking connotations associated with information systems and information science, the term 'informatics' refers to the task of processing, storing and retrieving data. However, in human terms, perceived data becomes information, and comprehended information becomes knowledge (Rooney, Hearn, & Ninan, 2005). Although not yet widely recognised as such, community informatics – and more specifically here, urban informatics – as human-centred disciplines, are inherently connected to considerations of knowledge and knowledge management as a field of research and practice.

Knowledge, or even knowing, is the justified belief that something is true. Knowledge is thus different from opinion. Epistemology is the investigation of what distinguishes knowledge from opinion. This paper sets out to critique the apparently universal applicability of the dominant epistemology of the sciences and technology. We ask whether community informatics may require a different epistemological model for understanding knowledge in community contexts.

The term 'community' continues to be a chameleonic concept. It undergoes a range of appropriations and apparently flexible interpretations to accommodate a variety of contexts and rhetorical and epistemological needs. Additional complexity is added by the interplay between the dynamic nature of community formations and technology (Willson, 2006). However, tidying up this mess with a single and universally applicable definition or theory of 'community' is not satisfactory either, for the process of finding the greatest common denominators – 'people' and 'commonality' – strips the concept of its utility and meaning. Disciplines such as sociology, psychology, anthropology, philosophy and media and communication studies operate with sometimes differing, sometimes overlapping understandings of 'community'. DeFilippis et al. (2006) argue that communities need to be understood simultaneously as products of both their larger, and largely external, contexts, and the practices, organisations and relations that take place within them. This point of view sees community 'become the reflective dimension of society' (Delanty, 2000, p. 130). For the purpose of focussing our field of analysis to a feasible definitional scope, we will discuss the situation of 'urbanites' in this paper; that is, city dwellers, urban residents and citizens living in residential neighbourhoods and suburbs. For the purpose of our analysis we conceptualise them as being clustered in social networks, 'urban tribes' (Watters, 2003) and 'swarms' (Bonabeau & Meyer, 2001; Foth, 2006a; Satchell, 2003) rather than in homogeneous, collective groups.

Our paper is thus generally positioned across the triad of people, place and technology. This combination opens up a variety of research questions with significance. Aurigi, for example, asks whether socio-technical innovation in cities should be directed towards improving, augmenting and enhancing ‘information for an audience, services for customers, or networks for citizens?’ (2006, p. 19). These options imply different power-knowledge relationships between the actors and non-human agents of the city as well as different self and externally imposed identities. However, knowledge is always key in any of these options. Questioning the spatial as well as social assumptions that have prevailed in urban sociology to date, Amin draws on Latour (2005) to propose a trans-human urban sociology where ‘the social is considered to exist as an arena of enactment involving varied human and nonhuman inputs given life, meaning and purpose through processes of enrolment and alignment, rather than as a purely human field structured and differentiated by abstract rules, hidden essences, de-humanized structures, nature and technology held apart’ (Amin, 2007, p. 108). Illustrating non-human elements, he explains that, ‘code, timetables, traffic signals, zoning patterns, lists, databases, grids and the like, have become the indispensable ‘hidden hand’ of everyday organization’ (Amin, 2007, p. 110). These non-human agents and artefacts store and embed the codified and universally true knowledge of cities. If re-thinking the urban social requires a consideration of non-human forms, in reverse, we argue in this paper that an urban epistemology requires a re-consideration of human – that is, social – knowledge. This paper embarks on this process.

2. The View from Nowhere

Feminist Juli Eflin (2008, in press) uses Nagel’s (1986) phrase ‘the view from nowhere’ to characterise traditional epistemology:

Epistemologists in the traditional mould believe that the only way to achieve certainty is to strip away all but the bare reasoning needed to make inferences. It is also believed that anyone can achieve a close approximation of this ideal state, so it is perspective-less. All that is needed is careful reasoning in which you deliberately set aside any complicating emotions, goals or history. Hence, your context – socially, historically and economically – is irrelevant as are your individual goals and your emotions. In traditional epistemology, the perspective of the idealized knower is a ‘view from nowhere’ (Nagel, 1986).

This argument foregrounds the relationship between knowledge and individual ‘knowers’ and opens up a critique of expert power and its claims to be universal and absolute. Eflin considers questions about women (and other minorities) and the effects of power exercised on them via the cognitive authority of the typical white male expert. She argues that white, well-educated men and their ideas about knowledge are not necessarily representative of the views held in the rest of society and are not necessarily the best views. Rather than assuming the objective, culturally inert, and liberating nature of knowledge, she understands knowledge as culturally constructed and in service to particular

interests. In other words, 'knowledge has cultural baggage' (Hearn, 2002). Eflin raises legitimate concerns about epistemologies that have their roots in masculine preferences for decontextualised rationality. She rightly points to the narrow limits of this way of creating knowledge. Her call, however, is not one that seeks to simply position feminine and masculine epistemologies in competition with each other. Rather, it is a call to broaden our view of what constitutes legitimate ways to create knowledge and vouch for its justifiability.

In spite of the vast array of perspectives from which knowledge studies have emerged (including, for example, cognitive science, artificial intelligence, library and information science, and organisational science), the field is dominated by a concept of knowledge as 'complex information' (Hearn, 2002). Western concepts of information are positivistic and instrumental, with a focus on relations of 'exchange', and 'undersocialised', or in some cases *asocial*, views of information. Even Gregory Bateson's famous definition of information as 'differences that make a difference' (Bateson, 1979) – widely accepted in a diverse range of fields, including biology, psychology and information economics – is informed by an unproblematic perception of information's computational nature. Donald Lambertson, a pioneer of information economics, has suggested that for most theorists information 'tends to remain a general purpose, low cost lubricant, facilitating efficient market operation' (Lambertson, 1996). The influence of information science on the development of knowledge studies has helped to perpetuate this thinking.

3. Towards a View from Everywhere

We set out to understand the impact a view from nowhere has on the 'urban social' (Amin, 2007). The two key questions guiding this discussion are: What forms and appearances of knowledge exist in an urban context? And how are these forms of knowledge typically assessed and managed? Applying a traditional epistemological stance to the urban environment recognises objectified and codified knowledge as true and valid. The pool of data that is stored and represented by traffic signals, timetables, retail signage, official displays and urban screens provides a means to read publicly accessible and visible information which is universally applicable and supposedly the same for every recipient, that is, the collective city audience. Logos and emblems are placed in prominent positions to indicate knowledge authority. This is coupled with design strategies, such as consistency, hierarchy, repetition, and a mass communication approach of one-to-many. Official office bearers such as policemen and tourist guides wear uniforms and badges to indicate that the city information they communicate can be trusted.

What this view fails to recognise is the wealth of knowledge, wisdom and experiences collectively and privately held by each urbanite. Part of the reason why this type of knowledge is not congruent with the view from nowhere is the inherent difficulty of codifying tacit knowledge; for 'we can know things, and important things, that we cannot tell' (Polanyi, 1966, p. 22). Non-codified knowledge cannot be

universally and centrally assessed and managed. But does this mean it must be discarded? Cross and Borgatti (2004, p. 137) provide a quote of an informant illustrating that it is specifically the potential of personalised and tacit knowledge which makes it worthwhile to explore means to tap into the collective intelligence of the people around us:

Despite all the technology we have and the huge investment we make as a firm into it, people are the only way I get information that matters to me... Learning how to use the constellation of people around you requires understanding what they can and will do for you. In part this means knowing what they are good at and can be relied on for, but just as importantly, it means knowing to what degree you can trust someone or how to get them to respond to you in a timely fashion.

'Information that matters' can be the universally codified knowledge that a view from nowhere advocates. However, there are many situations where finding information that matters requires contextualisation; that is, the specific, individual circumstances and factors of the situation as well as the personal attributes of the actors and agents impact on the significance and relevance of information choices. Knowledge that is passed on through social networks of urban residents is not about universality. The diversity of strong and weak ties in urban social networks is a strength of cities and a source of both explicit and tacit knowledge which can ripple from its origin to the distant capillary fringes (Granovetter, 1973; Kavanaugh, Reese, Carroll, & Rosson, 2005).

The structural dynamics of networks are different from some of the other patterning mechanisms that urban planners take for granted; for example, hierarchies and grids. For example, Barabási (2003) and Watts (2003) suggest that the basic structure of what they term 'scale free networks' applies to many phenomena, including the physical structure of the internet, cellular metabolism, and networks of social relationships. This kind of network is composed of connected nodes: most are connected by a small number of links, whereas some nodes ('hubs') are connected by a large number of links while still retaining the basic distributive characteristics of the network; hence the term, 'scale free'. Thus, rather than evenly or randomly distributed, connections between nodes obey power curves, and the network operates via an internal logic and is 'self-organising'. Modern economies are characterised by the proliferation of these scale free networks (in transport and communication systems for example).

Hearn (2002) highlights the need to reconceptualise knowledge as embedded in networks of relationships – rather than only residing in individuals – and as culturally mediated. It is important to accentuate the emergent, socially constructed nature of knowledge and replace static conceptions of knowledge with an emphasis on knowledge culture systems (Peters & Besley, 2006). Framing knowledge as a 'social artifact' highlights social networks, processes, institutions and vested interests involved in its production and apprehension (Hearn, 2002).

Congruent with this emphasis is Eflin's (2008, in press) call for an epistemology that is relevant to lived experience based on the following four principles:

- understand 'context' robustly but avoid the extreme of naïve relativism;
- be cognisant of and attempt to avoid epistemic blindness;
- make values transparent as well as the relations between values and social policy, and;
- share cognitive authority.

In other words, Eflin asks that a range of epistemic voices be listened to; something like a democracy of ideas. This stance is consistent with a trend towards local, democratic, and alternative modes of knowledge production.

In terms of the job of knowledge policy production, any 'opening' or democratisation processes are not about idealism or ideological commitment. Rather, the central concerns are about institutional changes needed to facilitate bringing together the people, information, knowledge and other resources necessary to solve some of the complex problems we now face. Movements towards community engagement in urban planning, 'open science' in solving environmental problems are undergirded by new media tools like YouTube.com and legal platforms such as Creative Commons licensing to create new models of researching and solving urban problems.

4. Observations and Implications

As planners and urbanists, we have become aware of the limitations of viewing the city as a 'closed' system of social, economic and cultural interactions bounded in space and defined by a common view of what is 'truth', what is 'legitimate'. From an urban planning perspective the limits of master planning traditions and top-down impositions of blue-print plans have become particularly obvious given the growth of mega-cities such as Mexico City and Sao Paulo and their emerging African counterparts, Johannesburg and Lagos. The fast pace of growth, inequalities and grassroots dissatisfaction with limited opportunities have flummoxed the policy makers of the urban management tradition. Are we missing something? Is our understanding of urban dynamics and processes limited by our traditional definitions of what the city is and where its boundaries are?

Amin and Thrift (2002, p. 9) offer a re-imagination of the city that builds on three metaphors: *transitivity* that reveals the permeability and porous nature of city processes, relations and interactions; *rhythms*, created through multiple movements, experiences and interactions; and finally, *footprints*, the evidence left by history, daily movement and outside networks. The use of metaphor is useful in creating the conceptual spaces for deeper understandings of the relations between city spaces, people and social, cultural and economic interactions. These interactions and relations stretch beyond the spatial boundaries we define to be the edges of cities; they extend across time, geography and culture.

Building on this relational perspective, Simone (2004; 2005) reminds us of the city as a site of change, as a place where social transactions abound, where people use their networks, relations with friends, lovers, family and associations to make sense of the daily grind of African urban life. The terrain of urban governance and planning can no longer be defined in space or indeed, frozen in time. Nor can it be defined by the instrumental rationality that has traditionally informed interventions of the past. The terrain of the urban comprises a divergent range of intentions, communications and movements exchanged between a multiplicity of actors making sense of their life worlds; negotiating, scheming and bargaining. Defining what counts as legitimate and what is not; what knowledge can be harnessed for policy interventions, is an endeavour that needs to look beyond the modernist assumptions of scientific 'knowing'.

Preliminary research in Durban¹ indicates that not only is knowledge production an ongoing process that is highly contextual, but it can also be unstable. Representation of knowledge (e.g., on websites) is contingent upon need and the power relations within communities in determining 'what is important', 'what is worth knowing' and 'what should be shared'. Thus, even the definition of need can be negotiable. Findings thus far indicate two dimensions worth considering here. Firstly, social networks are highly fluid and the introduction of technology into those networks impacts. Technology is not value-free – and to think of it as being separate from urban life is to fall into the modernist daze that ignores the intricacies and complexities of urban life in the African context. Views of technology are often seen as male, white and Western. Introduction of this dynamic into a social network, findings indicate thus far, reveals the power relations between black and white, educated and non-educated, male and female as well as young and old. Knowledge, indeed, has baggage, and in the South African context, technology represents a specific 'type' or category of knowledge associated with progress, education and advancement.

Secondly, differences in views and definitions of knowledge cannot be underestimated. Sandercock (1998) reminds us that the terrain in which we plan is populated by diverse needs and 'other ways of knowing'; we need to be sensitive to the needs and voices of the marginalised. We need to cultivate and recognise 'an epistemology of difference' (Sandercock, 1995). Within the context of community networks, ways of knowing are continuously negotiated, the value of particular forms of knowledge is related to context and purpose. A group committed to craft production considers information on markets and availability of e-banking as valuable and useful; another group engaged in HIV/AIDS home care seeks to use their website to advocate the views of AIDS dissidents that favour traditional medicines over anti-retroviral drugs in the treatment of HIV. The latter may be seen as irresponsible and some may say ignorant, yet these views are legitimate to many living in semi-rural, marginal and predominantly Zulu, peripheral Durban. An understanding of the context and value-systems that informs 'other ways of knowing', creates the space for engagement, debate and healthy contestation.

¹ Action research is currently underway on the relationship between ICT and social networks amongst marginalised communities in Durban. The second author is engaged (together with other role players) in the development of websites for four community networks in the Inanda-Ntuzuma-KwaMashu area – an urban renewal project area of about 500,000 people.

Departing from the realm of the certain, the instrumental and the familiar terrain of the scientific rational is necessary to engage with 'what really is'. It requires a relational perspective that recognises the messiness of social processes and the constant meaning-creation that underpins the functioning of social networks. It can be an uncomfortable terrain for the policy maker and urban planner, especially with regards to understanding space and place. Simone and Gotz (2003) note that there is little coherence in these processes, little that can be pinned down for long enough in order for meaningful city policy making to occur. While, 'the traditional tools have been directed at tying identified actors to preferable behaviours in approved *territories* [...] displacement is accelerating and progressively eroding the conditions for clarity and certainty' (2003, p. 123, our emphasis). Not only are the transactional spaces that occur between individuals unlikely to correspond with physical spaces, but Simone and Gotz are of the opinion that 'African identities also display a remarkable capacity *not to need fixed places*' (2003, p. 125, emphasis in the original). Local space is the locus from where transnational and global frameworks are tapped into for enhancing opportunity in the local. The reference point may be local space but the associational processes that enable sense-making of the local requires broader mobilisation.

Swilling, Simone and Khan (2002) suggest that within the context of globalisation and market liberalisation, cities have become nodes in international market networks and trade intentions that may be more adept at excluding, rather than including. Relationships between poor urban citizens in African spaces need to be constantly reconfigured and renegotiated within a context of ongoing precariousness and general 'living on the edge'. African urbanity is not the outcome of modernisation processes that underpinned the North, but an organic renewal of 'behaviors, dynamics, activities and processes whose own logics are explicable in terms of the specificities of African cities' (2002, p. 313). Activities in cities may relate to survival in specific spaces, but enabling the engagement with the specifics of the local often entails the negotiation of social spaces across boundaries, markets and immediate spaces. African urban areas can therefore be linked in simultaneously different ways to 'national, regional, and global markets as well as different modes of production and spatial organization' (Simone, 2004, p. 239). The 'highly mobile social formations' (p. 2) are fluid manifestations of a rich, yet often insecure, associational life that underpin survival networks.

How then do we understand knowledge, what information assists us in intervening in a meaningful way? Clearly, the 'epistemology of difference' that Sandercock (1995) argues for requires an engagement with other manifestations of knowing. Thus, access to this information is not necessarily through reports, policy statement and documents, but may have to be gained through oral histories, story-telling and poetry for example (Foth, Hearn, & Klæbe, 2007; Klæbe & Foth, 2006; Klæbe, Foth, Burgess, & Bilandzic, 2007). Recognising the multi-cultural diversity aspects of cities, understanding differing ways of life, local knowledge and diverse points of view will reveal a diversity of urban experiences. Acknowledging situated and contextually significant knowledge opens the space for true engagement and dialectical processes towards further knowledge production.

5. Conclusion

The scope of this paper did not allow us to develop a full-fledged epistemology for urbanites. However, we have demonstrated the constraints and limitations of applying the traditional epistemology of the hard sciences and technology ('the view from nowhere') to cases and environments which are complex and involve human fuzziness. Our analysis of observations and implications – with a specific focus on South Africa – points towards a model based on a 'view from everywhere'. We do not argue for replacement but for an extension in certain areas of information science and knowledge management which require other or new ways of knowing such as audiovisual, three-dimensional and oral exchanges. This is only the beginning; for a plethora of (mostly cross-disciplinary) research and design opportunities lie ahead. Part of the next steps are two crucial challenges.

First, how can we achieve greater contextualisation in our research without messing the bigger picture with too fine-grained detail? Dvir and Pasher (2004) advocate an ecology model to structurally conceptualise the city as a complex system including people, relationships, values, processes, tools and technological, physical and financial infrastructure. The most common type of link between these elements is communication, hence, we suggest 'communicative ecology' (Foth & Hearn, 2007, forthcoming; Hearn & Foth, 2007; Tacchi, Slater, & Hearn, 2003) as a conceptual model to help illustrate the view from everywhere in an urban context.

Secondly, mass information per se does not equate with collective intelligence. How can this 'other' knowledge be trusted? How is tacit or informal knowledge justified, or what kind of justification will distinguish it from opinion, convention, religion, tradition or politics? The combination of new media and storytelling has produced some fruitful results. There is a growing movement amongst urban planners to utilise narratives in the process of urban planning and community development (Ball-Rokeach, Kim, & Matei, 2001; Klæbe & Foth, 2006; Lambert, 2002; Odendaal, 2006; Srinivasan, 2004). This movement parallels developments in new media which have seen the democratisation of production via co-creation of content, and the use of locative media and Web 2.0 services to reinstate 'the local' in the midst of the global (Davies, 2004; Foth, 2006b; Gaved & Foth, 2006; Kolbitsch & Maurer, 2006; Scharl & Tochtermann, 2007). However, the gap in the path from digital collections of narratives to collective intelligence is yet to be bridged².

Acknowledgements

This research was supported under the Australian Research Council's Discovery Projects funding scheme (project number DP0663854). Dr Marcus Foth is the recipient of an Australian Postdoctoral

² Douglas Schuler's Public Sphere Project (<http://trout.cpsr.org/program/sphere/>) is one of a number of interesting initiatives at present which operate in this space.

Fellowship. The authors would like to thank Natalie Collie well as the anonymous reviewers for valuable comments on earlier versions of this paper.

References

- Amin, A. (2007). Re-thinking the urban social. *City*, 11(1), 100-114.
- Amin, A., & Thrift, N. (2002). *Cities: Reimagining the Urban*. Cambridge: Polity.
- Aurigi, A. (2006). New Technologies, Same Dilemmas: Policy and Design Issues for the Augmented City. *Journal of Urban Technology*, 13(3), 5-28.
- Ball-Rokeach, S. J., Kim, Y.-C., & Matei, S. A. (2001). Storytelling Neighborhood: Paths to Belonging in Diverse Urban Environments. *Communication Research*, 28(4), 392-428.
- Barabási, A.-L. (2003). *Linked: How Everything Is Connected to Everything Else and What It Means for Business, Science, and Everyday Life*. New York: Plume.
- Bateson, G. (1979). *Mind and Nature: A Necessary Unity*. New York: Dutton.
- Bonabeau, E., & Meyer, C. (2001). Swarm Intelligence. *Harvard Business Review*, 79(5), 106-114.
- Cross, R., & Borgatti, S. P. (2004). The Ties That Share: Relational Characteristics That Facilitate Information Seeking. In M. Huysman & V. Wulf (Eds.), *Social Capital and Information Technology* (pp. 137-161). Cambridge, MA: MIT Press.
- Davies, W. (2004). *Proxicomunication: ICT and the Local Public Realm*. London: The Work Foundation.
- DeFilippis, J., Fisher, R., & Shragge, E. (2006). Neither Romance Nor Regulation: Re-evaluating Community. *International Journal of Urban and Regional Research*, 30(3), 673-689.
- Delanty, G. (2000). Postmodernism and the Possibility of Community. In *Modernity and Postmodernity: Knowledge, Power and the Self* (pp. 114-130). London: Sage.
- Dvir, R., & Pasher, E. (2004). Innovation engines for knowledge cities: an innovation ecology perspective. *Journal of Knowledge Management*, 8(5), 16-27.
- Elfin, J. (2008, in press). Women and Cognitive Authority in the Knowledge Economy. In G. Hearn & D. Rooney (Eds.), *Knowledge Policy: Challenges for the 21st Century*. Cheltenham, UK: Edward Elgar.
- Foth, M. (2006a). Analyzing the Factors Influencing the Successful Design and Uptake of Interactive Systems to Support Social Networks in Urban Neighborhoods. *International Journal of Technology and Human Interaction*, 2(2), 65-79.
- Foth, M. (2006b). Facilitating Social Networking in Inner-City Neighborhoods. *IEEE Computer*, 39(9), 44-50.
- Foth, M., & Hearn, G. (2007, forthcoming). Networked Individualism of Urban Residents: Discovering the Communicative Ecology in Inner-City Apartment Complexes. *Information, Communication & Society*, 10(5).
- Foth, M., Hearn, G., & Klæbe, H. (2007, Sep 9-12). *Embedding Digital Narratives and New Media in Urban Planning*. Paper presented at the Digital Resources for the Humanities and Arts (DRHA) Conference, Dartington, Totnes, UK.
- Gaved, M. B., & Foth, M. (2006). More Than Wires, Pipes and Ducts: Some Lessons from Grassroots Initiated Networked Communities and Master-Planned Neighbourhoods. In R. Meersman, Z. Tari & P. Herrero (Eds.), *Proceedings OTM (OnTheMove) Workshops 2006* (Vol. LNCS 4277, pp. 171-180). Heidelberg, Germany: Springer.
- Granovetter, M. (1973). The Strength of Weak Ties. *American Journal of Sociology*, 78(6), 1360-1380.
- Gurstein, M. (Ed.). (2000). *Community Informatics: Enabling Communities with Information and Communication Technologies*. Hershey, PA: Idea Group.
- Hearn, G. (2002). Global Transformations in Knowledge: Social and Cultural Issues. In *Encyclopaedia of Life Support Systems (EOLSS)* (Vol. 1.24: Capital resource issue III: Globalization and world systems). Oxford, UK: Eolss Publishers.
- Hearn, G., & Foth, M. (Eds.). (2007). *Communicative Ecologies. Special issue of the Electronic Journal of Communication*, 17(1-2). New York: Communication Institute for Online Scholarship.
- Kavanaugh, A. L., Reese, D. D., Carroll, J. M., & Rosson, M. B. (2005). Weak Ties in Networked Communities. *The Information Society*, 21(2), 119-131.

- Klaebe, H., & Foth, M. (2006, Oct 9-11). *Capturing Community Memory with Oral History and New Media: The Sharing Stories Project*. Paper presented at the 3rd international Community Informatics Research Network (CIRN) Conference, Prato, Italy.
- Klaebe, H., Foth, M., Burgess, J., & Bilandzic, M. (2007, Sep 23-26). *Digital Storytelling and History Lines: Community Engagement in a Master-Planned Development*. Paper presented at the 13th International Conference on Virtual Systems and Multimedia (VSMM'07), Brisbane, QLD.
- Kolbitsch, J., & Maurer, H. (2006). The Transformation of the Web: How Emerging Communities Shape the Information we Consume. *Journal of Universal Computer Science*, 12(2), 187-213.
- Lambert, J. (2002). *Digital Storytelling: Capturing Lives, Creating Community*. Berkeley, CA: Digital Diner Press.
- Lamberton, D. M. (1996). Introduction: 'Threatened Wreckage' or New Paradigm? In D. M. Lamberton (Ed.), *The Economics of Communication and Information*. Brookfield, VT: Edward Elgar.
- Latour, B. (2005). *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.
- Nagel, T. (1986). *The View from Nowhere*. New York: Oxford University Press.
- Odendaal, N. (2006). Towards the Digital City in South Africa: Issues and Constraints. *Journal of Urban Technology*, 13(3), 29-48.
- Peters, M. A., & Besley, T. (2006). *Building Knowledge Cultures: Education and Development in the Age of Knowledge Capitalism*. Lanham, MD: Rowman & Littlefield Publishers.
- Polanyi, M. (1966). *The Tacit Dimension*. Gloucester, MA: Peter Smith.
- Rooney, D., Hearn, G., & Ninan, A. (2005). The Nature of the Knowledge Management Beast. In D. Rooney, G. Hearn & A. Ninan (Eds.), *Handbook on the Knowledge Economy*. Cheltenham, UK: Edward Elgar.
- Sandercock, L. (1995). Voices from the Borderlands: A Meditation on a Metaphor. *Journal of Planning Education and Research*, 14(2), 77-88.
- Sandercock, L. (1998). *Towards Cosmopolis: Planning for Multicultural Cities*. Chichester, UK: John Wiley.
- Satchell, C. (2003). The Swarm: Facilitating Fluidity and Control in Young People's Use of Mobile Phones. In S. Viller & P. Wyeth (Eds.), *Proceedings of OZCHI 2003: New directions in interaction, information environments, media and technology*. 26-28 Nov 2003. Brisbane, QLD: Information Environments Program, University of Queensland.
- Scharl, A., & Tochtermann, K. (Eds.). (2007). *The Geospatial Web: How Geo-browsers, Social Software and the Web 2.0 are Shaping the Network Society*. Heidelberg: Springer.
- Simone, A. M. (2004). *For the City yet to Come: Changing African Life in Four Cities*. Durham: Duke University Press.
- Simone, A. M. (2005). Introduction: Urban Processes and Change. In A. M. Simone & A. Abouhani (Eds.), *Urban Africa: Changing Contours of Survival in the City*. London: Zed Books.
- Simone, A. M., & Gotz, G. (2003). On Belonging and Becoming in African Cities. In R. Tomlinson, R. A. Beauregard, L. Bremner & X. Mangcu (Eds.), *Emerging Johannesburg: Perspectives on the Postapartheid City*. New York: Routledge.
- Srinivasan, R. (2004). Knowledge architectures for cultural narratives. *Journal of Knowledge Management*, 8(4), 65-74.
- Swilling, M., Simone, A. M., & Khan, F. (2002). "My Soul I Can See": The Limits of Governing African Cities in a Context of Globalisation and Complexity. In S. Parnell, E. Pieterse, M. Swilling & D. Woolbridge (Eds.), *Democratising Local Government: The South African Experiment*. Cape Town: University of Cape Town Press.
- Tacchi, J., Slater, D., & Hearn, G. (2003). *Ethnographic Action Research Handbook*. New Delhi, India: UNESCO.
- Watters, E. (2003). How Tribes Connect A City. In *Urban Tribes: Are Friends the New Family?* (pp. 95-118). London: Bloomsbury.
- Watts, D. J. (2003). *Six Degrees: The Science of a Connected Age*. New York: Norton.
- Willson, M. A. (2006). *Technically Together: Rethinking Community within Techno-Society*. New York: Peter Lang.