

Situating Community through Creative Technologies and Practice

J. Bitton, A. Cavaco, L. Gaye, B. Jones, G. Mearns, R. Richardson, A. Tanaka

Executive Summary

This interdisciplinary scoping study critically discusses the relationships between communities and their creative uses of digital technologies: the nature of this use, its impact on the formation and sustenance of communities, and the potential this holds for social change. We start by providing brief working definitions of creativity, digital technologies and community as understood in this study, while drawing attention to the ways that technologies have helped shape communities and societies since the nineteenth century. Further, we discuss the interconnection between design, creative uses of technology and community empowerment, underlining the potential of digital tools for communities that are not inherent to the technology but embedded by design and realised through use. We then highlight how the use of digital technologies have helped redefine the nature, organisation and identity of communities, as well as enabled the emergence of community types. We problematize these implications in relation to space, social bonds and everyday life, as well as present current forms of enabled collective actions aimed at social change. Finally, we provide recommendations for future research based on themes of community empowerment, digital literacy, open information sharing, technology design and cultural expressions that have emerged from this study.

Researchers and Project Partners

Investigators: Ranald Richardson and Professor Atau Tanaka

Research Assistants: Joëlle Bitton, Andreia Cavaco, Lalya Gaye, Graeme Mearns

PhD researcher: Ben Jones

Culture Lab, Newcastle University

Project partner:

Social Inclusion through the Digital Economy (SIDE) RCUK/EPSRC Digital Economy hub

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Introduction

This document presents the outcomes of an interdisciplinary scoping study based on a review of academic literature, grassroots projects, pop culture references and emerging online social discourse and phenomena. An eponymous international symposium, *Connected Communities* organised by our team, contributed further insights to the study. This report aims to make a contribution to understanding the relationship between communities and the creative uses of digital technologies: the nature of this use, its impact on the formation and sustenance of communities, and the potential this holds for social change.

Clues to understanding current relations between technology, communities and society are found in Western discourse from the nineteenth century onwards, when aspects of the Industrial Revolution, including mechanisation, transportation technologies, and early communications networks contributed to social change [14, 23,33]. The notion of cooperation was used to reframe industrial productivity in ideological texts of the time [4]. This set a context for people to assemble in groups, and created the potential for political movements to question established institutional rules and mores [6]. Some of these communities embraced utopian dreams of a future enabled by innovation [11]. At the same time, literature and the arts presented scenarios, be they nostalgic, alarmist, or partisan, of alternative modes of social organisation [55]. This was marked by the rise of science fiction in popular culture, a harbinger of the cybernetic age from the 1930s onward [53]. This sets the frame for the increasing presence of new technologies in everyday domestic settings that this study is primarily concerned with.

Since Galpin [21], definitions of community have traditionally been bound to place. Tönnies' concepts of interdependence and mutual exchanges add complexity to notions of community beyond binary considerations and foresees the dynamics of shared interests which are relevant today [46]. Durkheim's preoccupation with differing forms of social solidarity point out the need to consider communities as multiplicities [18]. With the emergence of digital networking technologies, it is now necessary to revisit former definitions of community [8]. Barabási has applied scale-free networks to visualising communities, with individuals as nodes and the possibility of groups, hubs, and supernodes [3]. Fischer extends Wenger's workplace conceptions of communities of practice [56] to propose communities of interest that centre around collective concerns. Preece's [36] early principles of on-line communities – Shared goals, Reciprocity, Engagement, Awareness, and Belonging – have been taken up more recently with the arrival of social media by Shirky [43].

This study focuses on creative uses of technology. We draw upon Amabile [2] and Csikszentmihalyi [12] to emphasize the socially embedded nature of creativity and the essentially collaborative nature of the process [56, 31]. We highlight the view that creativity is not exclusive to outstanding individuals but that everyone (including non-experts) has creative potential [57]. We draw upon notions of vernacular creativity [19] and Levi-Strauss' *bricolage* [25] to give examples of community-level collective creativity situated in the everyday that have led to novel, socially driven technological use. Bishop [5] and Kester [24] describe participatory arts practice as one that takes the artist out of the gallery and embeds them in communities. We transpose the notion of practice directly to community members to focus upon situations outside or at the periphery of the arts where user-led content creation and resourceful practices of 'making do' [25], become creative tactics [13] with which objects and structures of consumer society are appropriated by communities. Furthermore, this draws attention to the ways in which communities appropriate objects and structures of consumer society.

Digital technologies encompass a broad range from computers to digital media production tools, mobile and/or locative technology, online networks and content community platforms. We focus on Information Communication Technologies (ICT): technologies of communication, content production, processing and distribution. The take up of ICT in the cultural and community sectors have tended to focus on access [16] and communications as a promotion tool [15]. We regard ICT not only as technical and market-facing, but as being an inherently social and creative medium, interwoven into complex ecologies of creativity, society, and community. Our emphasis is on three potentials – creative, connective, communicative. These encompass an overall concern of how technologies relate to the formation and sustenance of communities. We emphasize the word potential as a way to say that outcomes are not deterministically bound to technologies, but are socially constructed and socially shaped [28]. Therefore, they are played out in different cultural settings in complex ways depending on decisions made by the specific social actors, individuals, and communities in question.

Creative Uses of Digital Technologies

Digital technologies are often identified as motors for social change [42]. Lowering barriers to access and improved usability have democratised the means of communication, access, production, processing, and the distribution of and contributions to digital content [51]. It is often purported that this holds the potential for the empowerment of non-specialists by turning consumers into producers and distributors, thereby increasing their control over content creation and information flow [30]. However, mere accessibility is not a guarantee nor a direct cause of empowerment: these attributes are not inherent in technology but are shaped by its design and are only realised through use, which play out in particular socio-cultural contexts. This democratisation then, is not necessarily immutable of existing power relations.

The way digital tools are designed has a vital impact on how its users adopt them, come together, organise themselves, relate to each other, interact socially and collaborate. Literature on Information Systems (IS) and Human Computer Interaction (HCI) [40] present plentiful guidelines for the design of platforms for collaboration as well as the appropriation and creative use of technologies for connected communities – or sometimes against certain community types such as criminal organisations. Systems have been designed to conceptually or cognitively connect distant locations to create spaces for collaboration [27], supporting social bonding (whether in distributed or co-located settings), convey a sense of presence [26] and intimacy [1] across distance or enable flows of knowledge and creative skills-sharing [20, 22]. Certain design traditions such as the Scandinavian school of Participatory Design involve users directly and actively in the design process.

People do not always use technologies in their intended ways: they appropriate and use them in their own innovative, creative and sometimes unexpected ways. This can be thought of as a form of resourcefulness that can include the customisation of consumer products, collective cultural or artistic output emerging from experimenting with new technologies [41]. For example, the resourceful uses of ICT by migrant communities for solving everyday communication problems and creating shared cultural output result in what Diminescu terms, the 'connected migrant' [17, 49,50]. Ad-hoc spontaneous creative uses emerge from the increasing pervasiveness of mobile technology, be they the smart mobs observed by Rheingold [39] or the sharing of personal technologies such as mobile telephones [52]. Collective efforts of opening the technology 'black box', are referred to as 'creative hacking,' where people appropriate technological consumer products by modifying, re-programming or re-designing not only their use but their core functionalities.

This creates an interesting tension between the design of technology, how it influences use and leads to actual usage, and shows that technology involves a set of social actors with attributes, skills and powers that together (as a socio-technical system) engage into an iterative process which may each possess different imperatives and not always share intentionality but lead to the redefinition of the role of technologies in communities.

Implications for Communities

The uses and misuses of technologies and networks have brought about new and at times unforeseen ways for communities of the familiar, or of unfamiliar others, to form [9]. These communities may transcend space, borders and authority, or find relevant tools to maintain a place-based existence [44, 47].

Digital technologies have facilitated distributed sharing of human experience, bringing about the potential for people to belong to multiple social groups, overlaying place-based and non place-based communities, and connecting local and global interests. Spatial proximity is no longer required for social bonding and expression of solidarity – one of Wellman’s key aspects of traditional community [54]. This has led to new forms of nomadism and distributed professional and private life.

The Internet extends Ostrom’s notion of common-pool resource [34] to become a digital commons [41], an emergent space for the negotiation of social, economic and cultural difference [29]. This allows for new means of identity formation beyond the constraints imposed by the forces of the traditional mass media [32, 38]. Taking the example of transnational identities, these develop when individuals within a cultural diaspora identify themselves with the distributed community rather than with any of its specific locations, be it their ‘home country’ or their current location of residence. Other examples of online identity-formation include group identification through a common ordeal such as the online social network *CysticLife* for patients suffering from cystic fibrosis where the disease actually prevents physical co-location.

Despite these developments, place still holds much relevance as online interactions feed back to and have an impact on people’s local daily lives. Blogs and social networking sites in the social life of teenagers [7], online-dating [10], the digital literacy of youth questioning authority, are all network-mediated effects on local communities. Digital technologies and online social networks have enabled physically-connected, local communities to thrive by increasing and modifying interactions at the neighbourhood level, be they initiatives like *Makerhood* that embed networked maker culture in local communities of Brixton, online education resources deployed in rural India with *Hole in the Wall*, or the use of SMS and web platforms to allow Israeli-Palestinian citizen communication as *Crack in the Wall* does, or highlight social bonding in the *Neve Shalom / Wahat al Salam* cooperative village in Israel.

Potentials for Collective Action

The sense of social bonding and solidarity that can arise from communitarian use of ICT [54] brings with it a potential to be an instrument for collective action. Adaptive, or even subversive, uses of communication platforms and social networking enable people to have voice, and organize themselves for social progress. The use of blogs and social networks in the Tulip revolution in Kyrgyzstan pointed out the power of digital technologies to mobilise communities by spreading information and voicing political discourse that might be suppressed in state controlled or traditional broadcast media.

The sharing of viewpoints and processes of co-authoring and co-production can make communities stronger [37] and the use of media technology helps to establish legitimacy and credibility when addressing authority [48].

While the power of blogs and social networks in forming public opinion is beginning to be recognised, there is a risk of social fragmentation that needs to be problematized. Clusters of acquaintances may amplify the relevance of specific information within certain groups, making it appear more important within the group than perceived in wider society. This phenomenon creates involuntary communities unaware of their communitarianism, and segments public opinion. Globalised communication through 'many-to-many' broadcasting paradigms are double-edged and the same ICT tools that facilitate the spreading of information can be also used for surveillance or control, as seen in the HADOPI law regulating the creation of creative works on the Internet in France, and the FRA Signal Surveillance Act in Sweden.

The use of networks and access to information through them is inherently political. Advocacy groups such as the Electronic Frontier Foundation have developed alongside the evolution of public networks to defend citizen rights, and the freedom of access and use. The Internet has been mobilised by some as a battlefield for frontal collective action, as the retaliation by the hacker group Anonymous to threats on WikiLeaks has demonstrated. Alongside hacktivism (defined as the use of digital technology for political ends), exist other community initiatives supporting an open information ethos. The concept of open-source where a group of people can contribute at all levels of expertise – from the online documentation of *Floss Manuals* to the community-driven *Wikipedia* – is often seen as much political and economic as communitarian [45].

Projects that might not carry an explicit political agenda still demonstrate the ways in which ICT is being used for bottom-up collaborative social action. These range from new economic models of online crowd-sourced venture capital funding such as *Kickstarter* and *Indie GoGo* to emerging fields like Social Design that promote responsible design and activism [35]. Grassroots organisations such as *Invisible People* document and give voice to homeless people. Similarly, spontaneous self-organised global solidarity emerged as a form of international community in the aftermath of the recent Japanese earthquake, tsunami and nuclear disaster, and e-democracy experiments of participatory budget setting in cities as far ranging as Porto Alegre, Brazil and Chicago place citizens of urban communities into direct, productive relationships with local authorities.

Recommendations for Future Research

The uses of digital technologies by communities has contributed to redefining the way they organise themselves, how they relate to each other, and how they can act collectively. Central to this process is the ability to make resourceful, creative use of these technologies. This study points out the complexity of the deceptively simple terms, community and technology, each of which needs to be problematized in greater depth through the vectors of creativity, empowerment, and participation.

Creativity:

- What are the opportunities for arts and cultural sectors to engage with the forms vernacular creativity described here?
- How can we gain deeper insight into the creative process? Where is practice-based research situated in this?
- Can we work with digital media to capture, reveal, archive, and evaluate participatory and community arts practice? How can we link process-based practice to academic research?
- Will citizens design their own world, including the fabrication of everyday objects with digital prototyping technologies, if given the means?

Empowerment:

- In what ways does digital technology truly empower people? What are the ways that it could give voice to marginalised communities?
- How can we use digital storytelling to capture histories of communities to celebrate personal and collective narratives? Could this lead to new research methods?
- How can we increase digital literacy and teach resourcefulness?
- What are the interrelations and tensions of place-based and online communities with regards to identity, recognition, and authority?

Participation:

- Do digital media and ICT allow citizens and communities to enter into continuous dialogue with resource holders and gatekeepers in society? Can this lead to profound forms of participatory democratic engagement?
- How do user-generated content forge identity, especially in dispersed transnational cultural diaspora?
- In what ways can open-source practices and an ethos of free, open information sharing aid communities in achieving legitimacy?
- What are the long-term roles and impact of digital technology in facilitating social change and collective action?

These questions hold rich potential to be broached through practice-led research in the humanities, action research in the social sciences, and technology research in the wild. Academic research has the opportunity to engage with the significant level of existing community initiatives. By tracking and contributing to these developments, researchers will be able to carry out their work in real time in the ways that digital media permits. Robust, theoretically informed research offers, in return, to the communities in question a scope and depth for reflexivity.

References

Connected Communities Symposium at Culture Lab, 12-14th September 2011:
<http://side-creative.ncl.ac.uk/communities/symposium11/>

Full bibliography:

<http://side-creative.ncl.ac.uk/communities/symposium11/bibliography.pdf>

1. Agamanolis, S. *New Technologies for Human Connectedness*. *Interactions*, 12(4), 33-37, 2005.
2. Amabile, T. *Creativity in Context*. Westview Press, 1996.
3. Barabási, A-L. *Linked: The New Science of Networks*. Perseus. 2002.
4. Beecher, J. *The Utopian Vision of Charles Fourier*. University of Michigan Press, 1983.
5. Bishop, C. (Ed.) *Participation (Documents of Contemporary Art)*. MIT Press/Whitechapel Art Gallery, 2006.
6. Bowler, P. J. *The Invention of Progress: The Victorians and the Past*. Blackwell, 1989.
7. Boyd, D. *Why Youth (Heart) Social Network Sites: The Role of Networked Publics in Teenage Social Life*. In D. Buckingham (Ed.), *MacArthur Foundation Series on Digital Learning – Youth, Identity, and Digital Media Volume*. MIT Press, 2007.
8. Castells, M. *The Rise of the Network Society*. Blackwell, 1996.
9. Chambers, D. & Corporation, E. *New Social Ties: Contemporary Connections in a Fragmented Society*. Palgrave Macmillan, 2006.
10. Constable, N. *Romance on a Global Stage: Pen Pals, Virtual Ethnography, and "Mail-order" Marriages*. University of California Press, 2003.
11. Corn, J. J. *Imagining Tomorrow: History, Technology, and the American Future*. MIT Press, 1986.
12. Csikszentmihalyi, M. *Creativity: Flow and the Psychology of Discovery and Invention*. Harper Collins, 1996.
13. de Certeau, M. *The Practice of Everyday Life*. University of California Press, 1984, transl. 2002.
14. de Sola Pool, I. *The Social Impact of the Telephone*. MIT Press, 1997.
15. *Digital audiences: Engagement with arts and culture online*. Arts Council England. 2010.
16. *Digital Britain*. Department for Culture, Media and Sport, UK. 2009.
17. Diminescu, D. *The connected migrant: an epistemological manifesto*. *Social Science Information*, 47(4), 565-579, 2008.

18. Durkheim, E. *The Division of Labor in Society* (translated by G. Simpson). Free Press of Glencoe, 1964.
19. Edensor, T. J., Leslie, D., Millington, S. & Rantisi, N. *Spaces of Vernacular Creativity: Rethinking the Cultural Economy*. Routledge, 2009.
20. Fischer, G. *Symmetry of Ignorance, Social Creativity, and Meta-Design*. Proceedings of the 3rd Conference on Creativity & Cognition, 1999.
21. Galpin, C. J. *The social anatomy of an agricultural community*. Agricultural Extension Station Bulletin, 34. Wisconsin, 1915.
22. Geer, R. & Barnes, A. *Beyond Media Stickiness and Cognitive Imprinting: Rethinking Creativity in Cooperative Work & Learning with ICTs*. Education and Information Technologies, 12(3), 123-136, 2007.
23. Giedion, S. *Mechanization Takes Command*. Oxford University Press, 1948.
24. Kester, G. *Conversation Pieces: Community and Communication in Modern Art*. University of California Press, 2004.
25. Lévi-Strauss, C. *The Savage Mind (Nature of Human Society)*. Weidenfeld & Nicolson, 1962, transl. 1994.
26. Licoppe, C. *Connected'Presence: the Emergence of a New Repertoire for Managing Social Relationships in a Changing Communication Technoscape*. Environment and Planning D: Society and Space, 22(1), 135-156, 2004.
27. MacKay, W. *Media Spaces: Environments for Informal Multimedia Interaction*. In M. Beaudouin-Lafon (Ed.), Computer-Supported Co-operative Work, Trends in Software Series (pp.55-82). John Wiley & Sons Ltd, 1999.
28. Mackenzie, D. and Wajcman, J. (Eds.) *The Social Shaping of Technology*. Open University Press 1999.
29. D. Massey, J. Allen, & S. Pile (Eds.) *City Worlds*. Routledge, 1999.
30. Mehra, B., Merkel, C. & Bishop, A. P. *The Internet for Empowerment of Minority and Marginalized Users*. New Media & Society, 6(6), 781-802, 2004.
31. Mitchell, W.J., Inouye, A.S. and Blumenthal, M.S. (Eds.) *Beyond Productivity, Information Technology, Innovation, and Creativity*. The National Academies Press, 2003.
32. Mitra, A. *Virtual Commonality: Looking for India on the Internet*. In D. Bell & B. M. Kennedy (Eds.), *The Cybercultures Reader* (pp. 676-694). Routledge, 2000.
33. Mokyr, J. *The Lever of Riches: Technological Creativity and Economic Progress*. Oxford University Press, 1992.
34. Ostrom, E. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press, 1990.
35. Papanek, V. *Design for the Real World: Human Ecology and Social Change*. Thames & Hudson, 1985.

36. Preece, J. *Online Communities: Supporting Sociability, Designing Usability*. John Wiley and Sons, 2000.
37. Putnam, R. D. *Bowling Alone: The collapse and Revival of American Community*. Simon and Schuster, 2001.
38. Rheingold, H. *The Virtual Community: Homesteading on the Electronic Frontier*. Addison-Wesley, 1993.
39. Rheingold, H. *Smart Mobs: The Next Social Revolution*. Basic Books, 2003.
40. Rogers, Y., Sharp, H., Preece, J. *Interaction Design*. J. Wiley. 2011.
41. Schmidt, J. *Blogging Practices: An Analytical Framework*. *Journal of Computer-Mediated Communication*, 12(4), 1409-1427, 2007.
42. Schuler, D. *Shaping the Network Society: The New Role of Civil Society in Cyberspace*. Cambridge: The MIT Press, (2004).
43. Shirky, C. *Here Comes Everybody: how Change Happens when People Come Together*. Penguin. 2009.
44. Srinivasan, R. *Reconstituting the Urban through Community-Articulated Digital Environments*. *Journal of Urban Technology*, 11(2), 93-111, 2004.
45. Stallman, R. M. & Gay, J. *Free Software, Free Society: Selected Essays of Richard M. Stallman*. Free Software Foundation, 2002.
46. Tönnies, F. *Community and Civil Society* (translated by J. Harris and M. Hollis). Cambridge University Press, 2001.
47. Turkle, S. *Alone together: why we expect more from technology and less from each other*. Simon and Schuster, 2011.
48. Turner, T. *Defiant Images: The Kayapo Appropriation of Video*. *Anthropology Today*, 8(6), 5-16, 1992.
49. Tyner, J. A. & Kuhlke, O. *Pan-National Identities: Representations of the Philippine Diaspora on the World Wide Web*. *Asia Pacific Viewpoint*, 41(3), 231-252, 2000.
50. Van Hear, N. *New Diasporas: The Mass Exodus, Dispersal and Regrouping of Migrant Communities*. Routledge, 1998.
51. Vickery, G. & Wunsch-Vincent, S. *Participative Web and User-created Content: Web 2.0, Wikis and Social Networking*. OECD Publishing, 2007.
52. Weilenmann, A. & Larsson, C. *Local Use and Sharing of Mobile Phones*. In B. Brown & N. Green (Eds.), *Wireless World* (pp. 92-107). Springer-Verlag New York, Inc, 2001.
53. Weiner, N. *Cybernetics or Control and Communication in the Animal and the Machine*. MIT Press, 1948.
54. Wellman, B. *The Network Community. Networks in the Global Village*. Westview Press, 1999.

55. Wells, H. G. *Anticipations of the Reaction of Mechanical and Scientific Progress: Upon Human Life and Thought*. Dover Publications, 1999 (originally 1901).
56. Wenger, E. *Communities of Practice: Learning, Meaning, and Identity*. Cambridge University Press, 1999.
57. Winnicott, D. W. *Playing and Reality*. Burns & Oates, 1971.

The Connected Communities

Connected Communities is a cross-Council Programme being led by the AHRC in partnership with the EPSRC, ESRC, MRC and NERC and a range of external partners. The current vision for the Programme is:

“to mobilise the potential for increasingly inter-connected, culturally diverse, communities to enhance participation, prosperity, sustainability, health & well-being by better connecting research, stakeholders and communities.”

Further details about the Programme can be found on the AHRC’s Connected Communities web pages at:

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