Guest Editorial

Dimitris Charitos

Department of Communication and Media Studies,
School of Economics and Political Sciences,
National and Kapodistrian University of Athens,
Sofokleous 1, Athens 10559, Greece
Email: vedesign@otenet.gr

Martijn de Waal

Play & Civic Media Research Group,
Faculty of Digital Media & Creative Industries,
Amsterdam University of Applied Sciences
Amsterdam, The Netherlands
Email: b.g.m.de.waal@hva.nl

Penny Travlou

Edinburgh School of Architecture & Landscape Architecture,
University of Edinburgh,
20 Chambers Street,
Edinburgh EH1 1JZ, UK
Email: p.travlou@ed.ac.uk

Biographical notes: Dimitris Charitos is an Associate Professor at the Faculty of Communication and Media Studies of the National and Kapodistrian University of Athens. Since 2002, he has been teaching 'human-computer communication', 'art and technology', and 'visual communication', at an undergraduate level as well as 'interactive design' at a postgraduate level. Since 1996, he has authored or co-authored more than 90 publications in books, journals or conference proceedings. As a researcher or coordinator, he has participated in more than 15 research projects (funded by Greek or European programs) on the subjects of virtual reality, interactive design, locative media, mediated/hybrid cities and digital art.

Martijn de Waal is a Professor (lector) at the research group of Play & Civic Media at the Amsterdam University of Applied Sciences (AUAS) and head of research at the AUAS Faculty of Digital Media and Creative Industries. His research is focused on the relation between new media and public space, and the design of new media technologies from a public values perspective. In his book The City as Interface (2014) he explored the consequences of hybridisation for the urban public sphere. In 2018 he co-authored (with José van Dijck and Thomas Poell) The Platform Society. Public Values in a Connective World.

Penny Travlou is a Lecturer in Cultural Geography & Theory in the School of Architecture and Landscape Architecture (ESALA), University of Edinburgh. Her research is interdisciplinary, focusing on theories of space

and place, the politics of public space, decentralised/distributed networks, the commons, collaborative practices and ethnography. She is currently co-leading a work package in EU COST Action CA16121, "From Sharing to Caring: Examining Socio-Technical Aspects of the Collaborative Economy" (2017–2021). Alongside her academic work, Penny is active on issues about urban commons and spatial justice.

Dedicated to the memory of Armin Medosch

Information and communication technologies (ICTs) and new media may be used for augmenting the experience of physical environments in order to communicate meaning and support social interaction amongst individuals who inhabit these spaces. The contemporary urban environment incorporates systems that capture visual, auditory or other types of data regarding environmental and/or human activity, via appropriate sensing devices. It also incorporates various kinds of presentations of information and representations communicated to citizens via various display systems or other actuators. Communication with these everyday urban environments and with other citizens who act within them is mediated by ICT systems such as: pervasive and ubiquitous computing systems, internet of things, mobile and/or locative media, augmented reality systems, media facades, to name a few and their convergence with wired and wireless networking, cloud computing and the web (Charitos, 2005; de Waal, 2014). The data captured from the activity of citizens and any other environmental entities, may be utilised as input for generating digital representations but is primarily used for organising, surveying and controlling human activity.

Graham (2004, pp.67–68) has proposed a theoretical approach for analysing the interrelationships between cities and ICTs which refers to a series of recombinant perspectives and supports a fully relational view of the links between technology, time, space, and social life. Accordingly, new technologies become interwoven into complex, contingent, and subtle blendings of human actors and technical artefacts to form actor-networks that are socio-technical hybrids. Through such hybrids, social and spatial life becomes subtly and continuously recombined in complex combinations of new sets of spaces and times that are always contingent and impossible to generalise. This view is based on Latour's actor-network theory (Latour, 2005) and Haraway's human-technological 'cyborg' concept (Haraway, 1991, as cited in Graham, 2004, p.68).

The use of such techno-social systems is mediated via different types of communication interfaces, some of which have a predominantly spatial character and which ultimately afford a hybrid (virtual as well as physical) spatial user experience.[1] de Souza e Silva (2006, pp.265–266) defines a hybrid space as:

> "a conceptual space created by the merging of borders between digital and physical spaces, because of the use of mobile technologies as social devices. Nevertheless, a hybrid place is not constructed by technology. It is built by the connection of mobility and communication and materialized by social networks developed simultaneously in physical and digital spaces."

These systems and the experiences they afford may, on the one hand, encourage embodied and mediated encounters among users and influence community dynamics, giving rise to networks around common interests and collective affects. Such groups are often ephemeral, unstable and dispersed, but they may negotiate new ways of engagement with the urban environment and civic life, suggesting, thus, an organisational paradigm that manages to surpass traditional vertical hierarchies of space and consequently of power and control (Charitos et al., 2013, p.14). As tactics of sharing and collaboration migrate from the online to the urban everyday life context, citizens are gradually becoming enabled to access openly available information about the city and to become involved in the production, collection and distribution of data related to urban matters. As argued in the newly published issue #CITY of the *Journal of Peer Production*, information and communication technologies can offer new opportunities to citizens and bottom-up initiatives for self-organisation, like community networks to reclaim citizen participation and invent "new forms of community, facilitated through digital tools but manifesting also in the physical space" (Travlou et al., 2018).

On the other hand, contemporary digital cities are not only 'database cities' (Gordon, 2010), affording navigational experiences similar to the web and giving the impression that they can be personalised, appropriated and organised. As Donath (2011) suggests, these cities have 'eyes and ears', they can 'smell and feel' and this implies that they do not only gather data but they can also make predictions about the city's inhabitants and their environment (Charitos et al., 2012). Citizens are being tracked and immense quantities of data about their activities, behaviour and personal characteristics are being accumulated, with or without their consent, by private companies or public authorities, to be used as commodities for making profit, to support the provision of online services and for control purposes. Everyday urban life in the digital city is being increasingly datafied and the utopian vision of citizen empowerment through the use of social media has been gradually replaced by a dystopian realisation that our personal data can be captured and maintained by numerous entities in a relatively insecure, platform dominated World Wide Web. As our lives are becoming more and more transparent, network infrastructures are becoming invisible and little do we know about how these processes and architectures work (Dragona, 2014). Digital and data literacy are therefore essential for enabling the contemporary citizen to partly maintain control over the management of her personal data and to protect herself from unknowingly providing data to entities that she does not wish to.

This discussion has provided the context for the *Hybrid City Conference*,[2] an international biennial event dedicated to exploring the emergent character of the city and the potential transformative shift of the urban condition, in response to ongoing developments in information and communication technologies (ICTs) and of their integration in the urban physical context. The Spatial Media Research Group[3] and the Department of Communication and Media Studies of the National and Kapodistrian University of Athens have so far organised one symposium (2011) and two peer-reviewed conferences (2013 and 2015) under the Hybrid City title, with the aim of promoting dialogue and knowledge exchange among experts drawn from academia, as well as artists, designers, researchers, advocates, stakeholders and decision makers, actively involved in addressing questions on the nature of the technologically mediated urban activity and experience. The third Hybrid City conference investigated ICTs as a means of supporting more Sustainable Cities and Resilient, Self-Reliant Communities as well as for empowering Citizens. By proclaiming "Data to the People", this conference

adopted a citizen-centred approach while seeking to highlight bottom-up projects, initiatives and processes of technological mediation, which assist individuals, communities and cities in responding and adapting to the above mentioned new challenges. It aimed to offer insights into the complexity of factors that weaken the city fabric and affect urban wellbeing. Furthermore, it aimed at investigating the potential of ICTs to support proactive and collective design towards future cities, focusing on real needs and maintaining a critical stand towards the prevailing 'smart-everything' rhetoric. By emphasising the inherently interdisciplinary and transdisciplinary nature of technologically mediated urban activity, the Hybrid City III offered useful insights to the hybridisation process of the urban environment through the exchange of knowledge and experience among participants (scholars, artists, designers, activists).

This special issue of the *International Journal of Electronic Governance* investigated ICTs as means of supporting and promoting civic initiatives for socio-political participation. In particular, it focused on techno-social systems mediating the urban experience through bottom-up processes that aim to empower citizens, contribute to community building and incite collective action. It comprises a selection of articles, based on relevant papers, presented at the *3rd International Hybrid City Conference – Data to the People*, significantly extended and adapted to the context of the call for the special issue. Drawing emphasis on the micro-scale, we included papers that examine alternative models of community governance and explore the use of ICTs as platforms to sustain open and peer-to-peer paradigms.

In his paper, Medosch discusses the network commons as a techno-utopian project which proposes an alternative, social use of technology. Together with other initiatives, it could form a nucleus of a socially transformative project – a potentially worldchanging force based on commoning practices arising from within global society. He suggests the notion of a project, as a collective undertaking. In order to avoid the mistake of internet utopianism of the 1990s, he proposes to place the network commons and the larger commons movement in the context of a discourse on the city as utopia and project. His proposal takes as its starting point recent attempts at creating a network commons, seen as a part of a vibrant heterogeneous movement to create a digital commons. The commons of all types and shapes and economies and ecologies of solidarity have become an alternative vision of a post-capitalist economy. The city is the place where this concrete utopia can emerge. Therefore, Medosch takes an in-depth look at recent paradigmatic transformations of the city. He then investigates a series of projects which emerged around the year 2000 and aimed at building wireless community networks, in London, New York, Seattle, Athens and a little bit later, in Berlin and rural Catalonia. These community networks, were owned and maintained by the people who used them. Their emergence followed trajectories of the social development of the communities it was connected with. The technology activists responsible for the creation of these projects have made a strong contribution to techno-social innovation, not only through their technological achievements but most importantly because their work illustrates that technologies are inherently social. The network commons is an embodied, concrete utopia which performs a de-commodification of network communications. Yet the overall dynamics of informational capitalism points to more information, more automation, more bandwidth, more surveillance and Medosch stresses that the achievements of the network utopia are based on the dark secrets of informational capitalism, such as the displacement of labour and ecologically unsustainable practices. Nevertheless the network commons has shown that an alternative approach is possible

not only in small and local initiatives and that a commons mode of production can sometimes outperform state and market players. Peer-to-peer forms of cooperation need not be considered marginalised but could become the main way of infrastructural, political and cultural cooperation, rather than relying on outdated centrally organised forms of production and consumption. Finally, Medosch reminds us of the fact that in order to develop a new project and utopia we need to understand and respond to the new capitalist logic of network society and how it has reshaped the city. Since we are now standing in the ruins of the society of the plan, in a much more fragmented and inconsistent situation, a unified one-utopia-for-all would be either impossible or based on a new authoritarianism. The notion of utopia itself needs to be decentralised, and de-linked from any ideology of progress, if ultimately we want to move towards an emancipatory project for the multitudes.

In their contribution 'Learning from WaterBank', Böhlen and Maharika analyse the establishment of WaterBank, a community-based water source and purification installation in the Terban district of the Kampung Gondolayu in Yogyakarta, Indonesia. The project followed up on AirKami, an IoT-project that measured the quality of water in relation to weather systems. It can be understood as a techno-social system that allows citizens to organise around a communal issue of concern, in this case: clean water provision. Bohlen's detailed analysis however refutes some of the utopian expectations projected at the emergence of Internet of Things. Bohlen shows that – in contradiction to the dominant IoT vision – more data is not necessarily better, and that the leap from the availability of sensor technologies, collecting data about urban conditions, to the formation of sustainable publics around an issue requires an intricate weaving of connections between various social networks and government infrastructures. In the project, data played an important role as a prerequisite to new forms of insights, yet the organisation of a response to these insights in a meaningful way is much more complicated than the collection and visualisation of that data, and requires a process of amongst others community orchestration, business models and the right interfaces to governmental frameworks. In fact, in the case of WaterBank, it was not so much the data that allowed the local public to assemble but rather the physical site that connected a mythical past related to the site of the water source with an informed present – data collected about the water quality. As such, Bohlen concludes 'WaterBank is a 'talking object', one that suggests that the urban IoT should speak to people and not only to other machines'.

Drakopoulou touches upon similar issues in her contribution titled 'Open data today and tomorrow: the present challenges and possibilities of open data'. Open data provided by governments beholds the promise to better inform citizens about salient political issues, and allow them to organise themselves around issues of concern, using data to find solutions or hold those in power accountable. However as Drakopoulou shows, so far open data programs have not lived up to these promises. Open data are hard to understand for ordinary citizens, and the reworking or combination of open data sets has led to issues with regard to copyright. Although hackathons have shown some interesting results with regard to activating publics around open data, these are mostly visited by a 'techno-elite' and do not reach wider audiences. Therefore, so far, it has mostly been commercial companies that have profited from open government data. As an alternative approach, Drakopolou turns towards citizen sensing projects. She describes a number of examples in which citizens (often led by researchers or other professionals) have

successfully formed publics around particular issues by collaboratively gathering, representing and discussing data about themes such as air pollution.

Bueno de Mesquita et al. investigated the potential of civic apps as a means to produce local knowledge, identified possible pitfalls in current app designs and provided insights for designers and design researchers with which they can formulate better research questions and recognise the potential of existing projects, ultimately aiming at designing better participatory apps. In the context of the participation society, roles and expectations of citizens and municipalities are vastly changing. While designers and design researchers explore the potentials of apps to empower citizens, municipalities are interested in data dashboards – accompanied by applications and community platforms – to increase civic participation in public (space) issues. In this paper, two civic apps that were designed by the authors are presented, lessons learned from their development and use are discussed leading to relevant criteria and design decisions. Secondly, prominent existing civic apps that have citizen empowerment as their objective are analysed and a relevant taxonomy is proposed. Finally the paper examines why and where do discrepancies in expectations and levels of participation occur, in the case of these civic apps.

In their paper, Margariti and Travlou looked at the emergence of barter economy networks in Greece as solidarity practices and socioeconomic alternatives based on non-monetary and non-capitalist economic models to strengthen community relations during the financial crisis in the country. The study focused on two case studies in Thessaloniki: *Trapeza Chronou*, a time bank, and *'KOI.NO'*, a community-currency network, both supported by open platform ICTs. The two networks were approached as tactics that have the potential to generate socioeconomic change through bottom-up participation and ICTs-supported citizen engagement. Using qualitative research methods – participant observation and semi-structured interviews – the research explored how these alternative economic networks could be more than spontaneous reactions of local relief and establish valid economic alternatives operating within interconnected localities. If these new economic networks are built for the purpose of social transformation rather than surviving through the times of crisis, they can lead to radical changes through establishing sharing economic cultures able to continue to flourish even after the hypothetical end of economic recession.

As mentioned above, this special issue also includes a paper documenting the visionary keynote speech that **Armin Medosch** presented at the *3rd Hybrid City Conference*. Unfortunately, soon after the completion and submission of this paper, Armin passed away. This issue is therefore dedicated to his memory as a small gesture to honour Armin as the significant citizen, academic, artist, activist and individual that he was. We would also like to thank the publishers for agreeing to distribute Armin's paper as an openly available publication, in agreement with his ideology and writings.

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Notes

[1] For a discussion regarding this concept (see Charitos (2008) and Charitos *et al*. (2013)).

[2] https://hybridcity.ntlab.gr/2015

[3] https://spatialmedia.ntlab.gr/