

Parallel session 3C-1.2

Innovating Infrastructures

Tuesday 12 November, 14.00 – 15.30

26 Bedford Way, Room 113

Chair: **Prof. Andrew Barry**, Professor of Human Geography, UCL

Global Cities, Urban Forms: Comics as Infrastructure

Dr Dominic Davies, Lecturer in English, City, University of London

Pivoting away from the US and Global North, this paper makes the case that what it terms the ‘infrastructural form’ of urban comics – that is, a form adept at exposing the ‘infrastructure’ of social and political narratives, as well as physical urban spaces – is being recalibrated from the South upwards. Just as future modes of urbanism and city living are increasingly to be found outside the US and Europe, so too is a new graphic cultural field emerging, one poised to represent and even rebuild contemporary cities towards more socially just and sustainable ends.

There are unnerving similarities between the infrastructure projects and urban governance of ‘emerging’ global cities, from Delhi, Cape Town and Cairo to Beirut and New Orleans. Obsessed with ‘world class’ status, such cities increasingly attempt to conceal their deeply unequal and often discriminatory urban forms behind the smooth, glass-fronted aesthetic of neoliberal architectural trends. This paper shows that, in the twenty-first century, a subcultural and distinctly urban comics production has arisen in these Southern cities to challenge such developments.

Redefining the ‘urban’ as a public space of co-mixing and interaction, rather than a private space reserved only for a socioeconomic elite, contemporary urban graphic narratives challenge through their visual work the neoliberal rebranding strategies of global city governance. Creators work both individually as journalists and auteurs, and collaboratively as part of artistic and political collectives, and as urban social movements. While often responding to dynamics highly specific to their local context, the formal strategies of these different creators and collectives align in their subversive interactions with the cities they both inhabit and depict.

On alternative infrastructures and new urban commons in Palestine

Lana Judeh, Lecturer in Architecture, Birzeit University

The geography of Palestine has been for millennia a palimpsest of mega-infrastructureal projects that once fulfilled the dreams of imperial and colonial expansions from the Roman Aqueducts to the Ottoman Railways, the British Mandate electrification project and the

National Water Carrier of Israel. These systems have influenced the lives of the ordinary people who lived around them, and have played a role in shaping their political, social and economic realities.

This paper looks into disruptions, gaps, dysfunctions and inefficiencies in the current infrastructural systems in Palestine as an opportunity to think of concepts that generate new forms of urban metabolism and urban commons. With the present large and complex infrastructural systems dominated by Israel and seen by Palestinians as violent tools of disposition, subjugation and dependency, the paper explores alternative systems and reconfigurations of infrastructure that can provide local solutions to economic, environmental and social issues. Such alternatives can offer means of support and connectedness, and create different urban realms and networks for the flow of materials, information and energy. Infrastructure in this sense is seen as “extended material assemblages that generate effects and structure social relations through engineered” and non-engineered activities (Harvey, et al., 2017, p. 5).

From the food supply chain in the local urban centres, to the waste management crisis and the automobile graveyards scattered across the West Bank, and the struggle of Bedouin villages in the Naqab for access to water and infrastructure, this paper looks critically not only at the Israeli control over land, resources and flows, but also at the prevailing linear economic system of extraction, production, distribution, consumption and disposal.

The field of architectural and urban design can be a terrain for envisioning more recursive systems, circular modes of production and new networks, flows and processes that can mediate different spatial and social configurations. The research explores how hybridised urban spaces, where technological systems are integrated with everyday practices, can produce new resilient modes of urban living for Palestinian Communities. Through small-scale infrastructures which are easy to navigate with the provision of localised knowledge (MIT Center for Advanced Urbanism, 2016), “scarcity and crisis” can turn into resilience and opportunity when users become conscious contributors to the governance and management of resources, energy and waste.

The nexus between social capital, normality and energy innovation: cases of low-income urban settlements in Cape Town and Mumbai

Dr Anika Nasra Haque, Research Associate, Department of Geography, University of Cambridge

Using examples from empirical fieldwork in low-income settlements in Mumbai and Cape Town, this paper demonstrates the role of normality and social capital in affecting uptake of domestic solar energy innovations. By highlighting the importance of social capital and the related concept of normality for the uptake of energy innovation, this paper reveals new theoretical approaches to energy transitions in the Global South that are grounded in the everyday lived experiences of low-income urban dwellers.

The contemporary world faces a conflicting challenge: how to extend basic infrastructure to rapidly urbanising populations while reducing carbon emissions and resource consumption.

Low-income settlements in cities around the Global South provide an ideal opportunity to deliver innovative approaches to address this dual challenge, in order to redefine urban futures as well as meet the sustainable development goals: through not only considering the scale of implementation, but also potentially reducing the monetary costs of energy for low-income urban dwellers. While there is growing recognition that decision-making related to the uptake of energy innovation is not restricted to technological and financial constraints, there is little scholarship related to the socio-cultural constraints and norms that affect households' energy decisions.

This paper uses the conceptual lens of social capital to critically explore the ways in which social influence determines uptake in energy innovation within low-income urban communities in the Global South. It argues that adopting a critical perspective in exploring the potential relationships between social capital, energy innovation and technology uptake provides crucial insights for understanding energy transitions at the household and communal scale of low-income urban settlements. Furthermore, the paper suggests a practical framework for introducing energy innovation to low-income communities that combines technological-financial constraints with socio-cultural aspects, which is of relevance to policymakers and practitioners working to deliver energy transitions in the Global South.

Osmotic city: negotiating Chennai's salt water geographies through engineering practice

Dr Niranjana Ramesh, Leverhulme Early Career Research Fellow, Department of Geography and Environment, LSE

I argue that 'osmosis' as a socio-technical framework developed from this southern city offers an adept means of exploring the in-process nature of urbanisation.

In the south Indian city of Chennai, everyday water access amidst apparently fragmented infrastructures has long entailed battling the chemistry between salt and water – scrubbing salt deposit off pots and pans, removing rust and limescale in appliances, muslin cloth or mechanical filters fitted on taps. So, it is little surprise that reverse osmosis filtration, which can remove all mineral content from water, has taken the city by storm, in the form of household purifiers and seawater desalination plants. Paying attention to this chemical geography and how water engineers work with it opens up a complex understanding of the negotiated and layered multivalence of infrastructure-making in the city.

This paper draws on ethnographic work undertaken with water engineers in the city's public utility as well as in the private sector. It focuses on the semi-permeable membrane that enables osmotic filtration – a seemingly precise techno-fix - as its point of departure to explore the negotiated nature of engineering, technology and expertise in city-building.

Marking an analytical shift from structural analyses informed by metabolic circulations, the 'osmotic' approach proposed here delves into discrete socio-material interactions, arguing that they present a critical site from which to understand technologically mediated resource access and the politics that engenders in cities.