

Special Issue Editorial: Visual Communication 'Recombinant Ecologies in the City'

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It is January 2020. Sydney is full of smoke and full of birds. In an inner-city park, near a pond, corellas scratch the crispy grass looking for a feed. Ibis are ever present, but their number has multiplied. A tiny nature reserve only a few kms from the CBD is now home to magpies, currawongs, owls, pelicans and ravens. For the past month a friend has been sending daily photos of a previously uninhabited sandstone escarpment opposite her balcony where a flock of more than a hundred sulphur crested cockatoos has taken up residence.

According to WWF the unprecedented megafires that have burnt (and are still burning at the time of writing) 8.4 million hectares of land in Australia have killed an estimated 1.25 billion animals so far (WWF 2020). Thousands of others have lost their natural habitats.

In the city, where temperatures are the hottest on record, the fires are made visible by thick smoke that obscures the skyline and a dramatic red sun, repeated in images across both broadcast media and social media.

People compulsively check fire and air quality apps on their phones to monitor the safety of their friends and families in evacuation zones, as well as to decide whether to go into work, whether children can play outside, whether to open windows. It all depends on which ways the winds are blowing,

Birds, reptiles and mammals seek refuge from the burning bush by navigating public parks, backyards and other green spaces in the city, now withered by drought, forming new recombinant ecologies as they go.

'Recombinant Ecologies in the City' explores the role of visual communication in making present the ecologies resulting from the coming together of diverse beings – plants, animals, bacteria, fungi – in the city. Recombinant, as Hinchliffe and Whatmore propose, is a way to understand ecology as 'assembled through the dense comings and goings of urban life, rather than the discrete and undisturbed relations between particular species and habitats that are the staple of conservation biology' (2006, 123). Recombinant ecology is a lens to show how cities are lived, shaped, and made livable and lovable through the interrelations and associations of humans and other creatures. We take Hinchliffe and Whatmore's proposal to consider the city as a living and convivial environment 'attuned to the comings and goings of the multiplicity of more-than-human inhabitants that make themselves at home in the city (125).' This special issue documents some of the ways in which this more-than-human multiplicity is or could be visualized. In other words, this special issue aims at documenting ways in which cities are home to

ecosystems that need to be made present and understood. In doing so, it dialogues with UN Sustainable Development Goals (SDG, <https://sustainabledevelopment.un.org/>). Considering recombinant ecologies provokes questions about extending the protection of 'life on land' (SDG 15) to cities; provides tools to recognize the incidence of climate change in the urban environment (SDG 13); and (hopefully) motivates everyday actions of environmental care.

Recombinant Ecologies as a concept builds on the urban ecology term 'recombinant ecosystem' that speaks to the disturbance of 'natural' ecosystems by humans. Colin Meurk (2011) writes that 'Recombinant ecosystems comprise novel plant and animal associations that have been induced or created by people deliberately, inadvertently or indirectly (202).' In his introduction to *The Routledge Handbook of Urban Ecology*, Ian Douglas (2011) adds that 'Recombinant ecology is a concept that acknowledges the dynamic reconfiguration of urban ecologies through the ongoing relationships between people, plants, and animals,' adding that recombinant ecosystems are of intrinsic ecological interest, can maintain biodiversity, and can also be understood as a 'vehicle for landscape legibility' (101).

In another major study of recombinant ecologies, Ian Rotherham (2017) provides a history of the concept (1-35) and a survey of research to date highlighting the need to establish a link between anthropogenic ecological change at a planetary level and what he defines as 'historic cultural drivers', such as migration, colonization, trade, globalization and urban development (40-42). Pointing to the failure of humans to *see* their connections within shared ecologies, and therefore the positive aspects as well as long-term damage caused by human behaviour, it is no wonder we find it difficult to adapt to change (1).

The result of these changes, he notes, is that:

... plant and animal communities change with extinctions, invasions, displacements, and successions. Into this melting pot of biodiversity, humans add species from around the world mixed both accidentally and deliberately, many failing to establish, some persisting and relatively few thriving. However, as we change the baseline environmental conditions, often the balance moves away from established native species towards opportunistic invaders, which are frequently but not always exotics (2).

Together, these studies outline the critical role of cities in the development of recombinant ecologies. While recombinant ecologies can be understood as resulting from disturbance, they occur not only in times of ecological crisis such as the Australian bushfire season of 2019-20, but whenever human interventions have taken place in natural systems. Walking through any city in the world and observing closely can reveal recombinant ecologies. For instance, the spontaneous recombinant association of weedy plants on the edge of a pavement can form a micro-wasteland, or a deliberate recombinant ecosystem can be designed in the restoration project of a heritage landscape garden. Wetland birds make their breeding grounds in an industrial corridor, and flying foxes make their daily journey from a wildlife reserve to a human-centered recreation park.

Such recombinant ecologies form our urban habitats: humans contribute to their creation, maintenance and ultimately their survival. Furthermore, how we represent recombinant ecologies, including how we position humans within them, is a political question. The failure of humans to visually communicate as ecological subjects draws into focus our contribution to environmental crises in cities across the world. We propose that the question of visualization - how we can make visible recombinant ecologies – is key to responding to environmental emergencies, ecological literacy, and to learning to *be with* and *care for* the urban environment.

We begin with the theory that by making recombinant ecologies visible we change the subjectivity of humans and create different ways of being in the city that are open and compassionate to other species. Building on the work of Donna Haraway (2016) who offers ‘making kin’ as a way to consider multiple species and interact in a multiple species world, we propose that ‘seeing kin’ is particularly important in urban contexts where other species are often deliberately designed out of our vision. Because of the ontological significance of ways of seeing to ways of being, visual communication needs to be brought to the centre of discussions about the design of urban sustainability and purposive transitions to sustainable cities (Frantzeskaki, et. al 2017). Pointing to the way visual communication can be constructed to create relational perceptual habits, design theorist Joanna Boehnert argues that communication designers have a ‘pivotal role to play in the creation of sustainable futures due to their ability to support the development of new cognitive skills for dealing with complexity and new social capacities to act on the basis of new knowledge (2018, 113).’

This thinking also connects to Latour’s suggestion that matters of concerns, such as urban ecologies, need a new visual vocabulary (2008). More specifically, Latour defines design as a ‘drawing together’ (2008 n.p.). He notes that although there is a multiplicity of modes, methods and skills that enable us to draw objects and what he calls ‘matters of fact’, we still lack the ability to capture the impression of the complexities and entanglements that gather around them.

Visualizing the complexity of recombinant ecologies is often slow, iterative and transdisciplinary because it is based on the enactment of interconnections, continuous feedback and reshuffling among plants, humans, animals, chemistry, social life, things, energy, built and natural environment, and tools. Despite this complexity, Hinchliffe and Whatmore (2006) suggest drawing on Latour, that, in matters of controversy, the political better emerges and is ‘made present’ through experimental practices rather than through the tools of representative politics or policies. Experimental practices are also more likely to generate collectives oriented towards recombinant ecologies (124).

As a commitment to this political better, the stories in this special issue are told in diverse and experimental visual forms and from a variety of disciplines. We draw together different standpoints, languages, and tools to present a range of examples of ‘disciplinary visualities’ (Rose 2003) from Indigenous methodologies to landscape architecture, cultural history, cultural geography, and design research. The authors identify, analyze, and practice visual communication by employing technologies such as

cameras, drones, and social networks, and by paying close attention to the entanglements of images, material culture, and urban imaginaries.

Interventions and Amplifications

The methodological and disciplinary differences outlined above bring multiple perspectives to the subthemes of the special issues: interventions and amplifications. With interventions authors generate narratives that re-code conventional separation of nature and culture in cities, both in mainstream urban imaginary and in cartographic representations. Articles in this subtheme (Jones, Vanni and Crosby, Wilmott and Fraser) present the role of more-than-human ecologies and invite different ways to walk, see and live cities. They do so by creating projects that encourage a re-reading of the city that aligns with a variety of non-human others such as birds (Jones), plants (Vanni and Crosby), compost and wilderness (Wilmott and Fraser).

This issue opens with ‘untitled (giran)’, a visual essay by Jonathan Jones that introduces us to the importance of wind to understanding Country in Indigenous philosophy in South East Australia. Winds bring change, knowledge and emotions. Connected to the winds are budyaan, or the birds, who know the winds best. This visual essay traces the development of Wiradjuri dhawura gulbanha (Wiradjuri wind philosophy) a project conceived by Jones with Dr Uncle Stan Grant AM, a senior Wiradjuri elder and knowledge holder. In order to represent the winds, the work required thousands of feathers, which were provided through a public call out.

Giran was conceived as a participatory project, and it enrolled hundreds of people who, in the months before the installation at the 2018 Asia Pacific Triennial at the Queensland Art Gallery of Modern Art in Brisbane, collected feathers. These feathers were then combined in small winged sculptures and installed in a pattern that evoked the flight of a flock of birds. In addition to collecting feathers, the call out stimulated people to show yindyamarra (a Wiradjuri concept which can be roughly translated as ‘respect’ in English) and engage with their local environment. Being mindful and respecting, the environment was also an invitation to ‘seeing kin’, taking note of the birds who inhabit parks in cities and town, and learning to move slowly through Country by engaging with Country. The essay, in the form of photographs and extended captions, follows the rhythm of the installation, recalling a murmuration of birds.

In our own article, ‘The not-yet tropical: mapping recombinant ecologies in a Sydney suburb’, we write about a plant-led visual communication project by our research studio, Mapping Edges. We consider how our perception of urban green is shaped by a variety of technologies including mapping and fitness apps, government agencies and departments’ cartographies, and citizen science maps that chart parks, reserves, and green corridors in and around Sydney. To make recombinant ecologies present, we propose a mapping kit that relies on an embodied methodology, bringing together walking (Springgay and Trauman, 2018), visual documentation (Rose, 2016) and drawing.

To do this we present three walking maps of plants imagined as ‘tropical’ growing in Marrickville, a suburb on Gadigal-Wangal Country in Sydney’s inner west.

We show how plants redesign the urban landscape and engender everyday practices in the gardens, verges, and non-cultivated parcels of land and in doing so contribute to sensing the suburb as tropical.

Emma Fraser and Clancy Wilmott also play with a different order of walking maps. In their article, 'Ruins of the Smart City: A visual intervention', the authors propose a counter cartography exploring the visual imaginary of the future city is increasingly dichotomized between visions of hyper-technological digital urbanism and the city in a state of ruin, without people, overtaken by nature. These alternating imaginaries key into concerns over urban futures, as questions of sustainability, limited resources, and rising inequality come to bear on urban life. Such binary imaginaries produce a vast quantity of visual material that presents a dialectical reading which both lauds and critiques philosophies of newness, endless progress and the city without decline. Located on several so-called "brownfield" sites in Salford, United Kingdom; and the "smart" Oxford Road corridor in neighbouring Manchester, the research draws out the entanglement of digital urban ecologies, through the themes of wilderness, play, compost.

While these three articles are concerned with projects that 'present' rather than 'represent' recombinant ecologies, the following contributions to this special issue engage with imaginaries and representations. With amplifications authors work towards a critical analysis of visual imaginaries and technologies surrounding urban spaces. Whether it is through the lens of a particular bird, the ibis, (Allatson and Connor) or through the appraisal of visual technologies to record and represent urban spaces (Toland and Christ), these articles show how images play a role in amplifying an understanding of urban recombinant ecologies.

Paul Allatson and Andrea Connor spotlight The Australian White Ibis (*Threskiornis molucca*). Beginning in the 1970s this species has moved from traditional inland waterways to urban centres along the eastern and southeastern seaboard and the southwest corner of Western Australia. Today the ibis is at home in cities across the country, where it thrives on the waste left behind by humans. By exploring the ways that the very physical and sensory presence of ibis make cultural inroads they show that the birds are contributing to a resignification of urban surfaces and the multispecies ecologies in which modern Australians inevitably operate. They also attend to a cultural parallel they call 'ibis kitsch', confirmed by an emergent visual culture as well as terms such as 'picnic pirates', 'tip turkeys' and 'bin chickens'. Arguing that such representations of the ibis can disrupt assumptions of urban Australians and visitors, the authors allow the ibis to speak to human blindness to recombinant ecologies.

Finally, in their paper 'Documenting topographic ecologies: New analytical methods for landscapes, public spaces, and cultural and environmental histories', Andrew Toland and Melissa Cate Christ look to the potential of recording and representational technologies (photogrammetry, LiDAR, GIS, drones) to provide 'thickened' understandings of small-scale urban environments. Their focus is on Hong Kong and its distinctive geomorphologies and variant microtopographies, namely stairs and slopes. Also using experimental mapping methods, they show designers and planners ways to

work across architecturally enforced boundaries between the human and non-human, the social and the ecological, and even, the object and the image.

The contributions to this issue show that experimental visual communication can bear witness to practices and performance of cities by birds, bacteria, plants, atmospheres and people. Visual communication can also generate living archives of recombinant ecologies, contributing to the making of compassionate urban places, and mobilising a politics that goes beyond the needs of humans.

In sum, the articles in this special issue open questions of how cities might be imagined if recombinant ecologies are made more present by visual methods. They make ecological processes and relationships visible, tangible, and accessible, and in doing so can nurture ecological and recombinant ways of seeing and knowing the cities in which we live.

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