

Participatory Design: Lesson in Environmental Care: Understanding our Environment through Air

Hester Buck
Welsh School of Architecture, Cardiff University
Air quality and Carbon Management, University of the West of England
BuckHM@cardiff.ac.uk



Objective:

The objective of my practice-based research is to explore how participatory city-making processes can learn from engagement methods within Citizen Science. The research framed participatory urban design discussions around an exploration of air quality, as the medium through which we experience our environment, considering how air is managed as a natural urban resource. Within participatory workshops I am looking to understand air quality through its interactions with moss, which filters the air as it breathes. It explores how the social agenda of co-design can be supported by the environmental agenda of engaging with air quality, by studying how and where moss grows to reveal qualities about the local environment. Through live case studies the research tests the opportunities of this interdisciplinary method, learning from Citizen Science's Bristol Approach, developing public design conversations to better understand conditions of the environment.

Research Context:

Existing within different discourses, Architecture and Science, these methods of research have much in common, both emerging in the 70's, critical of where knowledge is produced, by whom and how. Working outside the institution with citizens, collecting their situated knowledge of place, both these methods explore the transformative effect of working with the public within research. Despite these similarities, there has been little collaboration between these fields, in part due to the difference in their outputs, with Citizen Science focusing on the finite collection of quantitative data, and architectural co-design predominately addressing the propositional production of the built environment. This practice-based research explores the similarities between these methods with new knowledge developed through an understanding of how these fields intersect. The research explores how thinking about air quality through moss can disrupt my existing practice, to support new modes of operating when working with the public within architectural projects. It frames these methods of working as the subject of the research.

Methods:

As a form of Creative Practice, informed by methods within Citizen Science, the research tests how we can think with moss, developing new ways of working within the three case studies. These case studies have been developed to: explore Citizen Science methods through a live project (Chapter 1); bring an understanding of this method of working into a more traditional architectural project (Chapter 2); and test the opportunities and challenges of scaling these ideas across different projects (Chapter 3). A reflective autoethnographic diary, kept during the project phase of the research, captures my personal experience of testing this experimental method of participatory design. Formal guided interviews with participants and the project team capture the experience of taking part in the case studies. Meeting notes, emails, and a toolkit developed with the council are used as evidence within the research. The research uses narrative analysis to find common themes between these three types of evidence.



Content:

Play Lanes was a live participatory design project developed with the Child-Friendly Cities Department within Cardiff Council and Community Gateway, to encourage play within the lanes at the back of the Victorian terraced houses in Grangetown, Cardiff. Testing how Citizen Science could inform a participatory architectural project, I facilitated the engagement process, collecting ideas for how the lanes could be improved. A series of public workshops and events gathered these ideas through an exploration of the natural environment of the lanes, learning about air quality through the presence of moss, which, like us breathes, filtering the air as it grows. This multi-species approach to Citizen Science used moss as a "more-than-human companion" to explore air quality and consider the wider biodiversity of the lanes.

Findings:

Events which formed part of the co-design process attracted a defined community, whose homes backed onto the gated space of the lane. Reflective of the demographic of residents from that area of Grangetown, most of these participants were minority ethnic, with a large proportion of women with children taking part in the workshops. This contrasts with research completed by Pateman, Dyke and West, which revealed that minority ethnic women are statically the least likely to take part in Citizen Science projects.

The architectural focus of the project, which suggested the opportunity of making improvements to the lane, attracted residents who cared for the space of the lane. The co-design process was based on their everyday lived experiences of home, as opposed to a more abstract interest in the environment. An exploration of the air quality, developed through an understanding of moss, was not the primary reason for attending the workshop, and, as a result, these workshops did not attract a self-selecting community already interested in the environmental agenda of the research. These findings highlight the opportunity of architectural co-design projects, which draw on residents' care for where they live, to support engagement in environmental agendas.

The lanes as a site of research could be understood as a common ground, which is neither public nor private, instead its use was negotiated by the community who use it. As this space was collectively accessed by the defined community whose houses back onto the lane, there was a necessity to co-design how it could be used and cared for as a group. Common ground, as a site for participatory architectural projects, attracted a diverse community of place, developing a project which relied on collective action to improve the local environment.

Environmental care as a form of behaviour

The participatory co-design workshops approached the lanes as an existing ecology, exploring what was already growing within the space. It used these design discussions to explore the relationship between air quality as an element of the natural environment, considering how this was affected by human behaviour and the behaviour of other species. This method of approaching the site of the lane, developed care between participants and the existing condition of their local environment, as a starting point

for design discussions.

An interest in biodiversity and nature was a recurring theme within the proposals for the space: greening was popular with residents across age groups. This agenda was reflected in interviews completed during the handover and after the project. Within these interviews, residents returned to discuss an appreciation of what was already growing within the space of the lane, with a particular focus on moss as something to be encouraged as opposed to being removed. Within the project there was a clear contrast between our ability to allow and support the existing nature to grow within the lane, in contrast to the challenges of constructing planters within an adopted highway with a limited budget. Behaviour as part of design can develop more passive forms of care for the environment, inviting plants into a space through an appreciation of the existing ecologies, as well as more active forms of care focused on physical changes.

Within these interviews there was a clear distinction between the level of care and interest the residents felt for air quality as an element of the environment of the lane, and a lack of engagement in wider neighbourhood or city-wide issues of air quality. Similarly, the co-design process developed practices of care, developing a collective watering rota with residents who hadn't gardened before; however, residents did not make many changes to their behaviour beyond these group activities. The challenges of scaling these behaviours of care beyond the space of the lane to engage with more abstract environmental agendas highlights the value of these types of common ground which are used by small defined groups. It would be interesting to explore how these small-scale activities could be networked across an urban area, as an alternative method of engaging with air quality or biodiversity at the scale of a neighbourhood.

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S Thomas, D Scheller, S Schröder, Co-creation in citizen social science: the research forum as a methodological foundation for communication and participation. (Humanit Soc Sci Commun 8, 244, 2021).

Drawing on residents' care for their homes, the co-design process supported a diverse audience engaging in environmental agendas.