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Farm Lab: Ten Years of Participatory Design Research with Spitalfields City Farm

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For more than 10 years, Spitalfields City Farm (https://www.spitalfieldscityfarm.org/), an urban farm in Inner East London, has been the site of participatory design collaborations with design researcher Sara Heitlinger. Here, Heitlinger and Spitalfields manager Phil Nichols exchange views on the farm’s work and the ongoing collaboration in the context of social and environmental sustainability.

Phil Nichols: London has an amazing outdoor heritage, with 17 farms and more than 2,000 community gardens delivering services and community development to hundreds of thousands in London and the surrounding areas. Spitalfields City Farm is a free-entry urban oasis located in the Inner East London borough of Tower Hamlets. Having been an integral part of the community for over 40 years, the farm offers a unique and creative natural environment for all to enjoy. It continues to grow, attracting new visitors and service users each year.

The farm was established in 1978, when local people squatted on what was then an urban wasteland, converting it into a place for growing food. As the farm gained momentum and status, it began to attract local funding, which allowed it to begin employing staff and developing links with the wider community. Despite regular threats from developers, successive bids to various charitable trusts, companies, and public-funding bodies, as well as strong local support, have enabled the farm to continue and grow. It gained charitable status in 1980; since then, Spitalfields City Farm has developed a wide variety of activities and opportunities for the local community and visiting groups.

The farm is located in one of the most urban and most deprived environments in the U.K. The local borough has the highest rate of child poverty in the U.K. Its population suffers from a range of food-related illnesses, including diabetes and childhood obesity. Our work enables us to offer opportunities for local people, families, and businesses to engage in a deeper way with nature and to contribute to maintaining and developing the farm as a beautiful, inclusive, safe, educational, and welcoming space for everyone.

We work with a diverse group of people to help them experience a full range of outdoor activities, such as gardening, harvesting, cooking vegetables, caring for animals, volunteering, and taking part in farm events. We provide opportunities that empower people, helping them gain new skills and confidence to improve their employability, combat loneliness, and make new friends.

Spitalfields City Farm was the first city farm in London to be given “rare breed” farm status. As we are a non-slaughter farm, none of our animals go into the food chain. But we do breed

rare-breed sheep, chickens, and goats, which are then sold to other breeders to ensure that their ever-diminishing gene pools remain intact.

An important part of our work is developing partnerships with other local organizations. These can be other charities, private-sector organizations through our volunteer challenges, local authorities, and education-sector organizations. Many of these relationships are built over time through ongoing contact with individuals. The farm is grateful to Sara Heitlinger, not only for her support as a trustee but also for helping us develop and deliver community projects through her work.

Sara Heitlinger: The global food industry produces over a third of all greenhouse emissions, contributing to mass species loss, the degradation of soils, and the disempowerment of small-scale farmers. To put it in stark terms, the way we produce and consume food is threatening food security for all life on Earth. These concerns motivate my research collaborations with staff, volunteers, and visitors (both human and nonhuman), as well as other domain experts such as artists and technologists, through a series of participatory design engagements at Spitalfields City Farm. Together we have been critically exploring how digital technologies such as blockchain, the Internet of Things, and artificial intelligence are intensifying these unsustainable inequalities, as well as how we might design these technologies differently in order to support more sustainable and equitable food practices, particularly in urban contexts. Here is a selection of those engagements:

The Talking Plants is a playful interactive system for learning about plants. Through an RFID-enabled watering can, the plants talk to visitors about their history and how to care for them. Developed with farm staff, the project draws on the knowledge, stories, and voices of the farm community. It was presented to the wider public at a number of events, and used to support plant sales at the farm [1].

The Bug Hotel is an experiment in interspecies cooperation. It is a living sound sculpture that provides a habitat for beneficial insects and pollinators, as well as a place for humans to rest, meditate, and learn about the nonhuman animals on which our food depends. Visitors can sit inside the bug hotel and listen to the insects living all around them from the 18 contact microphones hidden inside the structure. One of the 10 stereo channels is a live feed from the farm's beehive (located nearby but off-limits to visitors), creating the sensation of being inside a beehive.

Connected Seeds and Sensors explored co-designing for the Internet of Things through networked environmental sensing, data visualization, and an interactive seed library to support more sustainable urban food growing. Fifteen "seed guardians" committed to growing crops for seed, contributing their seeds and experiences of growing, along with data collected from their gardens, to the seed library. The library contributes to seed sovereignty and biocultural diversity by making seeds not typically grown in the U.K. available, drawing on the expertise of the migrant community [2] (see connectedseeds.org).

Algorithmic Food Justice explored co-designing food futures in which all of London was transformed into a city farm, and where nonhuman actors such as plants, animals, and water play a part in food governance with the help of emerging technologies such as blockchain

and AI. Together with grassroots growers, community organizers, artists, researchers, and technologists, we explored injustices in corporate food regimes, with their exploitative and human-centered values. We designed conceptual blockchain-based prototypes to redress these inequalities and allow for new types of value exchange. Blockchain was used to establish and help govern a multispecies food commons [3] for fairer and more sustainable urban food systems.

Integral to these research projects were the community-events that I organised or took part in over the years, and which involved thousands of people, including from the wider public. These activities helped build relationships, networks and knowledge exchange which I was able to draw on both in my role as project supervisor for M.Sc. students who conducted their dissertations at the farm, and in my role as a trustee.

The farm has taught me that we cannot separate care for climate from care for people. The stakes are too high to leave technology design to corporate interests such as big tech and agribusiness. Working with grassroots food-growing communities such as Spitalfields City Farm suggests how we might build different worlds, with different food systems, that are more just and nourishing for both human and non-human inhabitants of our planet.

Endnotes

1. Heitlinger, S., Bryan-Kinns, N., and Jefferies, J. The talking plants: An interactive system for grassroots urban food-growing communities. *CHI '14 Extended Abstracts on Human Factors in Computing Systems*. ACM, New York, 2014, 459–462; https://doi.org/10.1145/2559206.2574792

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Sara Heitlinger is a lecturer in computer science at City, University of London. Drawing on methods from the arts and humanities, her research looks at the intersections between citizen-led innovation, sustainability, and co-designing urban futures. With commitments to participatory design, she is motivated to broaden the focus of HCI beyond authoritarian, top-down, and efficiency-based solutions toward sustainability and co-designing for urban diversity and the commons. sara.heitlinger@city.ac.uk

Phil Nichols has worked in the charity sector for over 20 years, at both small- and medium-size charities as well as those operating at a national level. He has held a variety of roles in senior management as well as working on a freelance basis. He is currently chief executive

of Spitalfields City Farm. Nichols holds a post-graduate diploma in charity management from South Bank University. philip@spitalfieldscityfarm.org

Figures and Captions

Figure 1. Spitalfields City Farm.

Figure 2. The Talking Plants.

Figure 3. The Bug Hotel.


Figure 4. Microphones going into the beehive.

Figure 5. The Connected Seeds Library.

Figure 6. Networked environmental sensors in the garden.

Figure 7. Seed-saving workshop.

Figure 8. Seed guardian Basilia, with Zimbabwean Maize she grew.

Figure 9. Discussing governance in a multispecies commons .