About the designer

Youngsil Lee is a Korean design researcher based in the UK and the Netherlands. She is currently a PhD student in Design Informatics at the University of Edinburgh and part of the DCODE Network, which is supported by the European Union's Horizon 2020 research and innovation program under grant agreement No. 955990.

Her goal is to rethink data and data practices with researchers and professionals who create and curate data for current economies. She aims to foster an ecological perception that includes heterogeneous and local data sources not only from humans and machines but also from plants, animals, and minerals.

Using speculative and participatory design methods, her research focuses on agricultural contexts involving the geo, bio, and tech spheres of the planet. Specifically, she uses tomatoes, which are a common commodity that fits into human economic systems yet are also living organisms.

PhD in Data, Value, Sustainable Economic Models 2021-2024 (expected)
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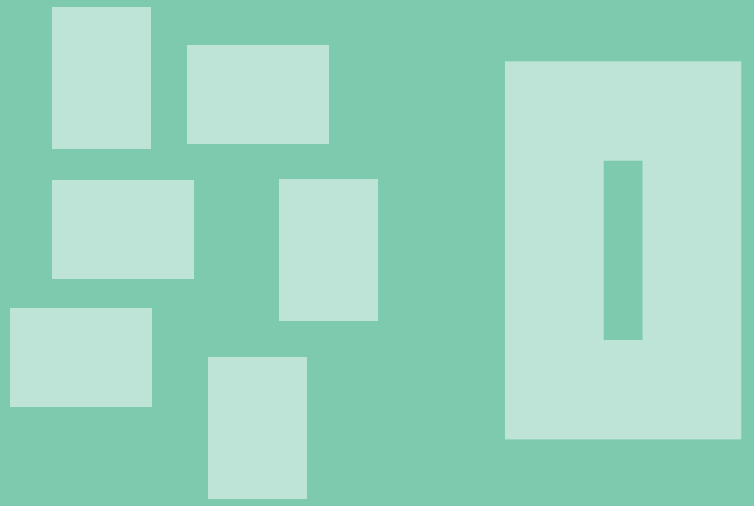
Publication:
Lee, Y., Pschetz, L., & Speed, C. (2022). Investigating materiality for a renewed focus on data design practice. DRS2022: Bilbao, 25.

Websites:
https://www.designinformatics.org/
https://dcode-network.eu/

DATA, TOMATOES and ECOLOGICAL FUTURES



Created by Youngsil Lee

How have various data, purposes, humans, non-humans, relationships, phenomena, and trends shaped the phenotypes of tomatoes? And how will they continue to shape and be shaped by tomatoes in futures?

NORDES 2023 DCODE NETWORK

This study is part of Youngsil Lee's PhD research, "Rethinking Data and Data Practice for Ecological Futures," supported by the project DCODE from the European Union's Horizon 2020 research and innovation program under grant agreement No. 955990.

DATA

Purpose and Value

Nonhuman and Human

Relation anad Power

Phenomena and Trend

Phenotype and Genotype

Past and Present of tomatoes

Tomatoes are a globally beloved vegetable that has been domesticated. As a model crop and commodity, and digital twin, they have provided countless data.

1. Wild Galapagos Tomatoes
Wild tomato has been studied to learn and transfer its resilient traits to pests into cultivated varieties, which had lost their natural resistance during breeding.

2. Heirloom Tomatoes
Heirloom tomatoes are naturally pollinated by wind, insects, or birds and come in diverse colours, shapes, sizes, and flavours.

3. Natural Pollinators
Bees play a crucial role in the reproduction and genetic diversity of plant species. Unfortunately, due to the climate crisis, they are in danger of becoming extinct.

4. Greenhouse Farming
Greenhouse farming maximises tomato productivity in a controlled environment, but high energy costs have caused a tomato shortage.

5. Farm Workers
in the U.S. and Mexico, thousands of farm labourers have worked under slavery-like conditions to grow tomatoes.

6. Community Garden (tomatoes and basil)
As part of a social movement, local communities are growing their own vegetables in a sustainable way to promote resilience, well-being, and biodiversity in the city.

Speculative participatory workshop

I led a workshop at Wageningen University with six social and natural scientists. Using a speculative method, we imagined possible futures through the phenotypes of future tomatoes.

1. Context Mapping
What data, humans, non-humans, and environmental elements can influence the growth of tomato plants?

2. Selecting Trends
Trend 1: Genomic technologies - engineering various living organisms for different purposes.

Trend 2: Automation and AI systems - eliminating the need for human and non-human labour in the agricultural industry.

Trend 3: Energy resource shortages - using minimal energy for agricultural production.

Trend 4: Climate crisis - causing extinction or creating new lifecycles of living organisms.

Trend 5: Prioritizing biodiversity - protecting wild organisms and learning from their symbiotic ways of survival.

3. Envisioning Future Tomatoes
Which elements and relationships will be affected by the trends? How will the changes reshape the context and tomatoes?

Futures of tomatoes

6 fictional drwaings and stories about a world where future tomatoes grow.

1. Infinity Tomato (trend 2)
This is a self-growing tomato calyx that produces a tomato without any external assistance in just a few seconds. Tomatoes produced by this calyx are traditional in colour, taste, and shape.

2. Rainbow Tomatoes (trend 1)
Rainbow is a plant designed for home growing that produces colourful tomato fruit containing different pigments. With this, a family can grow a single tomato plant and obtain various nutritional sources from it.

3. Luxumato and Tomato pill (trend 3)
There will be two types of consumers: those who are very wealthy and able to purchase real tomatoes, and those who are poor and provided with tomato pills for humanitarian purposes and basic nutrition.

4. Tomatrix (trend 1,2,3)
Tomatoes are fed with sugar and nutrients from a machine. Then, the light is removed from the scene.

5. Red Berry (trend 1, 2)
These are small tomato plants that produce high-density, tiny tomatoes. They have small stems and no leaves.

6. Home Cell (trend 3)
The wealthy have access to certain forms of energy, while ordinary people depend on sunlight. To compensate, people modify tomato plants to grow with fewer leaves, thus requiring less light, while still being able to bear fruit.