



Figure 1. Firekitchen. Design: Johanna Dehio. São Paulo, Brazil, 2017. Different cookware in use ©Johanna Dehio

# DESIGNING FOOD CYCLES: THREE PATHWAYS TOWARD URBAN RESILIENCE

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This contribution refers to the creative actions led by the Leibniz University Hannover (LUH) in the framework of the Creative Food Cycles project. It gives an overview of current speculations and testing in designing food cycles, based on the notions of urban metabolism and resilient food systems. A selection of best practices contained in the Food Interaction Catalogue is presented to enlighten spatial qualities, societal benefits, and actors' constellations being boosted creatively in the market, kitchen, and table setups. The nine prototypes conceived during the workshop "Food Cycles Pop-Up" are illustrated, as explorations and potential inventions for "urban food hotspots". Finally, three pathways towards urban resilience are briefly traced towards a regional and local development based on food cycles.

food cycles / food flow / practices / prototypes / pathways



Figure 2. Yatai Cart. Design: Note Architect, Fukuoka, Japan, 2018. The Yatai cart as movable coffee stand ©Note Architects

Food cycles provide design disciplines with opportunities of speculations and testing, as circularity builds on the capacity of single segments to interact with and feed each other. Time is an inherent logic of cycles, which complements that of space. Thus, the natural substratum supplying food to territories and societies has been recently examined through the lens of processes that can help regenerate and restore it. It was back in the sixties that the importance of material flows within the urban ecosystem emerged (Kennedy et al. 2010), as Wolman (1965, p. 180) demonstrated that the “metabolism of a city involves countless input-output transaction.” Wolman enlightened on the necessity of completing a “metabolic cycle” to avoid imbalances in the system determined by waste overload. Applied to food provisioning, the observation of material flows has intercepted consistent research across natural and urban studies, architecture, and arts. Emphasis has been given to connecting cities and the countryside in terms of exchanges—of assets, actors, and semantics: within a defined geographical region, or foodshed (Hedden 1929); through agro-ecological principles (Vaarst et al. 2018), regenerative approaches (Girardet 2010), and agro-urban models (Donadieu 2013); by linking food to urbanism, to the public and private realms of cities (Parham 2015); in addressing peripheries as catalyst of sustainable urban-rural dynamics (Schröder et al. 2018).

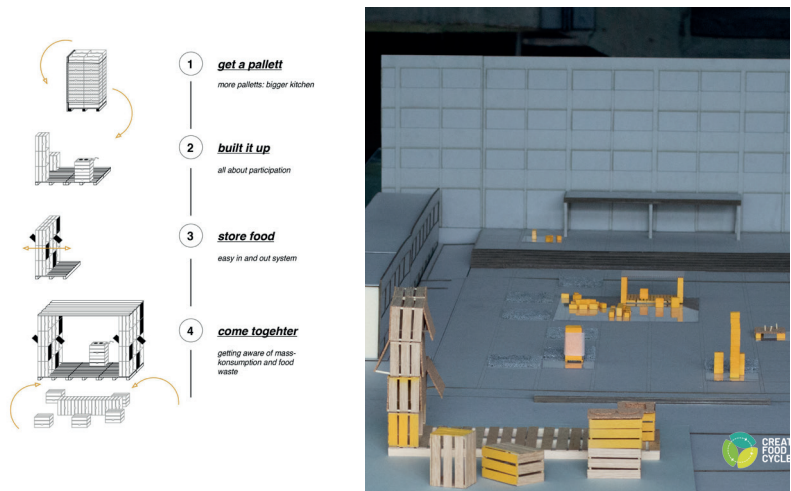


Figure 3. Leftover Performance. Design: Julia Theis and Marsha Dinse, 2019

Beside it, a trend can be recognised in that alternative food networks create commons as “a reaction to a placeless and unjust corporate food system” (Borčić 2020, p. 4). However, gaps in-between strategic efforts and spontaneous reactions towards resilient food cycles still exist, making it necessary to envision new roles of architects and designers as daily agents of urban futures. How food flows can be traced out and re-shaped in everyday life? How creative food cycles can be established as a new domain of design? What pioneering actions can be fostered towards empowering urban communities?

## PRACTICES

Innovations in food cycles have been occurring in the Global North and South. A collection of best practices in the Creative Food Cycles project, indeed, gives evidence of a double condition: on the one side, it can be recognised the broad geographical presence of creative inventions, at each latitude; on the other, a vast diversity of solutions arise in response to the peculiarities of regional climates, technological readiness, raw materials and resource streams, community needs, and vernacular knowledge. (Markoupoulou et al. 2019)

With regard to distribution and consumption phases, focused by the research



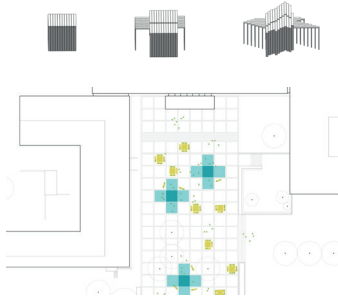


Figure 4. Food Machine. Design: Leona Schubert and Michel Grändorf.2019

unit of Leibniz University Hannover (LUH), the categories of “market”, “kitchen”, and “table” have been identified to interpret the role of food cycles in daily urban actions, with clear cultural and civic scopes. Hence, the supply of foodstuffs through multi-functional food nodes, the socio-cultural transformation of ingredients in the acts of cooking and eating, the shaping of new urban communities through conviviality rituals and sharing habits have been investigated. In this contribution, each category is analysed through a selected practice, to enlighten spatial qualities, societal benefits, and actors’ constellations being boosted creatively through food: a) Fish Market in Bergen, Norway (Eder Biesel Arkitekter); 2) FireKitchen (Johanna Dehio); c) Yatai Food Carts (Note Architects).<sup>1</sup>

## Market

The Fish Market in Bergen accelerates ecological food cycles in the harbour area of the old town, located at the core of the UNESCO protected site of Bryggen. It offers a place for interactions between fishery and trade, port and city, which refers to the membership the Hanseatic League since late medieval times. The architecture enhances the urban space hosting new experiences linked to food tasting, goods distribution, and preservation of heritage.

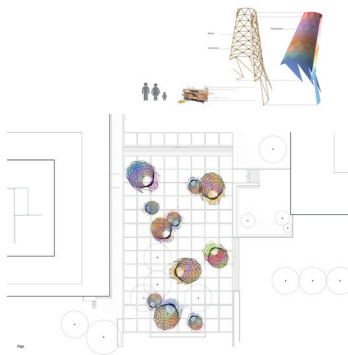


Figure 5. Pneumatic Towers. Design: M. Adel Alatassi and Elvin Demiri, 2019

## Kitchen

Firekitchen arises as a collaborative design project based on shared intents, offering artistic means for new inventions. It builds on the particularities of cultural environment, vernacular techniques, and renewable materials to originate a common kitchen, a dinner table, and a shelter. Clay is sourced and employed locally in the neighbourhood of Beiza in São Paulo to design ecological pottery, placed at the centre of an open feast around a fireplace.

## Table

The Yatai Food Cart in Fukuoka combines DIY approach and fabrication with the traditional micro-scale architecture of Japanese food carts deriving from the Edo period. It consists in a modular and movable coffee stand, built with square timber and plywood, which can be located in abandoned interstitial spaces to support urban life and regional food cultures through a simple, effective, and replicable design.

## PROTOTYPES

Taking inspiration from the international inventory of creative practices, nine prototypes<sup>2</sup> have been conceived in the forms of social tables, cooking utensils, market multi-settings, and urban kitchens with a novel performative, experiential, and experimental character. The three-day workshop “Food Cycles Pop-up” coordinated by LUH has offered a framework to systematic testing in the food settings of Hannover (Lower Saxony, Germany) giving impulses to crucial nodes and drivers in the system. The five analytical lines of food culture, conviviality, digitisation, circular economy, and sustainability mark and enlighten the most compelling fields in which design-driven actions should step and contribute.

1. Food culture. It relates to the idea of multiplying public living theatres in the city based on performing activities and art-based experiences. The prototype SensFest stimulates senses through a discovery pathway gradually driven by rotating furniture, which additionally encloses tasting and gathering hubs. The other prototype in this field DIY Box focuses on the micro-mobility of food, building colourful and replicable boxes to transport cooking utensils for the set-up of community kitchens.
2. Conviviality. It engages with the emerging ritual of sharing tables. Plate Revolution confronts with the demand of healthy diets and proper dining, by conceiving a space for social workshops in which to self-build plates and other utensils. Convivi-Island offers new urban furniture that moves according to the desired orientation, atmosphere, and company.
3. Digitisation. It concerns the ability to crafting and developing advanced devices as an enabling factor of food cycles. The project Food Machine manufactures an advanced light architecture made of wooden panels: by pressing them, various ingredients are supplied to users for creating a personalised meal. Pneumatic Towers consists in a pavilion, built through parametric design, which aims at stimulating different perspectives and perceptions about food by the use of colours and by creating surprisingly events and opportunities of interactions.

4. Circular economy. It merges recycling practices and co-design along the food chains. The proposal Leftover Performance creates a public kitchen from recycled materials based on the creative re-use of leftovers, thus giving a collective contribution to food-waste reduction. No Walls fosters multiculturalism through playful 'totems' that facilitate social integration and urban cohesion based on public crafting and dining.

5. Sustainability. It relates to connecting regional markets and bio-production to the city life and responsible behaviours. The prototype Portable, selected to be scaled up as a 1:1 installation, considers the European transition toward low carbon societies by designing an unfolding movable table in the scale of unused parking lots, which contains a green raised bed, for community use and implementation.

Through the nine prototypes, modular, pop-up, and flexible inventions for an "urban food hotspots" have been proposed: they represent alternative living stages capable of activating ecological food cycles (Sommariva, Sposito 2019).

## **PATHWAYS**

As a result, three pathways for urban resilience can be briefly distilled.

Food can represent a "medium", involving the cultural, urban, and geographical spheres of everyday life and forging the inter-linkages between new aesthetics, flavours, and habits. Food can be strongly driven by design to engage communities differently, by multiplying "food stages" in the cities for a direct connection with food and food practices. Food can serve as a "strategic asset" for shaping urban-rural economies, resilient foodsheds, and sustainable food chains



## FOOTNOTES

1. A complete description of the projects is contained in the Food Interactions Catalogue: Collection of Best Practices: <https://creativefoodcycles.org/food-interactions-catalogue/>. [Accessed: 01.09.2020].
2. Prototypes have been developed as follows: (1) "SensFest" by Fabiana Cerutti Rossetti and Selin Karamanoglu; (2) "DIY Box" by Janine Philipp and Nadina Jurat; (3) "Plate revolution" by Kit Wing Virginia Siu and Blanca Mendez Rebollo; (4) "Convivi-Island" by Deiby Betancur, Jorge Fuentes, and Jiajing Sun; (5) "Food Machine" by Michel Grändorf and Leona Schubert; (6) "Pneumatic Towers" by M. Adel Alatassi and Elvin Demiri; (7) "Leftover Performance" by Marsha Dinse and Julia Theis; (8) "No Walls" by Isabella Sanches Previti and Fabrice Rutikanga; (9) "PorTable" by Anna Pape and Josephine Arfsten.

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