

FOUNDATION

STUDIO II:

PRODUCTIVE

PARTNERSHIPS

SPRING

2021

CHAIR OF

BEING ALIVE

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Fig. 1: Above: Sechseläuteplatz during the Anbauschlacht, Zürich. Unknown source.

How can the addition of integrated, dynamic, and productive systems transform and define the urban fabric?

“Urban agriculture is appealing for making the relationship between food production and city visible and thus renewing the historic tie between culture and cultivation. In this context, city and agriculture are not opposites but two sides of the same coin. Cities were not just supported, but defined by agriculture.”

Dorothee Imbert, 2015

In Paris, the marshy wetland in the floodplain on the North bank of River Seine, known as the *marais*, was the site of market vegetable production beginning as early as the 12th century. While the site of the gardens shifted as Paris grew, the practice of intensively cultivating the edges of the city to produce food for the urban population continued. Each week, the *Jardin Maraichers* would haul horse manure from the center of Paris as fertilizer for the market gardens. Later, they used the city’s sewage outflow (Leduc, 2015). For hundreds of years, Paris was metabolically linked to its periphery, cycling nutrients through systems of food production on an urban scale. The long-term intensive cultivation of urban food influenced the development of a cuisine that emphasized fresh fruits, vegetables, and locally grown herbs (Quellier, 2015).

In the contemporary manifestation of agriculture, the production of food occurs far away from the urban centers—where there is ample space for large machines to cultivate much larger swaths of land. The division between urban and rural seems to be in part constituted by the presence or absence of agricultural production. However, this dichotomy is not inherent to the urban condition. Practices of cultivation, and the patterns that they imprinted on the landscape, still shape cities like Paris, the West Bank, Baghdad, and Mexico City (Imbert, 2015). In fact, prior to the industrialization of agriculture and a global food supply chain enabled by fossil fuels, the question of how to feed a dense and growing population was critical. We recognize that infrastructures of transportation, water, and waste are integral to a city’s operations, as well as its form. Can this also be true for its systems of food production?

We are not just calling for the integration of food systems into the form of the city, but for a transformation of those systems. The

rapid industrialization and expansion of commercial agriculture in the 20th century has witnessed erosion and depletion of soils on a massive scale, a loss of biodiversity and severe economic inequality. The logics of capital that emphasize standardization, efficiency, and profit have co-opted and transformed land-based logics that demand time, care, a close-reading of and integration into larger systems, and place-specific management regimes.

As the far-reaching side-effects of the ‘Green Revolution’ in global agricultural production have been felt, there has been a growing call to respond by shifting practices in agriculture. Strategies like rotational grazing and agroforestry focus on integrating animals to enhance the integrity of a living soil capable of supporting a diversity of food crops, as well as storing excess carbon from the atmosphere. Organic and biodynamic methods in agriculture seek to reduce or eliminate reliance on chemical fertilizers in favor of a cyclical re-introduction of waste as fertilizer. Strategies of water harvesting have been developed to reduce soil erosion and slow the process of large-scale desertification. While often these strategies are touted as new developments, most are a reiteration of historic and indigenous forms of agriculture that persisted for millennia prior to the colonial expansion.



Removal of refuse at Les Halles, Paris, Source: Musee Carnavalet / Roger-Viollet

In the face of a global climate and food crisis, can we allow these strategies to transform the urban condition?

In the 1940's Switzerland began the Plan Wahlen, also known as the Anbauschlacht, to enhance domestic food security. At the time, Switzerland was importing more than 40% of its food supply and policymakers, recognizing the threat of WWII, pushed for an increase in domestic production of crops. This resulted in a large range of nonagricultural landscapes being appropriated for agricultural use. The territorial reorganization that occurred impacted urban as well as rural areas. In the city of Zurich, ‘non-vital’ economic activities were paused (HLS 2021), and potatoes were grown in the Operaplatz (Fig. 1). This moment demonstrates a political and social will to up-end the status quo of urban operations in an effort to respond to a crisis.

While the image of the Operaplatz filled with potatoes during the Anbauschlacht provokes thoughts of new hybrid productive urban landscape, the Wahlen Plan ultimately laid the foundation for a massive-scale modernization of Swiss agriculture—threatening traditional practices of alpine grazing and small-scale production. With this in mind, we are cautious about invoking a crisis-centered justification for integrating food into the city, even though we are in the midst of a slow-moving but still violent global climate crisis. Instead of a manufactured sense of urgency that only reinforces existing power dynamics (Klein, 2014), we propose to shift from a productivity-focused frame to emphasizing the larger ethics of landscape relationships. In *Matters of Care*, Maria Puig de la Bellacasa encourages us to imagine “Soil Time”—how considering long-term processes of soil building forces us to work outside of a mindset that prioritizes productivity and urgency. Focusing on the living system of soil, the rhizosphere, can shift our attention from the product to the relations of production.

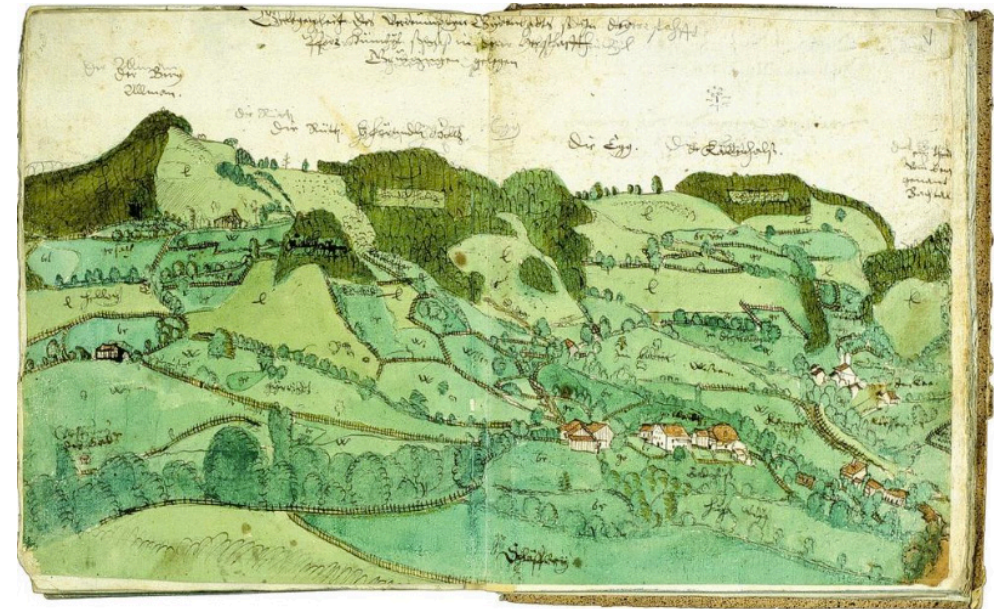
Decentering productivity does not mean removing it from the picture completely. Perhaps the question is not how to make the urban landscape more ‘productive’ for us, but how to share this productivity with other living creatures. Our current agricultural model isolates certain parameters, such as yield of valuable crops, from the network of relationships that sustain this productivity. This myopic method for managing landscapes ignores all of the living and dying that happens in, around and through what we narrowly define as “productive.” Essential to creating systems that fit into this web of partnerships is the design of temporal and spatial management regimes that respond to specific ecological dynamics of a place. With attention to landscape systems of climate, geology, and life cycles, humans can be a part of this productive exchange among

living creatures. In this studio, we want you to propose the spatial, material, and temporal conditions that enable these productive partnerships.

We will begin with a study of the large-scale agricultural needs and opportunities of Zurich. After getting the lay of the land, each student will research and draw a reference system for agricultural production, focusing on techniques that have been developed to enhance long term soil integrity or to respond to particular constraints. Studying these techniques will give you tools to design an intelligent system of production in the context of Zurich. You will then choose an urban typology (such as streets, margins, water edges) and design a system that utilizes a series of spaces in that typology. Your projects will emphasize management practices and changes over time, as well as responding to the specific spatial opportunities of your chosen urban condition. Each project should be supported by the larger systems of water, climate, vegetation, topography, and soil that you have been mapping in your Urban Systems seminar. Collectively, the proposals will demonstrate a creative, rigorous, and detailed vision for the integration of productive systems into the landscape of Zurich, thereby transforming the city, both spatially and culturally.

References:

- (1) Imbert, Dorothée. *Food and the City: Histories of Culture and Cultivation* ; [Based on Papers Presented at the Symposium "food and the City," Held at the Dumbarton Oaks Research Library and Collection, Washington D.c. on May 4-5, 2012]. Washington, DC: Dumbarton Oaks Research Library and Collection, 2015. Print.
- (2) Quellier, Florent. "Paris Is a Land of Plenty": Kitchen Gardens As Urban Phenomen in a Modern-Era European City (sixteenth Through Eighteenth Centuries)." In *Food and The City*, see (1)
- (3) Taylor-Leduc, Susan. "Market Gardens in Paris: 'a Circulus Intelligent' Circa 1790-1900." In *Food and The City*, see (1)
- (4) Klein, Naomi. *This Changes Everything: Capitalism Vs. the Climate.* , 2015. Print.
- (5) Puig, de B. M. *Matters of Care: Speculative Ethics in More Than Human Worlds.* , 2021. Internet resource.



Girenbad in the municipality of Hinwil. Johann Leus *Varia collectanea praeprimis Helvetica*, est. 1650
Zurich Central Library, Manuscript Department , Ms. L 464, pp. 481 and 482.

INSTRUCTORS



TERESA GALÍ-IZARD, PROF.
CHAIR OF BEING ALIVE

Teresa Galí-Izard is a principal of ARQUITECTURA AGRONOMIA, a landscape architecture firm based in Barcelona. Galí-Izard is the author of “The Same Landscapes. Ideas and interpretations” and is trained as an Agronomist at Polytechnic University of Catalonia.

INSTRUCTORS



LUKE HARRIS
CHAIR OF BEING ALIVE

Luke Harris is a landscape designer whose research foregrounds social justice and the complexity of living systems. He studied at the University of Virginia (MLA) and Macalester College (BA). Prior to joining the ETH, he practiced at Michael Van Valkenburgh Associates in NYC. Luke is a cofounder of the design research collective Office of Living Things.



CARA TURETT
CHAIR OF BEING ALIVE

Cara Turett is a landscape designer and cofounder of landscape research collective, Office of Living Things. Cara's research explores fieldwork methods for reading and responding to existing agencies and histories of dynamic landscapes. Prior to joining ETH, Cara worked at SCAPE Landscape Architecture in New York. She holds an MLA from the University of Virginia.



BONNIE KATE WALKER
CHAIR OF BEING ALIVE

Bonnie Kate Walker is a landscape designer whose research focuses on the potentials of understanding the relationship between climate, plants, and gardening practices. She has an MLA from the University of Virginia and worked as a landscape designer at Future Green Studio in NYC. She is a cofounder of the landscape design and research collective Office of Living Things.

SEMESTER SCHEDULE

WEEK 1 / 26-30 APRIL 2021

	Tuesday 27.04	Wednesday 28.04
AM	Introduction to Studio & Arles exercise	Pin-up Arles exercise
PM	Work on Arles exercise	Intro to Productive Partnership exercise
HW	Exercise 1: Arles	Exercise 2: Productive Partnership

WEEK 2 / 3-7 MAY 2021

	Tuesday 04.05	Wednesday 05.05
AM	Desk-crits Productive Partnership	Pin-up Productive Partnership
PM	Desk-crits Productive Partnership	Intro to Typologies & Overlaps exercise
HW	Prep for Productive Partnership pin-up	Exercise 3: Typologies & Overlaps

WEEK 3 / 10-15 MAY 2021

	Tuesday 11.05	Wednesday 12.05
AM	Desk-crits Typologies & Overlaps	Pin-up Typologies & Overlaps
PM	Desk-crits Typologies & Overlaps	Intro to Time & Cycles exercise
HW	Prep for Typologies & Overlaps pin-up	Exercise 4: Time & Cycles

WEEK 4 / 17-21 MAY 2021

	Tuesday 18.05	Wednesday 19.05
AM	Desk-crits Time & Cycles	Pin-up Time & Cycles
PM	Desk-crits Time & Cycles	
HW	Prep for Time & Cycles pin-up	Work on project edits and final drawings

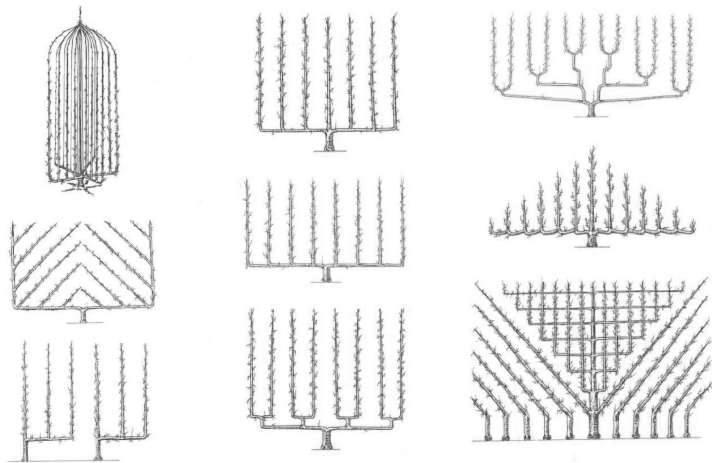
WEEK 5 / 24-28 MAY 2021

	Tuesday 25.05	Wednesday 26.05
AM	Desk-crits	Desk-crits
PM	Desk-crits	Desk-crits
HW	Edits and final drawings	Edits and final drawings

WEEK 6 / 01-04 JUNE 2021

	Tuesday 02.06	Wednesday 03.06
AM	Desk-crits	Final crits
PM	Desk-crits	Final crits
HW	Edits and final drawings	

* 8am - 5pm every Tuesday and Wednesday



Encyclopédie des formes fruitiers, Jacques Beccalotto.

EXERCISES



Sylvopasture at New Forest Farm.

In order to make the most of the short time we have together in this 5-week studio, we have structured the studio as a series of exercises that build off each other. We will begin by understanding the agricultural capacity of Zurich and its region, then learn from the lessons of farmers, scientists, and long histories of knowledge that have tested methods of regenerative agriculture, and finally design a system in Zurich that borrows from the methods you have learned and utilizes a particular typology of urban space.

Submissions and Communications:

All the course information and materials including the PDF of this reader and the Reference Dossiers will also be available on the server at the following link:

\\nas22.ethz.ch\arch_lus_mscla_student\FS_21\Foundation-Studio-II\02 Gali-Izard

Please submit your drawings each week to the course folder, final drawings along with progress drawings.

27.04.2021

ARLES: LANDSCAPE LANDSCAPE URBANISM

Arles: Landscape Landscape Urbanism was the follow-up to *Regenerative empathy Studio* at Harvard GSD. In this studio, the students approached the design of self-sufficient food production systems based on the principles of regenerative agriculture.

This multi-scale methodology will be the reference for *Exercise 1*.

KEYWORDS

AGRO-SILVO-PASTURE SYSTEM

URBAN AGRICULTURE SYSTEM DESIGN

SELF-SUFFICIENT FOOD PRODUCTION

SUPPLY CHAIN



Radial system forest variation, Arles Landscape Landscape Urbanism Chair of Being Alive.

EXERCISE 1

ARLES APPLIED IN ZÜRICH

Due 28.04.2021

For this first exercise you will use data to figure out what would be the scale of Zurich's productive landscape based on feeding the population with regenerative agriculture.

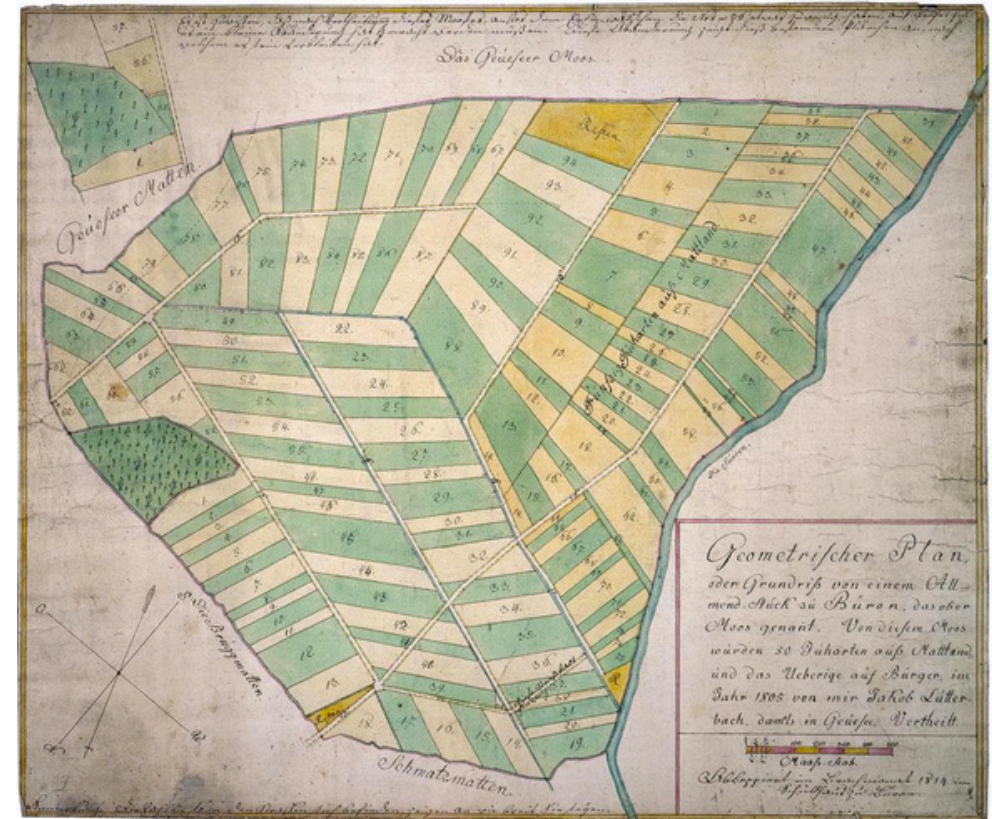
Goals:

- Understanding the capacity of a diverse food production systems.
- Linking the scale of that system to population, i.e. of Zürich.
- Spatializing that scale and understanding where the potential for productive systems are in a specific geography (based on water, soil, climate).

Assignment detailed on following pages.

Sources:

- Reference Dossier: Arles Studio
- Land requirements in the Canton of Zürich Excel table



Plan of the division of the Oberes Moos common area in the municipality of Büren, 1805
Lucerne State Archives, PL 1076

DESIGN OF REGENERATIVE AGRICULTURAL LANDSCAPES:
LAND REQUIREMENTS DATA

For this first exercise you will be provided with an Excel table with the data for all the communes in the Canton of Zürich, including the land area (forest and agricultural) that each commune will need in order to be self-sufficient in terms of food production.

This data allows us to figure out what would be the scale of our productive landscape if we want to generate a more sustainable system based on self-sufficient regenerative agriculture.

The process through which we get the balance between the needed and the given area for each commune is based on official data from the Swiss Government, on the production data obtained in the polyfarming project of Planesas and on the requirements of a basic mediterranean diet. It shouldn't be taken as a fixed number but as a reference to approach the scale of the system.

Steps to create the Excel table:

1) Here you can download an Excel table with the communes' data: <https://www.bfs.admin.ch/bfs/en/home/statistics/economic-social-situation-population/economic-and-social-situation-of-the-population/poverty-and-material-deprivation/risk-poverty.assetdetail.15864461.html>

2) The data we will use for the table is *Habitants*, *Surface**, *Surface agricole** and *surface boisée**.

The screenshot shows an Excel spreadsheet with columns for 'Commune', 'Population', 'Surface (ha)', 'Surface agricole (ha)', and 'Surface boisée (ha)'. The data is organized in a grid format with rows for each commune and columns for different metrics.

*All the areas must be introduced in our table in Ha instead of km²

As the forest and agricultural surfaces are in %, for both of them we need to apply the operation (*Surface x %*).

Code	Commune	Surface (ha)	Population	Forest (%)	Forest (ha)	Agricultural (%)	Agricultural (ha)	Area needed	Area used	Needs	Gives
3	351 Bern	5.161	134.591	33,6%	$5.161 \times 33,6\%$	19,0%	981	29.909	2.715	27.194	
4	356 Muri bei Bern	763	13.023	21,8%	166	26,1%	199	2.894	365	2.529	
5	363 Ostermundigen	596	17.772	25,4%	151	31,8%	190	3.949	341	3.608	

3) To get the area we need to feed the population of each commune we'll use the production data from Planesas, where 80Ha feed 360 inhabitants. $Area\ needed = (Population / 360) \times 80Ha$

Code	Commune	Surface (ha)	Population	Forest (%)	Forest (ha)	Agricultural (%)	Agricultural (ha)	Area needed	Area used	Needs	Gives
3	351 Bern	5.161	134.591	33,6%	1.734	19,0%	981	$=(134591/360)*80$	2.715	27.194	
4	356 Muri bei Bern	763	13.023	21,8%	166	26,1%	199	2.894	365	2.529	
5	363 Ostermundigen	596	17.772	25,4%	151	31,8%	190	3.949	341	3.608	

4) The used area is the result of adding the forest and agricultural Ha. Note that we don't make a distinction between forest and agricultural land.

Code	Commune	Surface (ha)	Population	Forest (%)	Forest (ha)	Agricultural (%)	Agricultural (ha)	Area needed	Area used	Needs	Gives
3	351 Bern	5.161	134.591	33,6%	1.734	19,0%	981	29.909	$1.734+981$	27.194	
4	356 Muri bei Bern	763	13.023	21,8%	166	26,1%	199	2.894	365	2.529	
5	363 Ostermundigen	596	17.772	25,4%	151	31,8%	190	3.949	341	3.608	

5) Subtracting the area used from the area needed we get the Ha that each commune needs to feed its population and the Ha each commune can give to the others. With this information, we can compare the balance between them.

Code	Commune	Surface (ha)	Population	Forest (%)	Forest (ha)	Agricultural (%)	Agricultural (ha)	Area needed	Area used	Needs	Gives
3	351 Bern	5.161	134.591	33,6%	1.734	19,0%	981	29.909	2.715	27.194	
4	356 Muri bei Bern	763	13.023	21,8%	166	26,1%	199	2.894	365	2.529	
5	363 Ostermundigen	596	17.772	25,4%	151	31,8%	190	3.949	341	3.608	
6	352 Bolligen	1.657	6.264	44,0%	729	43,3%	717	1.392	1.447	55	
7	359 Veichigen	2.482	5.298	30,4%	755	60,8%	1.509	1.177	2.264	1.086	
8	355 Köniz	5.101	41.784	30,8%	1.571	50,5%	2.576	9.285	4.147	5.138	
9	358 Stettlen	350	3.116	26,6%	93	50,4%	176	692	270	423	
10	354 Kirchlindach	1.196	3.160	23,6%	282	67,0%	801	702	1.084	381	
11	307 Meikirch	1.023	2.461	26,3%	269	64,4%	659	547	928	381	
12	668 Mühleberg	2.626	2.986	32,9%	864	53,3%	1.400	664	2.264	1.600	
13	669 Frauenkappelen	929	1.240	40,9%	380	42,3%	393	276	779	497	
14	627 Worb	2.108	11.316	21,0%	443	62,8%	1.324	2.535	1.767	748	
15	626 Walkringen	1.721	1.767	37,3%	642	54,9%	945	393	1.587	1.194	
16	360 Wohlen bei Bern	3.632	9.282	32,8%	1.191	54,6%	1.983	2.063	3.174	1.112	
17	613 Landswil	1.030	607	32,0%	330	62,0%	639	135	968	833	
18	602 Arni	1.040	900	25,4%	264	68,9%	717	200	981	781	
19	620 oberthal	1.050	723	34,9%	366	62,8%	659	161	1.026	865	
20	605 bowli	1.470	1.364	39,5%	581	55,0%	809	303	1.389	1.086	
21	907 signau	2.210	2.624	35,8%	791	55,0%	1.216	583	2.007	1.424	
22	901 eggwil	6.630	2.479	41,0%	2.472	53,0%	3.196	550	5.666	5.119	
23	1010 escholmat marabach	10.640	4.351	46,5%	4.948	47,0%	5.001	967	9.968	8.982	
24	906 shangnau	3.560	905	35,7%	1.271	53,2%	1.894	201	3.165	2.964	
25	1004 fluhli	10.820	1.929	38,2%	4.133	44,0%	4.761	429	8.894	8.465	
26	908 trub	6.200	1.324	56,0%	3.472	40,6%	2.517	294	5.989	5.695	
27			73.395								
28									39.641	42.519	

PRODUCTIVE PARTNERSHIPS

The last decades have seen an evolution of agricultural techniques and practices around the globe that reflect an evolving understanding of the relationship between natural resources, ecology, and land management. From the proliferation of organic food at large supermarkets to the desire for local, seasonal produce in urban areas, the way we eat and grow food today is different from the previous generation.

We will share a brief first approach to the projects described in the *Reference Dossiers* as a base for your work in Exercise 2.

KEYWORDS

AGROFORESTRY

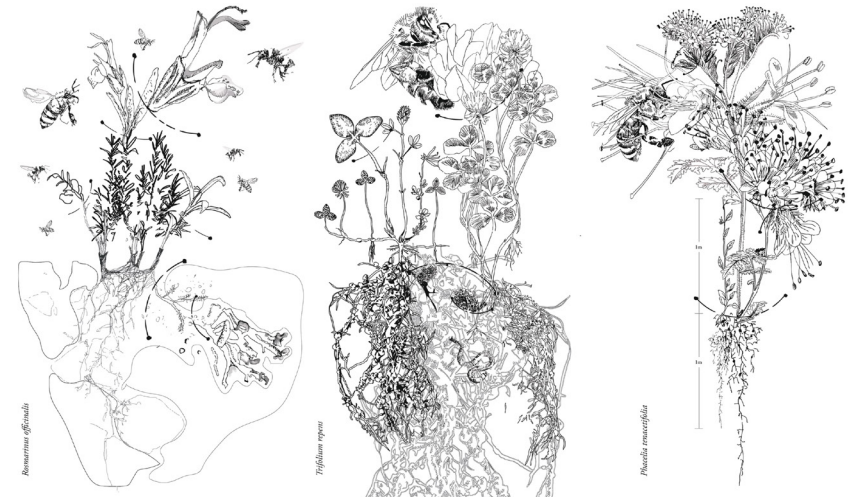
ORCHARDS AND VINEYARDS

INTENSIVE VEGETABLE PRODUCTION

ROTATIONAL GRAZING

NO TILLING AND CROP ROTATION

POLYCULTURAL SYSTEMS



Honey bee *Apis mellifera*, Regenerative Empathy Studio, Melissa Naranjo.

EXERCISE 2

PRODUCTIVE PARTNERSHIP

Due 05.05.2021

This exercise is two part:

1. Explore your system

We have prepared the dossiers on each topic to reduce the amount of time required for research. Each is a curated introduction to the topic that is limited in scope. While you are not required to do extensive additional research, if questions come up, if there are important parts of the system that are not covered, or if there are topics you are particularly interested in within the system, we encourage you to learn more. Use the following questions to guide your exploration (you do not need to answer all of them - follow whatever path is relevant to your topic and interests):

- What is the contextual framework of these systems? Climatic, sociopolitical, geologic, economic, epistemologic? What lineages and systems of knowledge does this build on?
- What are the parameters of these systems? The inputs and outputs? The exchanges?
- What are the constraints the system works within? How does it respond to these constraints?
- Who are the actors?
- What role does timing and seasonal or annual cycles play? What are the embedded timescales?
- What are the management techniques utilized?
- How do these systems enhance long term soil integrity?
- What limitations or critiques do you see in these systems?

1. Draw your system

Once you have a working knowledge of the system, draw a series of diagrams and sections that describe what you have learned and abstract the system. Look at it as if you are adding knowledge to the dossier! What you choose to draw depends on your system, but we suggest that you draw at least one typological section showing the system, and your drawings need to incorporate cycles and timelines of your system in some way. Please draw with precision and rigor - these are not drawings to sell the proposal to a client but to clearly understand the factors at play and to communicate with fellow designers at a high level.

DELIVERABLES

Diagrams, in plan and section, showing the system. Diagram the actors, cycles, rhizosphere, management, inputs/outputs/exchanges, constraints, as relevant to your topic.

EXERCISE 3

TYPOLOGIES & OVERLAPS

Due 12.05.2021

In Exercise 2, you got to know how a particular regenerative system works. In Exercise 3, you will adapt this system to an urban typology in the city of Zurich. This will be a collision of two disparate logics; that of a specific form of agricultural production and that of the urban condition. These two perspectives will not meld together seamlessly. There will be friction, and it is your task to find the potential in this unlikely combination.

This exercise should respond to 1) the specific spatial opportunities of your chosen typology; 2) to the cycles, management techniques and parameters of your regenerative system; and 3) to the larger systems of water, topography, vegetation, geology and soil that you collectively mapped in your Urban Systems seminar.

Choose a typology from the list of typologies in Zurich below. Some of these typologies already make up a system, for others the system needs to be designed. For each of these, we have put together a simple .dwg base map including most of these typologies in Zurich.

- Platz
- Street
- Fountains
- Block interiors
- Roofs/facades
- Trains
- Water's edge
- Slopes
- Forests
- Bridges

As you investigate and understand your typology, use the maps you collectively produced in the Urban Systems seminar to understand how the typology functions within Zurich's larger systems of water, topography, vegetation, geology and soil. Does this typology have sub-typologies?



Aerial detail of the *lisières* project, Grand Paris, 2009.
Atelier Jean Nouvel + Michel Desvigne Paysagiste

Choose a site, or series of sites, that best represent the typology you have chosen. Where are the opportunities here; how does water move, drain, collect, permeate here? What is below ground? How does climate affect these locations and where do you see opportunities for how that can be altered? What exchanges are happening or non happening in the typical sites of this typology?

As you overlap your regenerative system with your typology, we want you to find not only the opportunities here for the system to be incorporated into the existing typology, but also for the agricultural system to change the urban typology. Propose the spatial, material, and temporal conditions that enable the proposed productive partnerships.

DELIVERABLES

- Map of the existing typology in Zurich
- Map of the transformed typology
- Axon or serial sections of the representative site, showing the system you propose
- Sketches showing your thinking and diagrams of your proposal

EXERCISE 4

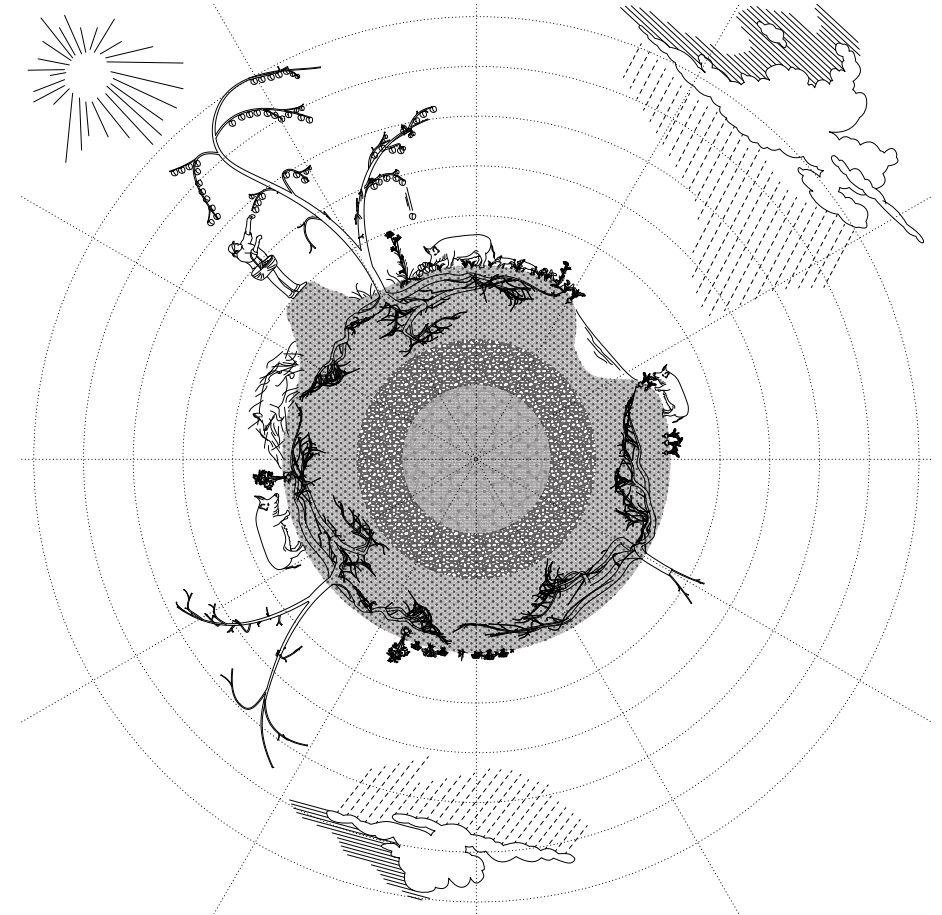
TIME & CYCLES

Due 19.05.2021

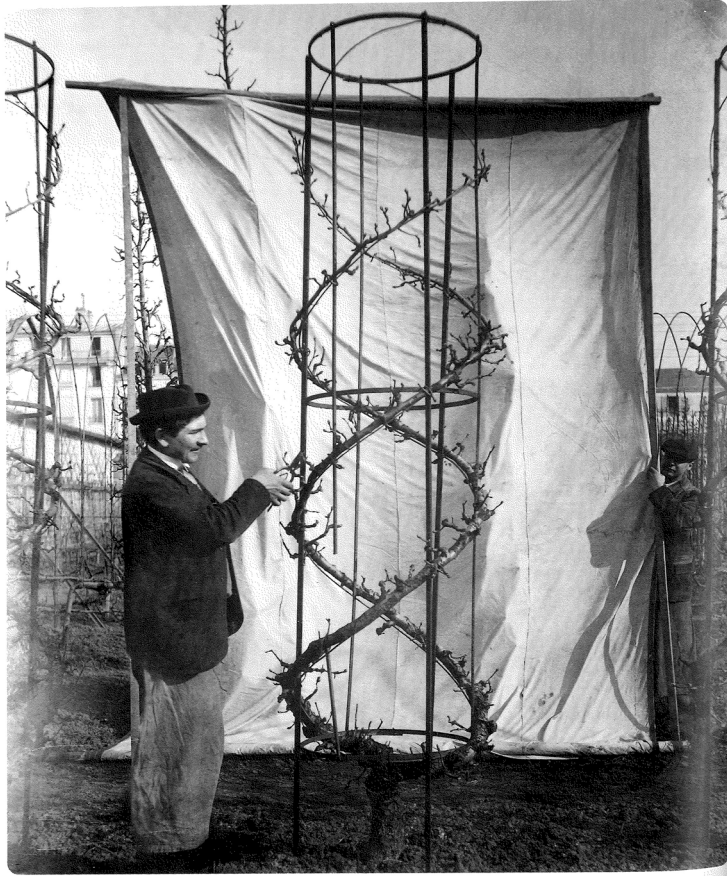
This week, you will build on Exercise III and start to refine it into a proposal for the city of Zurich. To do so, we will explicitly explore the temporal aspects of your design; how management practices, nutrient cycling, diurnal or seasonal climatic patterns, and fluctuating water on site informs your project. Draw a section that shows the dynamics between your partners. Include subsurface soil and water conditions, climate, geology and management. Each section or series of sections must engage with the factor of time, at a timescale and spatial scale appropriate for your project.

DELIVERABLES

Section or series of sections exploring the spatial and temporal dynamics of your proposal



Pigs and Peaches, Regenerative Empathy Studio. Christine Hu.



Fruit tree forms in Le Potager du Roi, Versailles.

ASSESSMENT

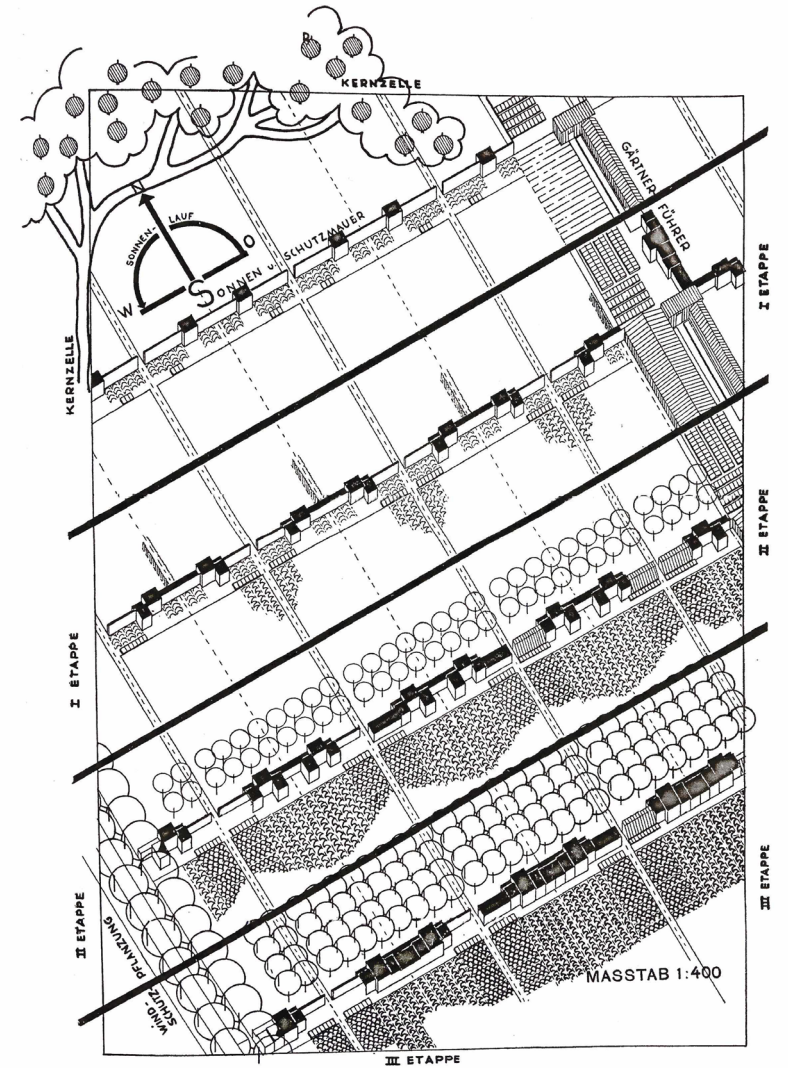
GRADED SEMESTER PERFORMANCE

The studio course will be assessed through the graded semester performance. Each of the assignments will be assessed separately according to the percentages below, and the final proposal will make up 40% of the grade for this portion of the semester.

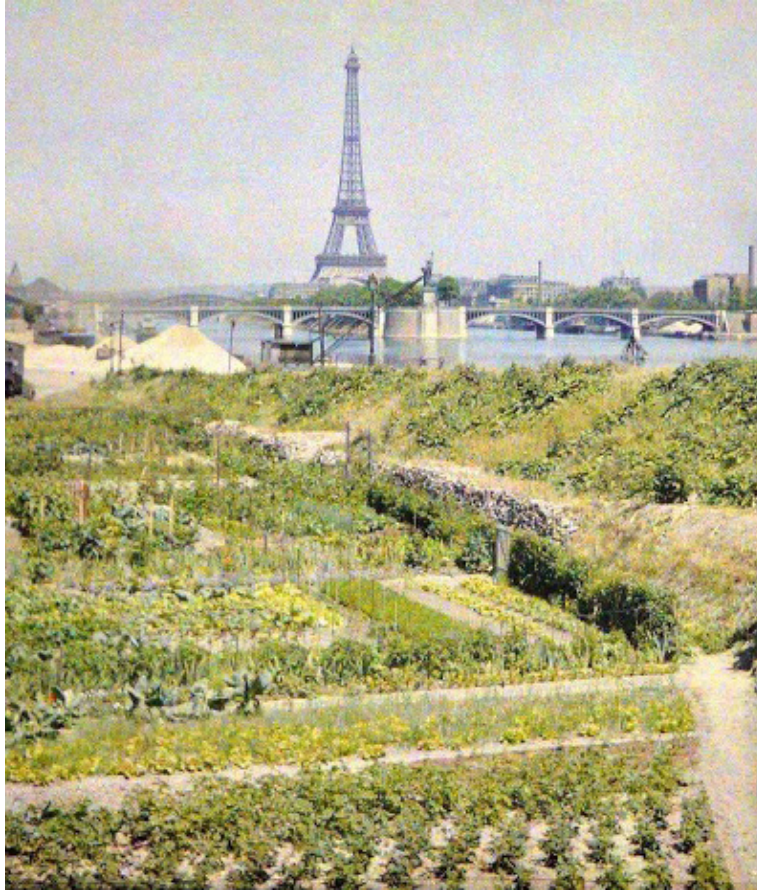
The will be assessed based on its **CARE**, **RIGOR** and **CREATIVITY**.

FOUNDATION STUDIO II: PRODUCTIVE PARTNERSHIPS SPRING SEMESTER, 2021

	Points
Exercise 1	15%
Exercise 2	15%
Exercise 3	15%
Exercise 4	15%
Final drawings	40%
Overall Total	100%



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Paris Market Gardens, 1914.

COURSE READINGS

MARÍA PUIG DE LA BELLACASA

SOIL TIMES. THE PACE OF ECOLOGICAL CARE

Excerpts: *Solitude Journal 1. Collective care and response-ability*,
pp. 100-109.
Published Jul 23, 2020. Akademie Schloss Solitude.

Soil Times The Pace of Ecological Care



Echinocereus triglochidiatus,
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María Puig de la Bellacasa

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Solitude Journal 1 Collective Care & Response-ability

The book *Matters of Care: Speculative Ethics in More than Human Worlds* by María Puig de la Bellacasa contests the view that care is something only humans do. It emphasizes the nonhuman agencies and communities that comprise the living web of care by considering how care circulates in the natural world. The following excerpt highlights human-soil relations and soils as living organisms consisting of a multispecies community of biota. Bellacasa enhances the idea that humans are part of soil communities. It is in these conceptions that Anthropos-centered concepts are called into question and transformative trends in human-soil relations are fostered.

Human-soil relations are a captivating terrain to engage with the intricate entanglements of material necessities, affective intensities, and ethico-political troubles of caring obligations in the more than human worlds marked by technoscience. Increasingly since the first agricultural revolutions, the predominant drive underlying human-soil relations has been to pace their fertility with demands for food production and other needs, such as fiber or construction grounds. But at the turn of the twenty-first century, Earth soils regained consideration in public perception and culture due to global antiecolological disturbances. Soils are now up on the list of environmental matters calling for global care. The Food and Agriculture Organization of the United Nations declared 2015 the »International Year of Soils,« expressing concerns for this »finite non-renewable resource on a human time scale under pressure of processes such as degradation, poor management and loss to urbanization.«¹ Soils have become a regular media topic, drawing attention to the »hidden world beneath our feet,«² a new frontier for knowledge and fascination about the life teaming in this dark alterity. Human persistent mistreatment and neglect of soils is emphasized in calls that connect the economic, political, and ethical value of

soils to matters of human survival. Recent headlines by environmental analysts in the UK press reiterate this: »We're Treating Soil Like Dirt. It's a Fatal Mistake, as Our Lives Depend on It«³ or »Peak Soil: Industrial Civilisation Is on the Verge of Eating Itself.«⁴ Warnings proliferate against a relatively immediate gloomy future that could see the global exhaustion of fertile land with correlated food crises. So while soils remain a resource of value extraction for human consumption and a recalcitrant frontier of inquiry for science, they are also increasingly considered endangered living worlds in need of urgent ecological care.

From Productionism to Service – and Care?

Soil biologist Stephen Nortcliff speaks of a change in focus from research in the 1970s and 1980s, when sustainability concerns focused on »maintaining yield« rather than the »soil system«: »How things have changed as we have moved into the 21st Century! Whilst maintaining agricultural production is still important the emphasis now is on the sustainable use

of soils and limiting or removing the negative effects on other environmental components«⁵. Nortcliff is not alone. A disciplinary reassessment seems to be taking place. This could be a significant shift in the historical orientation of soil science, as summarized by soil scientist Peter McDonald:

Soil science does not stand alone. Historically, the discipline has been integrated with all aspects of small farm management. The responsibility of maintaining good crop yield over a period of years was laid upon the soil. Research into soil fertility reflected this production-oriented emphasis during most of the nineteenth century ... the focus of their efforts remained, and to a large extent still remains, to benefit overall harvests.⁶

Guaranteeing yield through production is obviously an essential drive of the agricultural effort. But critical research on agriculture refers to *productionism* more specifically in terms of the intensification that drove agricultural reform in Europe from the seventeenth century onward. This culminated in the mid-twentieth century with the industrialization and commercialization of agriculture and the international expansion of this model through the Green Revolution's assemblage of machines, chemical inputs, and genetic improvements. In *The Spirit of the Soil*, philosopher of agricultural technology Paul B. Thompson argues for an ethics of production and summarizes productionism as the consecration of the aphorism »Make two blades of grass grow where one grew before.«⁷ Critiques of productionism address the absorption of agricultural relations within the commercial logic of intensification and accumulation characteristic of capitalist economies. In other words, productionism is the process by which a logic of production overdetermines other activities of value.⁸ Agricultural intensification is not only a quantitative orientation – yield increase – but also a way of life, and a qualitative mode of conceiving relations to the soil. While it seems obvious that growers' and farmers' practices, whether grand or small scale, pre-or postindustrial, would be yield-oriented, productionism colonizes all other relations: everyday life, relations with other species, and politics (e.g., farmers' subjection to the industry-agribusiness complex). The increasing influence of logics of productionist acceleration and intensification through the twentieth century can be read within scientific approaches to soil. One notable example can be found in chemistry's

contribution to turning cultivation into a productionist effort. Soil physicist Benno Warkentin explains how early studies on plant nutrition were first based on a »bank balance« approach by which nutrients assimilated by plants were measured with the idea that these had to »be added back to the soil in equal amounts to maintain crop production.« But the »balance« emphasis changed after 1940 with an increase in off-farm additions to the soil, bringing artificial fertilizing materials, external to a site's material cycles and seasonal temporalities, in order to bolster yield. The aim of this increase was to ensure »availability of nutrients for maximum growth, and timing for availability rather than on the total amounts removed by crops«⁹ – that is, not so much to maintain but to intensify the nutrient input in soils beyond the rhythms by which crops absorb them. These developments confirm a consistent trend in modern management of soils to move from maintenance – for instance, by leaving parts of the land at times in a fallow state – to the maximization, and one could say preemptive buildup, of soil nutrient capacity beyond the renewal pace of soil ecosystems.¹⁰ This makes visible how the tension between production and sustainability at the heart of soil science involves misadjusted temporalities: between soil as a slowly renewable entity and the accelerated technological solutions required by intensified production.

This is not to say that soil scientists – or even practitioners who live by the productionist credo – have not taken care of soils. Remediating worn-out soils has been at the heart of the development of soil science since its beginnings and was related to the socioeconomic concerns that influenced early soil studies.¹¹ Numerous soil scientists have been committed to conserving soils and working with farmers to foster ways of caring for them while maintaining productivity: »soil care« is a notion widely employed.¹² Moves to interrogate productionism seem nonetheless to question conceptions of soil care in the light of a broader societal realization of the untenable pressures on soil. In science and beyond, the persistent productionist ethos overlaps today with an »environmental era« starting in the 1970s and influenced by a conception of environmental limits to growth that place »the living earth ... in a central position«¹³. This has marked soil science – many researchers, for instance, pointing at the unsustainable destruction and deterioration of natural habitats associated with an excessive use of agrochemicals. Most sociohistorical accounts of the soil sciences since the early 1990s recognize this »ecological« turn:

»in the present era of soil science . . . the questions are on a landscape basis, have an ecological nature, and ask about the sustainability of natural resources.«¹⁴

What can a critical analysis of the articulation of the temporality of productionism and relations of care contribute to these transformations? In a sense, there is an inherent ambivalence contained in these relations whereby the future is simultaneously hailed as central and »discounted,« as Adam emphasizes with regard to short-term thinking that pushes to exploit natural resources today at the expense of future generations.¹⁵ And yet, the temporality of productionist-oriented practices in late capitalist societies remains strongly future-oriented: it focuses on »output,« promissory investments (led by so-called agricultural futures), and on efficient management of the present in order to produce it. This is consistent with how, as described above, restless futurity renders precarious the experienced present: subordinated to, suspended by, or crushed under the investment in uncertain future outcomes. Worster's account of the living conditions of farmers who outlived the destruction of successive dust bowls to see the return of intensified agriculture and successful grand-scale farming are also stories of discontent, debt, and anxiety, echoing farmer experiences worldwide living under the pressures of production.¹⁶ So though the timescale of soil productionist exploitation discounts the future by focusing on the benefit of present generations, the present is also discounted, as everyday practices, relations, and embodied temporalities of practitioners embedded in this industrious speeded-up time are also compressed and precarious. Productionism not only reduces what counts as care – for instance, to a managerial »conduct« of tasks to follow¹⁷ – but also inhibits the possibility of developing other relations of care that fall out of its constricted targets. It reduces care from a coconstructed interdependent relation into mere control of the *object* of care.

And it is not only human temporalities, but also more than human, that are subjected to the realization of this particularly linear timescale focused on intensified productivity. It could be argued that within the productionist model the drive of soil care has mostly been for the crops – that is, importantly, plants as commodifiable produce (which also begs the question of what kind of care is given to plants reduced to crop status). In the utilitarian-care vision, worn-out soils must be »put back to work« through soil engineering technologies: fed liters of artificial fertilizers with

little consideration for wider ecological effects or made host for enhanced crops that will work around soil's impoverishment and exhaustion. In sum, soil care in a productionist frame is aimed at increasing soil's efficiency to produce at the expense of all other relations. From the perspective of a feminist politics of care in human–soil relations, this is a form of exploitative and instrumentally regimented care, oriented by a one-way anthropocentric temporality. This direction could be troubled by moves perceptible in the way the soil sciences are reconceiving how they see soil as a natural body, with important consequences about how to care for it. We can see changes supported by a notion that

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soils are of more »use« than agricultural production. An emphasis on the multiplication of »soil functions«¹⁸ means that they are valued for other purposes than agriculture, or building. This points at a diversification of the applications of soil sciences as soils become providers of a range of »ecosystem services« – for example, including social, aesthetic, and spiritual value – beyond commercial agricultural needs.¹⁹ The ecosystem-services approach looks at the elements involved in an ecological setting or landscape from the perspective of what they offer to humans beyond purely economic value and tries to calculate other sources of value – not necessarily to »price« them, a distinction important to many advocates of this approach. This is a significant

move for human–soil relations with a transformative potential that shouldn't be underestimated. Yet this notion has its limitations to transform the dominant affective ecologies of human–soil relations and not merely because it is restricted to a calculative vision of relationalities. Even if we accepted staying within a logic of valuation and service provision, at the very least a notion of ecosystem services should also calculate those provided by humans to sustain a particular ecology and the nonhuman community. The notion of ecosystem services, while representing an important attempt from inside Capitalo-centered societies to shift the parameters of a purely economic valuation of nature for production, is not enough to bring us closer to a relation of care that disrupts the notion of other than humans as »resources« and the sterile binary of utilitarian versus altruistic relations with other than humans. A notion of care, Sue Jackson and Lisa Palmer argue, could disrupt this logic and improve the way ecosystem services are conceptualized:

If we extend the concept of relatedness from humanity to all existence and foster an ethic of care which recognizes the agency of all »others,« be it other people or other nature, and the specific cultivation of these relations by humans, we avert the broadening of a schism between nature and culture – the schism that in the ecosystem service framework construes nature as provider/producer and human as consumer.²⁰

Thinking with a feminist politics of care that remembers the contested exploitations involved in the type of service work that care is often made to be, we can also interrogate the connotations involved in the notion of »service« itself. While service could seem to lead us beyond a logic of exchange – doesn't service also refer to what we do for altruistic purposes or sense of duty? – in strongly stratified societies it is marked by a history of serfdom. Struggles around the relegation of domestic care to women's work showed how the point is not only to make this »service« more valuable or recognized but also to question the very division of labor that underpins it. A feminist approach to more than human care would at the very least open a speculative interrogation: *Cui bono?*²¹ *service for whom?* as a question that reveals the limitations of a service approach to transform human–soil relations while it remains based on conceiving nature/cultural entities as resources for human consumption, thus interrogating

an understanding of soils that posits them as either functions or services to »human well-being«²².

An interrogation of both the productionist and service logic can learn from ecofeminist critiques about the instrumentalization, degradation, and evacuation of more than human agency²³ and the connection of these ecologically oppressive logics to gender and racialized binaries with their classic segregation of life domains.²⁴ Thinking with care invites us to question unilateral relationalities and exclusionary bifurcations of living, doings, and agencies. It brings us to thinking from the perspective of the maintenance of a many-sided web of relations involved in the very possibility of ecosystem services rather than only of benefits to humans.

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Coming back to rearticulating relations of care and temporality, I engage below a conception of soil »as living« that can further question its persistent status as serving for input for crop production or other human needs. A more soil-attentive mode of care might also reveal other ways of experiencing time at the heart of productionist relations, while, as Haraway would put it, »staying with the trouble« of humans' relation to soil as an essential resource for survival.

The Living Soil: Becoming in the Foodweb

As part of the ecological turn, soil ecology research has become more important at the heart of the soil sciences, concentrating on relations between biophysical, organic, and animal entities and processes.²⁵ Moreover, a number of accounts of the discipline's development in the past ten years connect the growing significance of the ecological perspective with the moving of biology to the center of a field traditionally dominated by physics and chemistry. In this context, it is remarkable how a notion of »living soil« – once mostly associated with organic and radical visions of agriculture²⁶ – is now mainstream. This does not mean that soil science traditionally conceived of soils as inert matter. Even conceptions of soil as reservoirs of crop nutrition focus on lively physicochemical processes and interactions. Also, soil microbiology has been a crucial part of soil science since its early beginnings as well as is important precursor work on soil biology (such as Charles Darwin's work on earthworms). This does not mean either that biology and ecology support environmentalism per se or that other disciplinary orientations in soil science must now be connected to biology. The noticeable changing trend is the increased significance of »biota,« from microbial to invertebrate fauna and, of course, plants, roots, and fungi, in the very definition of soil. That this has not been an obvious move is attested by ecologists who claim for a change in soil's definitions:

Are living organisms part of soil? We would include the phrase »with its living organisms« in the general definition of soil. Thus, from our viewpoint soil is alive and is composed of living and nonliving components having many interactions. ... When we view the soil system as an environment for organisms, we must remember *that the biota have been involved in its creation, as well as adapting to life within it.*²⁷

In this conception, soil is not just a habitat or medium for plants and organisms; nor is it just decomposed material, the organic and mineral end product of organism activity. Organisms are soil. A lively soil can only exist with and through a multispecies community of biota that makes it, that contributes to its creation.

One of the most significant aspects of these changes in conceptions of soil is a growing interest

in investigating biodiversity as a factor of soil fertility and system stability.²⁸ This goes beyond biological interest; for instance, the recognition of the importance of large pores in soil structures gives a central place to increased research on soil fauna such as earthworms, which some have named the »soil engineers.«²⁹ In the words of a soil physicist: »As the appreciation of ecological relationships in soil science developed after the 1970s, studies on the role of soil animals in the decomposition process and in soil fertility have been more common.«³⁰ More research focuses on the loss of soil biodiversity after alterations³¹ and on the ecological significance of soil health for nonsoil species.³² A number of soil scientists are now engaged in drawing attention to biodiversity in soils as part of educational campaigns and soil fertility projects worldwide.³³ Soils have become a matter of concern and care not just for what they provide for humans but for ensuring the subsistence of soil communities more broadly.

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These developments are not disconnected from worries about the capacities of soil to continue to provide services (a range of calculations are deployed to value the services of biota) or from a notion that accounts for soil fertility according to its ability to provide yield. Production continues to be a concern as the »loss of organic matter, diminishment or disappearance of groups of the soil biota and the accompanying decline in soil physical and chemical properties« are identified as important causes of »yield declines under long-term cultivation.«³⁴ However, these approaches bring significant hesitations at the heart of a conception of soils as physicochemical input compounds. Soils as living, for instance, create other questions about effects of human interventions to technologically enhance impoverished soils, however well intentioned. For example, agrochemical inputs can benefit crop yield, but soil communities can face long-term destabilization or

destruction, making soils and growers dependent on fertilizers. Also, the protection of soil structures connects to a generalized reevaluation of tillage in agriculture and other technologies that alter and destroy fragile and complex soil structures.³⁵ In sum, exploiting soil species for production threatens to destroy the living agents of this very productivity.³⁶ Once again, reconceptualizations of soil as living emphasize how productionist practices ignore the complex diversity of soil-renewal processes in favor of linear temporalities aimed at speeding up abundant output.

It is the nature of soil itself and ways to care for it that are at stake in these moves. Attention to soils as a living multispecies world involve changes in the ways humans maintain, care, and foster this liveliness.³⁷ So how does this affect temporal involvements in caring for the soil as a multispecies world? I approach these through the example of the »foodweb,« an ecological model of soil life that, having become popular in alternative growers' movements, thrives at the boundaries of soil science.

Foodweb models are not new, but they became increasingly prominent in soil ecology after the 1990s.³⁸ Foodweb models are valuable for scientists to describe the incredibly complex interactions between species that allow the circulation of nutrients and energy. They follow predation and eating patterns as well as energy use and processing. Soil foodweb species can include algae, bacteria, fungi, protozoa, nematodes, arthropods, earthworms, larger animals such as rabbits, and, of course, plants. They describe not only how species feed on each other but how one species' waste becomes another one's food.³⁹ Foodweb conceptions of soil question the use of artificial fertilizers, pesticides, and intensified agricultural models more generally. This is because their weblike, interdependent configuration means that altering or removing any one element can destroy them. Often conceptualized as soil »communities« even as they are based on »trophic« relations – who eats whom – foodweb models emphasize a living world below, teeming with life and yet always fragile. Soil ecology is, of course, not a unified domain and, while rich in holistic models of life cycles, it is also rich in reductionisms. If I am lured by moves that see soil as a multispecies world, it is for how they could affect not only the nature of soil itself but also the ways humans maintain, repair, and foster soil's liveliness – that is, the agencies involved in more than human webs of care.

Interdependent models such as the foodweb disturb the unidirectionality of care conceived within the

linear timescapes of productionist time traditionally centered in human-crop care relations. Relational approaches to the cycles of soil life in themselves can be read as disruptions to productionist linear time, simply because ecological relations require taking a diversity of timescales into account.⁴⁰ Yet foodweb models also affect relations to soil for how they turn humans into full participant »members« of the soil community rather than merely consumers of its produce or beneficiaries of its services. It is the emphasis on the interdependency of soil communities that is appealing for exploring more than human care as an immanent obligation that passes through doings and agencies involved in the necessary maintaining, continuing, and repairing of flourishing living webs. Remembering discussions in previous chapters around the nonreciprocal qualities of care, we see that while care often is represented as one-to-one practice between »a carer« and »a cared for,« it is rare that a carer gets back the

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care that she gives from the same person who she cares for. Carers are themselves often cared for by someone else. Reciprocity of care is asymmetric and multilateral, collectively shared. A caring conception of soil emphasizes this embeddedness in relations of interdependency. Caring for soil communities involves making a speculative effort toward the acknowledgment that the (human) carer also depends on soil's capacity to »take care« of a number of processes that are vital to more than her existence. Thinking multispecies models such as foodwebs through care involves looking at the dependency of the (human) carer not so much from soil's produce or »service« but from an inherent relationality. This is emphasized by how the capacities of soil in foodwebs refer to a multilateral relational arrangement in which food, energy, and waste circulate in nonreciprocal exchanges. Foodwebs are therefore a good example to think about the vibrant ethicality in

webs of interdependency, the a-subjective but necessary ethos of care circulating through these agencies that are taking care of one another's needs in more than human relations.

A care approach needs to look not only at how soils and other resources produce output or provide services to humans but also at how humans are specifically obliged, how they are providing. The capacity of exhausted global soils to sustain these webs of relations has become more dependent on the care humans put in them. In resonance with Anthropocene narratives that acknowledge the impact of situated human actions on the making of earth, what the above conception might require is not only for organisms but also for humans to be included more decisively in the concept of soil. Here, in turn, changing ways in soil care would affect soil ontology. Coming back to the redefinition of soil as living⁴¹, we could include a rephrasing such as: »When we view the soil system as an environment for humans, we must remember that humans have been involved in its creation, as well as adapting to life within it.«

Though scientists have long spoken of »soil communities« to refer to the organisms involved in soil's ecology, the idea that humans are part of soil communities is not a prevailing one in the scientific literature. Scientific illustrations of the soil foodweb rarely represent humans as part of this relational web – for example, as producers of »organic waste« and beneficiaries of the output of plants. This could be connected to the traditional role given to the anthropogenic element in soil scientific literature, where it is generally considered as one »element« of soil ecosystems and formation processes that »lies apart« because of the higher impact of its activities in a shorter amount of time than other organisms. The »human« mostly features as an unbalanced irruption in soil's ecological cycles – or a victim in the case of soil pollution – rather than as a »member« of a soil community.⁴² Notions of humans as members, or even of humans being soil, thrive outside science, however – including in how scientists speak of soil (and land) beyond their »official« institutional work.⁴³ It could be argued that alternative affective ecologies with soil become obscured within science. But in the spirit of staging matters of fact, scientific things, as matters of care, it seems to be a more fertile option to attempt an articulation of different horizons of practice and modes of relating to soil through their potential to transform human–soil relations. Connections with »nonscientific« ways of knowing soil, whose relevance is sometimes also mentioned by scientists⁴⁴,

could become even more important in the light of an argument for a shift in soil models from considering soil as a »natural body« to soil as a »human-natural« body⁴⁵ and for the introduction of new approaches such as »anthropodology« that broaden soil science's approach to human–soil relations.⁴⁶

Now, like all Anthropocene narratives, these ideas would require nuancing which Anthropos is being spoken for, asking questions such as: If the marks on Earth that are to be accounted for are those that dramatically altered the geological makeup of the planet since the industrial age or atomic essays, shouldn't we, as Jason Moore argues, rather declare a Capitalocene? Or, should we, as Chris Cuomo has called for, reject this recentering of the notion of Anthropos altogether for its masking of capitalist and colonial dominations.⁴⁷

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Or, couldn't we propose questioning the tendency of Anthropocene thinking to further evacuate agency from the other than human world and to reinstate Man as the center of creation – populate our speculative imagination with visions of more than human co-existent epochs that amplify the proliferation of symbiotic processes with multifarious nonhuman agencies such as Haraway invites us to do with a *Chthulucene*.⁴⁸ All these doubts contribute to complicate the narratives of the agential ethicalities at stake in reinstating humans in the concept of soil. Desituated storylines of Anthropos-centered relations need to be challenged if are we to offer situated humans a place within, rather than above, other earth creatures, in acknowledgment of specific modes of agency: a vital task for

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environmental thought and practice, across the social sciences and humanities, but also for exceeding collective imaginations.

The exploration of decentered ethicalities of care via foodweb visions of human–soil relations can be nourished by such collective imaginations to contribute a displacing of human agencies without diluting situated obligations. Eliciting articulations of the sciences with other domains of practices, even subtle, is important here. Obviously, my reading of foodweb models goes beyond its explanatory potential to alter scientific conceptions of soil. Speculative thinking is professedly excluded from scientific concerns maybe even more than political stances. But when understood as part of a naturecultural transformation in human–soil relations of care, the foodweb is not just a scientific model. One could say that successful scientific models owe part of their power to their figurative potential. Beyond science, the foodweb is a charged figuration of soil relations, which I read here as going in the sense of restoring what Thompson calls the »spirit of the soil.« by which he points at an understanding of human

activity as part of the life of the earth and »the spirit of raising food and eating it as an act of communion with some larger whole.«⁴⁹ The search for glimpses of a transformative ethos in human–soil relations moves us beyond science and its applications to the articulations of alternative affective ecologies and technoscientific imaginaries to which science participates but not necessarily drives. The soil foodweb model is interesting in this regard because it has become, beyond science, a symbol of alternative ecological involvement – particularly in ecological movements where alternative visions of soil practice are being developed, such as agroecology, permaculture, and other radical approaches to agricultural practice. It is in these conceptions that transformative trends in soil relationalities can be read most visibly for how they foster a different relation of care, one susceptible to alter the linear nature of future-oriented technoscientific, productionist extraction in anthropocentric timescapes.

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Matters of Care: Speculative Ethics in More than Human Worlds by Maria Puig de la Bellacasa was published by University of Minnesota Press. We would like to thank the author and the editorial team from University of Minnesota Press for the generous permission to republish this text.

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"NO HOUSE BUILDING WITHOUT GARDEN BUILDING!"

THE MODERN LANDSCAPES OF LEBERECHELT MIGGE

Excerpts: *Journal of Architectural Education*, pp. 149-157.

Published 2001. ACSA, Inc.

"No House Building without Garden Building!" ("Kein Hausbau ohne Landbau!"); The Modern Landscapes of Leberecht Migge

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All too often when one brings up the subject of modern architecture between the wars, the relationship to the landscape is assumed to be irrelevant, or worse, even antithetical, to modernist concepts. Two images by Ludwig Hilbersheimer of his ideal modern city are often misrepresented as symbols of the inability of modern architects to deal with the landscape in a humane manner. Not only are such images taken out of their original conceptual context, in fact "landscape" as variously defined played a crucial role in competing versions of modernity. One set of responses to the problem of the modern landscape has been introduced to contemporary readers by Dorothee Imbert in her book, *The Modernist Garden in France* (New Haven and London: Yale University Press, 1993). She discusses works by French designers between the wars, ranging from the jewel-like garden compositions of Gabriel Guevorkian to the more abstract minimal landscapes of Le Corbusier. Judging from Imbert's survey of the French scene, the general situation in Germany appears to have provided much more fertile ground for rational approaches to landscape design and management, with which Le Corbusier himself was arguably more sympathetic. This essay is intended to introduce the subject of rational modern landscape design in Germany between the wars to an English-speaking audience through one exemplary landscape architect, Leberecht Migge. Fundamental concepts of the period as defined by Migge are also presented for possible consideration within the discussion of sustainable design.

Introduction

If the concept of the modern rational landscape is little known among scholars in English-speaking countries, the situation is not a reflection of the literature of the period, but is wholly the result of later historiographies. Typically, later historians have focused primarily upon the shifts in technology and industrial production which affected the way buildings were constructed. Thus narrowly defined, it becomes difficult to integrate a discussion of landscape. For many of those thinking about architecture in Germany during this period, however, the situation was far more complex. While many argued either for or against industrialized society, it was generally understood that along with changes in industrial production also came major changes in settlement patterns. Agriculture had long been displaced as the primary source of wealth, and migrating workers were gathered by necessity into the ever more crowded and chaotically expanding cities, while the rising middle classes were apt more than ever to escape to houses in the suburbs or the country. To architectural reformers, the overbuilt and overcrowded city became the symbol of a corrupt environment. While modern architects embraced technology and industrialization as tools for progress, at the same time they rejected what they considered to be the evils of the industrialized urban landscape. The architectural

Journal of Architectural Education, pp. 149-157
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problem was essentially defined in reaction to the city, either by the development of more open urban planning, or even more popularly, by resettlement in outlying areas.

Thus the kind of opening up of architectural space celebrated by Sigfried Giedion and others was sympathetic with the desire to "open up" the urban environment.¹ Bruno Taut's book of 1920, *The Dissolution of the City* (*Die Auflösung der Stadt*), represents a well-known (if as yet untranslated) manifest of this urge to resettle on the land.² The second half of this book consists of citations from authors discussing land reform, Peter Kropotkin being given almost a third of the space. Kropotkin, the Russian prince turned anarchist, proposed that industry should be decentralized into smaller work-places, which would be close to the workers' housing; small agricultural areas were also to be interspersed, for both the pleasure and profit of the workers. The first half of Taut's book was composed of his own illustrations, including fanciful drawings of settlements on the land—garden city plan diagrams turned into stars and flowers. He also sketched an image of the literal explosion of the "stone city"³—typically taken in German circles to be synonymous with Berlin.³ Taut, however, was not alone among reform architects to argue that resettlement of urban dwellers was one of the necessary and essential tasks of "new building" (*Neues Bauen*).

As might be expected, then, there were also a number of landscape architects who took up the issue of land reform and who desired to join their architect peers in working towards the new living environment. Several of these landscape architects had in fact joined the Werkbund well before World War I, and were bound to have been exposed to, if not involved in, the debates over "good" design that were carried out within that organization.⁴

When introducing the topic of "land" in the context of pre-World War II Germany, the contemporary reader may tend to wonder how this might be connected to National Socialist ideology—particular to the infamous racist and nationalist rhetoric of "blood and soil." As Anna Bramwell has shown in her book on the history of ecology in the twentieth century, even within the German context itself, there existed a myriad of theories and spiritual beliefs connected to the land and to landscape, which were alternatively both conflated and contested.⁵ On the subject of urban land reform, she notes that the Nazi minister of agriculture, Walter Darre, "stressed the distinction between their [National Socialists'] vision of a peasant Europe, in which cities would have decayed and disappeared, and the 'urban intellectual homestead romanticism' which by creating suburbia on the land would merely corrupt the countryside."⁶

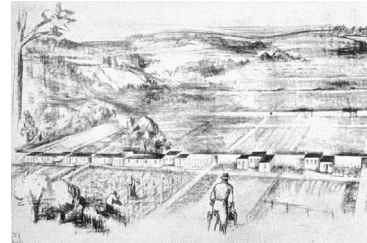
In general terms, there were those who believed in "land reform" so radical that it would fundamentally alter political, social,

and even spiritual relationships in reaction to modernity. This camp would have been wholly opposed to those such as Taut, who believed in the possibility for progressive reform through the embrace of technology and planning, which while resulting in a substantial change in the physical fabric, was not based upon a regressive spiritual return to primitive peasant origins. The embrace of modernity and the call to live on the land were not necessarily opposed ideals.

The Landscape Architect Leberecht Migge

Though a number of important landscape architects were associated with the Werkbund, the majority of the profession was somewhat conservative. However, this small but important minority did succeed in getting projects constructed and exerted a strong intellectual presence. Among this group of reform-minded landscape architects, arguably the most prolific both in terms of built works and published writing, was Leberecht Migge. Going alternately by titles such as "Garden Architect" or "Architect for Garden Building," he was active from about 1904 until his early death from cancer in 1935.⁷ Though he designed a large number of important parks and gardens, contemporary architectural historians will more readily recognize his *siedlung* landscapes: in Frankfurt with Ernst May, Praunheim, Roemerstadt; in Berlin with Martin Wagner and Bruno Taut, Oenkel Tom's Heute, Hufeisen; in Celle with Otto Haessler, Georgestgarten, Italienschgarten; in Dessau with Leopold Fischer, Ziebigk; and others. Migge was also a major influence on the small-garden movement in Vienna, where he lectured before Adolf Loos in the early twenties.⁸ Unfortunately, contemporary histories have infrequently mentioned Migge's contributions, except perhaps in passing, an omission which should not be taken as evidence of his lack of importance during this period.⁹

The *siedlung* projects are more familiar as architectural rather than landscape projects. The word *Siedlungen* translates literally into English as "settlements," meaning worker's housing projects, having a very different connotation than in the American context, where housing projects continue to be stigmatized. Yet in this context in Germany, the *siedlungen* were precisely that—a means of resettling the people on the land; in many projects, the garden was considered as important a component as the dwelling itself. The *siedlung* garden was one of Migge's primary concerns. For him, the act of gardening provided for healthy physical activity, while the fruits of the garden were to be the primary source of nutrition. The rationalized garden was the necessary and logical complement to rationalized building. The importance of this union is stressed by



1. Migge's rendering of the worker returning to his settlement, possibly coming from his part-time factory job. Protective walls and green houses connect the dwelling units, while the order of the whole appears to extend into the larger landscape. Reproduced from: Leberecht Migge, *Die wachsende Siedlung*, p. 19.

Erwin Gutkind in the introduction to *New Building (Neues Bauen)*, a book of essays edited by him in 1919: "In spite of [all hindrances], everything must be done, in order that the New Building can be achieved. The nourishment question and the dwelling question are the two grounding pillars of a healthy political development."¹⁰

"New building" of course referred to what we would now think of as modern architecture. Granted, this was written shortly after World War I, when starvation in Germanic countries had become a very urgent problem. Yet the *siedlung* movement had been strong even before the war. If anything, postwar conditions simply offered further proof of the need for land reform. For Migge and others, the small family garden offered a very practical and realistic means of fighting off mass starvation and want. In his contribution to Gutkind's book, Migge called out, "No house building without garden building!"¹¹

Migge was not alone in this belief, yet his particular significance as a theorist lies in his ability to move from this concern for the practical vegetable garden to a system of landscape management extending to a regional scale. Beyond his immediate historical importance, his writings are suggestive of a conceptual unity between environmental thinking and architectural design that is worthy of consideration even today.

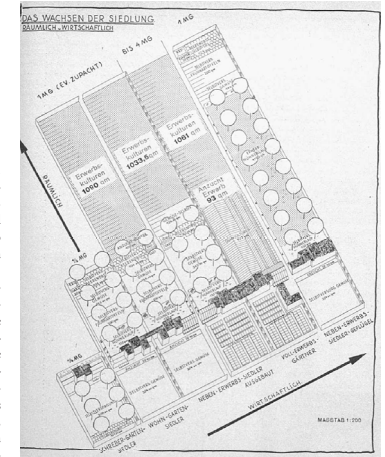
The Search for the New Landscape

During the two decades preceding World War I, the reform spirit was everywhere evident in Germany. This spirit would have been impossible to avoid, whether one was in agreement or not. The call for modes of "new" living suitable to the new century was manifested in a multitude of discourses including body culture, clothing reform, architectural reform, and as discussed, the reform of land distribution and settlement patterns.¹² These new ways of living were always defined against the background of a corrupt late-nine-

teenth-century world said to have been ruled by greed, pretension, and false artistic expression. There was also a concern among professional designers and industrialists to make Germany more internationally competitive in areas of taste and design. The Werkbund was a professional organization established in 1907, precisely to provide a forum for the promotion and improvement of the design of mass-produced goods.¹³

As mentioned above, a number of landscape architects (including Migge) were also Werkbund members. Landscape architects and garden designers were certainly not immune to the emerging desire to discover the new forms. As one of the most significant thinkers among them, Migge brought out a book on the subject in 1913, appropriately titled, *Garden Culture of the Twentieth Century (Gartenkultur des 20. Jahrhunderts)*.¹⁴ Of the then current situation he proclaimed somewhat dramatically, "Our art is dead or has not been born yet. Indeed, we have no art!"¹⁵ He was, however, content to describe his vision of new landscape types. In his text he attempted to adapt many Werkbund discussions on applied design and architecture to problems in landscape design. He also set out his own historiography of garden history to support his argument for new design: "So have humans for a long, long time invented essential garden forms suitable to their customs. These forms were geometric, and were laid out by 'gardeners.' The origin and history of utility gardens created by different people in different climates always showed the same basic geometric forms, as evidence of the appropriate application of these human visual elements to garden design. After these first attempts, nomads became more settled through intensive field culture, and following progressive security, prosperity, and refinement, all of the higher garden types were developed from these early utility gardens. Finally, came the "naturalistic" garden in reaction to decadent cultural conditions—as the natural outcome."¹⁶

He associated geometry with ancient forms, stretching back in time to the utilitarian gardens of the primitive, before the advent of "decadent cultural conditions" (a code phrase for "industrialization"), which resulted in the "naturalistic" garden. Migge's immediate knowledge of such naturalistic landscapes would have come from the picturesque parks and gardens of late-nineteenth-century Germany, which he and others were wholly rejecting at this time, corresponding to the then contemporary rejection of picturesque architecture. Significantly, the so-called French formal garden is only mentioned in passing and definitely was not given as a model for the new geometric logic. Elsewhere in the text, Migge explained further: "In result I am of the conviction that the architectural principle of garden design is not merely a formal or even only an aes-



2. This diagram from *The Growing Settlement* shows different types of dwelling units, corresponding to the intensity of garden use. The concept of the growing settlement was to provide for the orderly expansion of individual units over time, as needed by the occupants. Reproduced from: Leberecht Migge, *Die Wachsende Siedlung*.

thetic matter. No, the architectural form of gardens is for us therefore necessary, because it is so simple. . . . I want the architectural garden for the economic and social well-being of the people, based upon ethical grounds.¹⁷

Here the geometric was equated with the architectural—further moving him into the mainstream of design discussion of the time. Geometric design, though ancient in practice, was suited to the problems of the times because it was the most functional means of dividing the landscape. If any similarity to historic forms was discernible in the new designs, it was certainly not done to evoke a historical mood or style.

Migge believed that geometric forms facilitated the systematic creation of landscapes as types, and further, in the subdivision of larger compositions into even smaller, more specialized types. He specifically used the word "type" much as Werkbund writers were applying it to industrial design. "We mass-humans need types," he claimed.¹⁸ His landscape historiography was also adapted to this discussion: "If one wants, can one even define the utility garden as the first type of garden."¹⁹ Through historical development, he argued, all landscape types were derived from the original garden type, which was essentially the vegetable or herb garden. For the

contemporary condition, the discussion was extended to a system of types including parks, gardens, cemeteries, and institutional grounds. Yet the utilitarian garden was always privileged both as the "Ur-garten" and for meeting what was to him the most important of contemporary needs—providing nutritional sustenance.

The emphasis on the utilitarian garden as the symbol of the "new" garden culture was of course intended as a move away from the picturesque or romantic towards the embrace of functional expression. As with the Werkbund argument for types, he saw the need for a generalized system of design in opposition to overly individualized expression. In a later text of 1926, *German Inner-Colonization (Deutsche Binnen-Kolonisation)*, he placed this discussion in the context of the "new-objectivity" of the 1920s: "Contemporary housing is impossible without contemporary living. What is contemporary living?—Here we see a division: on the one side the physical sport types of our day with their open souls, on the other the depressing Buerger, whose traditional yearning for the sentimental turns into kitsch. Strong beliefs and healthy living are yet lacking."²⁰

"Good" garden design was discussed in the context of specific modes of living, which were personified by these two social types. The geometric garden was functional and objective, as opposed to the more picturesque forms from the preceding century, which served only "useless" aesthetic ends. In that same text of 1926, he presented the garden as though it were an industrial product. It was, in effect, to be a tool for better living: "The good garden should soon become urbanized. That called for, it should be created especially for the occupation and relaxation of city-dwellers, just as their fans and radios are. So will the good garden be furnished and carried out in a well-calculated, industrial, and technical manner. If it is not, then it is not our garden. The contemporary, the technical, the modern garden—that is the good garden."²¹

Here it is useful to recall the previously cited comment by Walter Darre, who denounced the technologically driven urban condition. In opposition to Darre's blood and soil rhetoric, Migge wholeheartedly embraced such urban conditions. If the garden was lacking it was because it had not been adapted to forces of the times. The garden was not needed as an escape from technological society. Urbanized society was not to be rejected but improved upon through the sympathetic union of the technological and the organic. Migge's position was directly opposed to the so-called "reactionary" modernists, who fueled regressive National Socialist rhetoric.²²

In the conclusion to his 1913 book on the new garden, Migge echoed Werkbund arguments for the need for Germany to take the lead in world markets: "But Germany doubtless possesses the best position. And I believe, that these more than merely self-sufficient

enterprises [the nourishment gardens] will lead us to take in hand this important and future area of the world economy. New gardens 'made in Germany.'"²³

However problematic (or perhaps even naïve) such a proposition might be in fact, this statement makes very clear Migge's conception of the garden as a manufactured "object," and as an ideology to be exported.

The Siedlung Landscape

In the opening of his book of 1926, *German Inner-Colonization*, Migge included a photograph of a primitive lean-to on a grassy plain.²⁴ He appears to have been appropriating the figure of the "primitive hut," which had appeared in so many architectural discussions, including the recent German translation of Le Corbusier's *Towards a New Architecture*, which he obviously had read. Migge pointed out that for the primitive wanderer, the act of building was a means rather than an end: the act of wandering and settling was driven by the search for food and resources. The shelter was built as an aid to this search. He uses this historical figure to combine issues of architecture with land use, as further historic justification for the siedlung as a reform concept.

Migge linked this primitive wandering to the title of the book, *Inner-Colonization*, and to the recent war and subsequent social problems: "Press nation on nation, so we experience this movement in its extreme destructive form as war, press class on class, so we experience it in its organized effect as social war, as colonization. Colonization is also nothing other than the categorical requirement upon which it is based: wandering. Out-wandering, in order to create other agricultural lands with more produce, through more organized mass labor. All people in each period colonize by this means. We wander away towards the outer: out-wandering as extensive form, or towards the inner: in-wandering as intensive form of colonization."²⁵

The rejection of "our-wandering" was specifically directed against the imperialistic expansionist policies of the Kaiser's regime, which had led to the disastrous events of World War I. His arguments were also directed against the *Junker* or landed nobility, for their inefficient and selfish use of land resources. Though Migge's text precedes the National Socialist conquest of power by several years, this same argument against colonization could also be used against their policies. The National Socialist perception of the need for *Lebensraum*, or space for living, was taken up by them as an excuse to annex Poland, and to build siedlungen there.²⁶ Migge would have been wholly opposed to such actions, had he lived.

Migge's rejection of expansionism led him to argue for the rationalization of housing settlements that were to include productive landscapes. Again, starvation was a very real problem after World War I, and many people were already supporting themselves from small if crude squatter gardens. It was Migge's belief that these small gardens should be brought into a systematic relationship with architecture, set within an overall conceptual plan for settlement building in the urban region. He proclaimed, "In this area of the urban landscape, large-scale agricultural practice is not at home, instead there should be intensive small garden culture, not the poor acre, but the 'good garden.'"²⁷

In 1919, Migge wrote what was perhaps his most widely read work, *Everyman Self-Sufficient (Jedermann als Selbstversorger)*, which basically argued that through the provision of small vegetable plots and animal pens, "everyman" could provide for the nutritional needs of his family.²⁸ This book included tables that graphically illustrated the amount of vegetables, chickens, and rabbits, families would require based upon their size. Migge of course thought of the small garden not just as a means of fighting malnourishment, but also as the basis for a rethinking of landscape design.

The siedlungen were typically composed of small flats or row houses in low blocks, usually no more than three stories. Individual dwellings ideally had an adjoining garden, but if situated on an upper floor an allotment garden was to be located nearby. In the Miggeschen system, dwelling and garden were to be integrally connected, not only spatially, but technically as well. By 1926, his small garden system was fully developed. He had already seen several of his projects built, and more were to come. One of the siedlungen that most completely embraced his system was Ziebigk in Dessau, first conceived with the architect Leopold Fischer in 1926, and completed in 1929.

Migge's intensive garden system meant that no space could be wasted, and that which was available had to be put into optimal production through whatever technical means available, while also minimizing the need for additional organic material to be brought into the small but efficient individual garden units. Migge emphasized that there was in fact no discontinuity between the organic beings (the human family) within the dwelling, and the organic processes in the garden.²⁹ Within this organic cycle, household waste would be put to productive use, while the fruits of the garden would in turn be consumed by the inhabitants. Wastewater from the kitchen sink and bathtub would be led through underground pipes into the garden, where the water-born nutrients could leach into the soil. Above-ground sprinkler pipes could also be used for irrigation. The household toilet was ideally to be a "Metro-clo,"



3. The "good garden" was presented here at an exhibition as the model for both good technical practice and orderly appearance. This image was paired with another showing a squatter garden with disorganized planting and scattered debris, the "bad acre." Reproduced from: Leberecht Migge, *Deutsche Binnen-Kolonisation*, p. 42.

Migge's version of the dry toilet; he thought of the flush toilet as a waste both of water and of human feces, which could be used as dung fertilizer in the garden.³⁰ The Metro-clo was filled with a kind of peat, which bound with the feces. Once physically removed from the toilet, the waste was to be put into a specially designed compost silo where it was left to age. (Human dung must be cured before it is safe to use as garden fertilizer.)

As a further expression of his belief that landscape design should follow geometric lines, the siedlung gardens were to be divided by *Schutzmauer* or protective walls. The geometry of the dwelling blocks was quite literally extended into the garden plots. Not that walled gardens were entirely new; here, though, they were part of an overall rational system. These protective walls were intended both to catch the warming rays of the sun and to block cold winds, while also supporting productive vines. For larger garden plots, these walls could incorporate outdoor pavilions as well. In a later publication of 1932, *The Growing Settlement (Die Wachsende Siedlung)*, Migge illustrated historic examples of villages that integrated buildings with garden walls for similar functional reasons, as he was intent to provide historic precedents for his concepts.³¹

Migge was not unconcerned with architectural form; garden and dwelling were conceived as a unified expression. He reminded the reader that "a house stands as a body, as an organ of nature first, when it arises from the earth. When it is grown."³² Not only were the inhabitants of the house organic creatures, the architecture was also to be conceived in harmony with climatic forces and the lay of the land. Architectural form was important, but not merely in and of itself: "One builds a house for a life, for my life. My life lasts twelve months in the year. The architect has re-shaped many lives through his building, and made possible improved new living (not, as he believed: mere spaces)."³³

The new mode of living was to incorporate light, air, and of course, green space. Along with many other writers of the period, Migge stressed the importance of the sun to human health, but he

also extended this discussion to include the sun's role in organic growth. Rather than suggest some kind of overtly "organic" architectural form, however, he continued to argue for the rational and geometric distribution of space, within which organic growth was facilitated. "So originates our ideal garden-dwelling as both a pleasurable and principled fusion of building mass, sun, air, and green."³⁴

The penetration of the building envelope was of course a primary focus in Migge's architectural discussion. The in-between spaces, or *Zwischenglieder*, provided spatial connections between interior and exterior (e.g., sliding glass doors, bay windows, etc.). Glass was conceived as a "substitute for the south, the sub-tropical, the spiritual: paradise, the practical: the winter garden of the common man."³⁵ The winter garden or greenhouse was a principle feature of many of his architectural proposals. By bringing plant growth into the house, another kind of ornament was introduced. The sinuous lines of the Jugendstil vine were replaced by actual growing vines, with the added advantage of edible fruit. Further, these spaces for growing were adjustable by season: "The connection between consumption and production also means that the glass areas used for growing fully encapsulate the house, and thus provide protection during the coldest times of the year. Through this comes a contemporary building system concept which will support greater productive possibility through correctly designed forms, even into the inner living rooms—the window palisades of the house, which protect the ripening vines in the fall, will be removed in the spring and then serve as a connection to the gardens."³⁶

The architecture of the dwelling was not conceived as a rigid edifice, presented in perfected and unchanging form at its completion. Migge continued to stress the importance of the occupant in the planning, use, and shaping of his own space. His book of 1932, *The Growing Settlement*, was primarily dedicated to the discussion of a system of *siedlung* planning that would allow the occupants themselves to expand both house and garden to suit their own needs over the years. The architect was not privileged as an "artist" but rather was understood as a technocrat who provided the framework for a balanced life, symbolized by this organic integration.

Migge also acknowledged that the new architectural space had implications for the urban dweller as well. "Resettlement" could be taken to mean not only the relocation of urban dwellers to outlying developments, but also the rethinking of the urban apartment block. He enthusiastically illustrated proposals by Le Corbusier, and noted that he had included in his text:

a few French examples [by Le Corbusier] of such modern apartment-house oases, which with their play areas, flower gar-



4. This larger-scale garden was intended for settlers who derived their primary income from their garden. Migge embraced the use of technological devices such as the new electric tiller. In the background is a house with a window palisade. Reproduced from: Leberecht Migge, *Deutsche Binnen-Kolonisation*, p. 71.

dens, pavilions and promenades appropriately alleviate the unavoidable deficiencies of the apartment blocks. Yes, we are not afraid to recommend the consequent results of these living principles, the radical use of space, as well as the roofs of these novel, interconnected blocks which are used as garden spaces, with fresher air, sunlight, and better views for the occupant, unlike the old, poor gardens. Indeed all of this is possible, keeping this in mind: if the urban flat is not virtuous, it can at least be made tolerable. Yet at the bottom of our hearts we want the old noble apartment buildings, while we also wish that instead of banal dwelling [*siedeln*] we can have something better—radical resettlement [*radikal umzusiedeln*].³⁷

Even though Migge constantly discussed the need to relocate outside of the city to be in closer connection to the land, it must also be understood that his entire conception was based on comprehensive urban regional planning. The urban dweller was in effect his client. He concluded in *The Growing Settlement*: "Our settler is no cow farmer, but a fully cultured person [Kultur Mensch] of his time. Settlement is improvement."³⁸

Of course, this negative reference to the "cow farmer" brings up the problem of class. Contemporary readers must wonder whether the lower working classes, who so desperately needed housing, would have wanted to consider themselves "cultured" persons. In any case, Migge identified his proposals with the urban and urbane, even when on a small and modest scale, and was certainly not calling for a return to peasant ways.

City Planning and Rational Parks

The "inner-colonization" of Germany was not to be limited to the dispersal of settlements alone but was conceived as a system for the complete rationalization of land-distribution throughout the entire

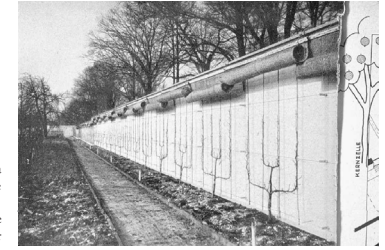
country: "The earth, not the people, set the tone. We begin with a dwelling unit [*Siedlungszelle*] and end in a whole—the productive landscape."³⁹

Though the *siedlung* dwelling unit is taken as a figure for the overall ordering of the productive landscape, Migge was not calling for a broad extension of geometric planning on a national basis. Rather, the careful consideration of organic links between interior dwelling and exterior garden spaces was to be applied on a regional basis. Migge was also involved in urban planning projects; he illustrated his project for the city of Kiel in *Inner-Colonization* with a series of diagrams, showing environmental circulation patterns for the urban region. As with the small utilitarian garden, systems for waste, irrigation, and drainage were carefully considered, but on a much larger scale.⁴⁰ The project of urban regional resource management was a matter of both proposing physical facilities, and of educating the public to the need for their own participation in landscape management.

Again, Migge was not the only thinker to be concerned with this kind of planning, yet through his writing and theoretical work, he was able to move from the *siedlungen* projects, to large-scale urban landscapes, to regional resource planning, all within his own conceptual framework. To refer back to the earlier discussion, urban landscape reform was conceived against a background of nineteenth-century design, particularly the large ornamental city parks. Migge wished to pull the conception of the urban landscape away from a purely object-oriented focus, towards a more regional understanding: "Urban-land-culture literally means the cultivation of urban lands, as opposed to merely non-culture. The new cultivation of urban land areas (city districts, influence zones), requires specific urban economic means, as opposed to the purely rural districts, with their own particular agricultural means. Through this cultivation will each type of urban green area, both the utilitarian and the ornamental garden, be incorporated into the divisions of the city, along with urban-bound agriculture."⁴¹

At the time in Germany, there were many undeveloped lands owned by municipalities, more so than in the typical American city of the period. In the above citation, Migge was referring to the need for the organized management and use of such areas, rather than simply leaving them undeveloped as uncultivated green spaces, which was apparently more often the case. However, he also argued for the psychological human need for solitude as a rationale for preserving some uncultivated areas. This was hardly a romantic call for a return to the wilderness, but the provision of a particular kind of landscape for public use.

On a smaller scale, in the design of public parks and gardens, he argued for a more intensive multiple use of open space. Geometry



5. This extensive protective wall with roll-down matting suggests that Migge's rational concepts were based on traditional practices, as he himself often claimed. Reproduced from: Leberecht Migge, *Die wachsende Siedlung*, p. 22.

was again presented as the means by which defined spaces could be assigned specific uses. He did not wish to entirely abandon the "ornamental" features of public gardens and parks, but wanted to integrate them with functional areas: "Thus is a new type of public garden coming about. By responding to carefully calculated forces, and following the application of highly developed cultivation techniques, are the essential old ways connected to the necessary new garden spaces to become organized in a new whole: the rational people's park."⁴²

This new term "the rational people's park" was not coined incidentally.⁴³ The new parks were to provide for active as opposed to passive use; either for physical sports, or for the actual act of gardening. Utility gardens, or allotment gardens, were actually to be included within these large parks. The nineteenth-century city parks were criticized for being merely aesthetic objects provided for the "lazy" (*Faulenzler*), as well as for their inefficient use of space. This shift in emphasis towards the "active" was reflected in a number of complimentary movements, such as the Youth Movement, and those devoted to physical health, embracing the "Free Body" (or nude body) movement. The new parks were intended to accommodate these types of users, alongside those who simply wished to view beautiful vegetation. Migge was one of the most fervent advocates of this new landscape vision.

Criticisms and Conclusion

This essay is intended to serve primarily as an introduction to the modernist rational landscape through the figure of the landscape architect Leberecht Migge. The background for the rationalist landscape has been presented here via Germany, one of the countries most actively concerned with functionalist architecture. In any case, this version of the modern landscape should certainly be understood in contrast to other forms of modern design, such as that expressed in the art deco style, which one might argue was centered primarily in France.

As with functionalist architecture, the rational garden or landscape could be either praised or criticized along the same conceptual points. Migge was working to define a new type of landscape experience, through which "beauty" would come from the active use of the land, whether through physical culture or gardening, not through passive contemplation alone. The emphasis was upon the functional and objective, just as in the corresponding architectural theory. At the same time, these new geometrized, antipicturesque landscapes could be seen as dull and uninteresting. Even Hans Scharoun, an architect and one-time collaborator with Migge, was critical of his work. In the original German, he clearly makes a play on Migge's name: "lebe recht und mickrig"⁴⁴ which means, essentially, "living correctly, and meagerly." He thought of Migge's designs and concepts as being a bit too functional and practical for their own good.

Likewise, the actual "functionality" of modernist designs has often been criticized for not being truly functional, but rather for embracing a kind of technomanticism. Migge's small garden system, intended to provide for the nutritional needs of the masses, ignored a number of important realities. Mainly, the fact that distribution and production of vegetable and animal products was already being carried out on a regional scale; Migge himself even discussed this in his analysis of the productive landscapes of the Netherlands.⁴⁵ Nowhere, however, did he endorse or support further research into this means of providing mass nutrition. He and others sympathetic to him ignored the fact that many people either were unwilling or incapable of maintaining a vegetable garden in their free time, in addition to their primary occupation. Of course, there were many workers throughout Germany who already had small gardens, but not necessarily as part of an overall system of living in which they were expected to happily participate.

Though Migge may have been considered either a subversive radical, or even a harmless eccentric by many of his contemporaries, I would argue that his concepts remain highly suggestive even today.⁴⁶ His understanding of an organic unity of land and architecture was not forced into a vision of specific "organic" form—he did not argue for the sinuous lines of the vulgarized Jugendstil, for example. His was not a vague metaphor, but a clearly defined system that facilitated organic growth and provided for human needs, both physical and psychological.

It is important to remember, however, that Migge's projects, especially the siedlung gardens, were conceived in unison with sympathetic architects—he was not forcing a foreign system upon them. Within the context of modern architecture, the siedlungen were conceived from the beginning in response to land-use reform argu-

ments, as well as to housing reform concepts. Migge was not alone in his emphasis on the importance of new land uses. This sensitivity to the land was in fact a central component of the "new building," as implied in the previously cited statement by Gutkind. Migge in effect picked up where the architects left off. He approached landscape design not just as a formal problem, but as a technical problem as well. He was able to do this because of his knowledge of plant growth and organic processes. That he and the architects he collaborated with were able to develop harmonious systems within the framework of rational building was therefore a logical outcome. What Migge's own writings make clear, though, is the possibility of the integration of building and landscape circulation systems, through a system that is both "technical" and "organic." Whether or not this harmonious development was particularly facilitated by the rationalist modern design of the time as opposed to other past or current architectural philosophies, should remain open to further discussion.

Notes

1. Sigfried Giedion, *Befreites Wohnen: Licht, Luft, Öffnung* (Zurich: O. Fusli, 1929).
2. Bruno Taut, *Die Auflesung der Städte* (Hagen: Folkwang-Verlag, 1920).
3. Taut, *Die Auflesung*, p. 1.
4. Inge Maass, "Public Parks," in Lucius Burckhardt, ed., *The Werkbund: History and Ideology 1907–1933* (Woodbury NY: Barron's, 1980), pp. 57–65.
5. Anna Bramwell, *Ecology in the 20th Century: A History* (New Haven and London: Yale University Press, 1989), pp. 175–200.
6. Bramwell, *Ecology in the 20th Century*, p. 208.
7. Jürgen von Reuss, ed., *Leberecht Migge, 1881–1935 Gartenkultur des 20. Jahrhunderts* (Worpswede: Worpswede Verlag, 1980) p. 9. This volume is, to my knowledge, the only collection of essays devoted exclusively to the life of Migge, and which lists all of his known works.
8. Eve Blau, *The Architecture of Red Vienna 1919–1934* (Cambridge, MA: MIT Press, 1999), p. 87, pp. 101–102, p. 126, p. 429. Migge probably met the architect Greta Lihotzky in Vienna in the early twenties; she was later to design cabins for his gardens at Roemenstadt in Frankfurt. See Susan Henderson, "A Setting for Mass Culture: Life and Leisure in the Nidda Valley," *Planning Perspectives* 10 (1995): 199–222.
9. Barbara Miller Lane, *Architecture and Politics in Germany 1918–1945* (Cambridge, MA: Harvard University Press, 1985), p. 247, n.37. Though many of the siedlungen which had landscapes by Migge are discussed, there is only one reference to him in a footnote, though this footnote is quite useful. Other histories have not even mentioned Migge in the footnotes.
10. Erwin Gutkind, ed., *Neues Bauen, Grundlagen zur praktischen Siedlungsarchitektur* (Berlin: Verlag der Bauwelt, 1919), p. 9. (Note: all translations in this essay are the author's own.)
11. Leberecht Migge, "Neues Gartenbauen," in Erwin Gutkind, ed., *Neues Bauen* (Berlin: Verlag der Bauwelt, 1919), p. 119.

12. Franziska Bollerey, Gerhard Fehl, and Kristiana Hartmann, eds., *In Gruen wohnen—im Blauen planen* (Hamburg: Hans Christians Verlag, 1990). This collection of essays places the German garden city movement and modern urban planning within the context of other reform movements in Germany.
13. Frederic Schwartz, *The Werkbund: Design Theory and Mass Culture* (New Haven: Yale University Press, 1996). See this text for a thorough discussion of Werkbund ideology (though regrettably with no mention of the contributions of landscape architects).
14. Leberecht Migge, *Gartenkultur des 20. Jahrhunderts* (Jena: Eugen Dieckhofs, 1913).
15. *Ibid.*, p. 141.
16. *Ibid.*, pp. 64–65.
17. *Ibid.*, pp. 66.
18. *Ibid.*, p. 145.
19. *Ibid.*, p. 145.
20. Leberecht Migge, *Deutsche Binnen-Kolonisation* (Berlin-Friedenau, Deutscher Kommunal-Verlag G.M.B.H., 1926), pp. 52–53. Note that the word *kitsch* is used by Migge in his text in verb form.
21. *Ibid.*, p. 163.
22. Jeffrey Hest, *Reactionary Modernism: Technology, Culture, and Politics in Weimar and the Third Reich* (New York: London: Cambridge University Press, 1984).
23. Migge, *Gartenkultur*, p. 157. [Note that the phrase *made in Germany* appears in English in Migge's original text. He occasionally used English phrases in his writing for emphasis.]
24. Migge, *Binnen-Kolonisation*, p. 18.
25. *Ibid.*, pp. 16–17.
26. Gerr Groening and Joachim Wolschke-Bulmahn *Die Liebe zur Landschaft; Teil 1: Natur in Bewegung* (Munich: Minerva Publikation, 1986). These authors have written extensively on the subject of National Socialism and landscape architecture.

27. Migge, *Binnen-Kolonisation*, p. 87.
28. Leberecht Migge, *Jedermann Selbstversorger* (Jena: Eugen Dieckhofs, 1919).
29. Migge, *Binnen-Kolonisation*, pp. 155–163.
30. Jürgen von Reuss, "Leberecht Migge—Spartacus in Gruen," in Jürgen von Reuss, ed., *Leberecht Migge 1881–1935 Gartenkultur des 20. Jahrhunderts* (Worpswede: Worpswede Verlag, 1981), p. 21, illus. pp. 18–19.
31. Leberecht Migge, *Die wachsende Siedlung nach biologischen Gesetzen* (Stuttgart: Franckische Verlagshandlung, 1932), p. 21.
32. Migge, *Binnen-Kolonisation*, p. 53.
33. *Ibid.*
34. *Ibid.*, p. 59.
35. *Ibid.*
36. *Ibid.*, p. 71.
37. *Ibid.*, pp. 84–85.
38. Migge, *Die wachsende Siedlung*, p. 34.
39. *Ibid.*, p. 24.
40. Migge, *Binnen-Kolonisation*, pp. 143–148.
41. *Ibid.*, p. 87.
42. *Ibid.*, pp. 94–95.
43. Migge was not, however, the only one to use this new term; it was in common use.
44. Jochen Boberg, Tilman Fichter, Eckhart Gillen, eds., *Die Metropole: Industriekultur in Berlin im 20. Jahrhundert* (Munich: Verlag C. H. Beck, 1986), p. 308.
45. Migge, *Die wachsende Siedlung*, pp. 13–15.
46. Jürgen von Reuss, "Leberecht Migge—Spartacus in Gruen," in Jürgen von Reuss, ed., *Leberecht Migge 1881–1935 Gartenkultur des 20. Jahrhunderts* (Worpswede: Worpswede Verlag, 1981), pp. 10–13.

FOOD AND THE CITY

Excerpts: Introduction, pp. 1-13.
Published 2015. Dumbarton Oaks.

Introduction

DOROTHÉE IMBERT

THE “FOOD AND THE CITY” SYMPOSIUM HELD AT DUMBARTON OAKS in May 2012 sought to historically contextualize the current discourse on urban agriculture. Such a statement immediately calls for a disclaimer, as this volume is not a history of urban agriculture, a concept with a multiplicity of applications, scales of interventions, geographies, motives, and ideologies that would require a far broader inquiry. Rather, it identifies themes in the physical, political, and poetic relations between food production and urban living. Contributors examined the garden, market, city, and beyond through the lenses of modernism, technology, scale, social justice, and fashion. The papers ranged from sixteenth-century Paris to the Pearl River Delta of today, yet the time frame was rather focused, with an emphasis on the late nineteenth to the mid-twentieth century. This was a period that witnessed a shift in the scale of planning and expressed new connections between food and urban systems—a period of grand plans and enduring visions. Social and physical forces (the effects of the Industrial Revolution) as well as ideological and political ambitions (colonial expansion, nation-building, and architectural manifestos) generated new settlements and cities across Europe, North America, Africa, and the Middle East. These plans and actions were central to the first two sessions of the symposium: “Import-Export” and “Rural Urbanism and Urban Agriculture.”

“Import-Export” explored the transfer of ideas and ideology across time and space, and considered the resilience of certain concepts, such as Ebenezer Howard’s garden city. David Haney connected the reform goals of the Salvation Army in England with the rationalized modernist planning agenda of Ernst May and Leberecht Migge in Germany in the 1920s; Tal Alon-Mozes detected references to both the English garden

city and the productive landscapes of Migge in her account of the small urban farms started by the Zionist settlers in Palestine; and David Rifkind unpacked the export of urban and landscape ideals from Fascist Italy to its African colonies as a planning, technological, and agricultural mission. The papers in the “Rural Urbanism and Urban Agriculture” session spanned a wide range of scales, from allotment gardens to metropolitan regions, and top-down plans with bottom-up tactics. Seemingly paradoxical, the transfer of urban plans to the rural environment and the shaping of urban centers through food-producing units express a long tradition of exchange between city and cultivation (Figure 1.1). Agriculture and modern transport were essential to the debate on decentralization that dominated the first half of the twentieth century. The schemes for Soviet linear cities, rural satellite towns, and suburban horizontal settlements placed the modern dweller, with the help of rail and automobile, in direct contact with farmland. Although Le Corbusier was a staunch opponent of decentralization and garden cities, he approached French rural life as an extension of his urban theories: the Radiant Village and Radiant Farm appear as the logical conclusion of the 1930 Radiant City. Mary McLeod retraced how bringing urban comforts and rational organization to the *bocage* not only demonstrated how modernism could improve the life of peasants but also supported Le Corbusier’s claim that planners should think territorially and that “cities [were] the corollary of the countryside (and not vice versa).”²¹ Dutch planning in the 1930s reflected a shift in scale from city to region to territory, as food insecurity in Amsterdam led to the closing of the Zuider Zee and draining of the IJsselmeer to create vast agricultural polders. Zef Hemel situated the architect and planner Cor van Eesteren in this epic narrative of land-making. The IJsselmeer polders stand as a diagram conflating urbanism, water and soil engineering, forestry, and resettlement policy. More modest in scale yet equally significant for sustaining populations in times of crisis are the food-producing plots of the global North and South. Laura Lawson and Luke Drake identified the relation between individual efforts and a comprehensive food system across two depressions and two world wars in New York and Chicago; Luc Mougeot unpacked the mechanisms of land tenure and maximization of return from Africa to Latin America and Asia—where the rapidity of economic succession and spatial transformations offer models for the Western world—while expanding the definition of urban and productive (Figure 1.2).

The questions of land tenure and land use formed the core of the “Production Rights” session. The histories of urbanization and food systems reveal a landscape that is codified socially, geographically, and ethnically. In her social history of Japanese immigrants in California during the first half of the twentieth century, Donna Graves demonstrated how *Nikkei* communities established networks of specialized gardens and nurseries through kinship, small intensive plot cultivation, and truck farming to bypass restrictions on land ownership. Conversely, the supply and distribution system of fresh fish in eighteenth-century Edo was the result of top-down regulations. Jordan Sand charted the beginnings of sushi in the Japanese capital to reveal how the symbiotic relationship between city and bay rested on the control of consumption (class rights), patronage (fishing rights), and production (fishing techniques). Finally, the



FIGURE 1.1
De 8 and Opbouw (architects Aldo van Eyck and Cor van Eesteren, landscape architect Mien Ruys), Nagele, Noordooost polder, Netherlands, 1954–57. The thick bands of trees offer protection on the windswept polder and a system to structure the new town’s open spaces.
Photograph by Siebe Swart.



FIGURE 1.2
Agricultural corridor under high-voltage lines, Cantinho do Céu, São Paulo, Brazil.
Photograph by Christian Werthmann.

checkerboard “desakota” landscape of today’s Pearl River Delta records the history of agricultural and industrial legislation, yet, as Margaret Crawford points out, it also offers an alternative to the typical rural-urban opposition in new scales of food production.

Geographically focused, the “Paris et Environs” session analyzed the relationship between space and cultivation across three consecutive periods—the sixteenth through the eighteenth century, the late nineteenth century, and the 1970s (Figure 1.3). Gardens and rural economies such as vineyards, mushroom farms, and orchards were integral to the fabric of the city and *banlieue* well into the second half of the twentieth century.² The session’s diachronic perspective revealed the adaptability of the capital’s food production and distribution systems. Florent Quellier presented the fruit and vegetable riches of the ancien régime, when science and aesthetics met in the productive garden, the ultimate sign of civility (Figure 1.4). Susan Taylor-Leduc took on the relationship between market gardening and waste (first manure, then sewage) to link Paris intra muros and the growers of the *banlieue* through infrastructural developments in the Second Empire. Finally, Meredith TenHoor’s paper on the transfer of Les Halles from the center of Paris to Rungis in 1970 tied the technocratic reorganization of the nation’s food distribution system to the architectural vision of a rationalized hub for air, rail, and truck traffic. Today’s market continues to function as an index of the relationship between cultivation and consumption. Les Halles went from being described as “France’s finest garden,” where gardener, retailer, and shopper met in the center of Paris, to “the largest market in the world,” supporting industrial agriculture and mass consumption. Although

FIGURE 1.3
Map of fruit and vegetable production in and around Paris in the early eighteenth century.

Michel Philipponneau,
La vie rurale de la banlieue parisienne: Etude de géographie humaine
© Armand Colin, 1956.



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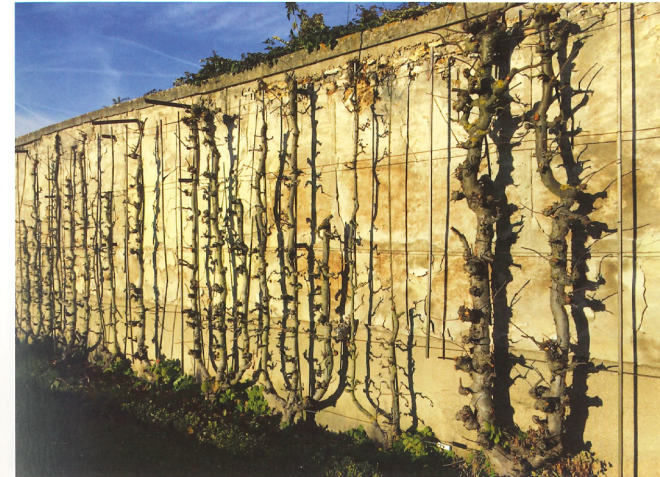


FIGURE 1.4
Jean-Baptiste La Quintinie, Potager du Roi, espaliered pears, Versailles, 1678–83.
Photograph by
Dorothee Imbert.

technocratic planning had all but erased the market gardener and small farmer from the automatized flows of the modern market, Rungis has reinvented itself yet again. It is a cross platform where sellers and buyers from far and near can trade in flowers or find imported delicacies such as *jamón ibérico* as well as local heirloom fruits and vegetables.³

Collectively, the symposium underscored the close relation between taste, labor, and power—financial, political, and spatial. The cultivation of delicate, exquisite, and out-of-season produce was the privilege of the French aristocracy and clergy just as the Tokugawa shogunate had a prerogative over sea bream from Tokyo Bay. These class markers were ephemeral, however. In Paris, market gardeners borrowed, expanded, and exported the techniques of the elite to create a network of suburban farms producing fruits, vegetables, wines, and flowers, soon making *primeurs* (first-of-the-season produce) standard fare (Figure 1.5). As the city displaced food production farther from its center, the relationship between living, working, and eating became more abstract. A case in point is the toponymic evolution of a town southwest of Paris: Clamart-le-Vignoble, named for its vineyards, became Clamart-les-Petits-Pois for its peas (equally renowned but requiring less land), and finally the mere Clamart as the market gardens disappeared with urban expansion.⁴

Food security is a manifold concept that has gained prominence with today’s rampant urbanization, dwindling resources, and erratic climate patterns. The stipulation that “all people at all times have access to sufficient, safe, nutritious food” makes the concept particularly appropriate to the scale of the city, where strategic agricultural systems can target

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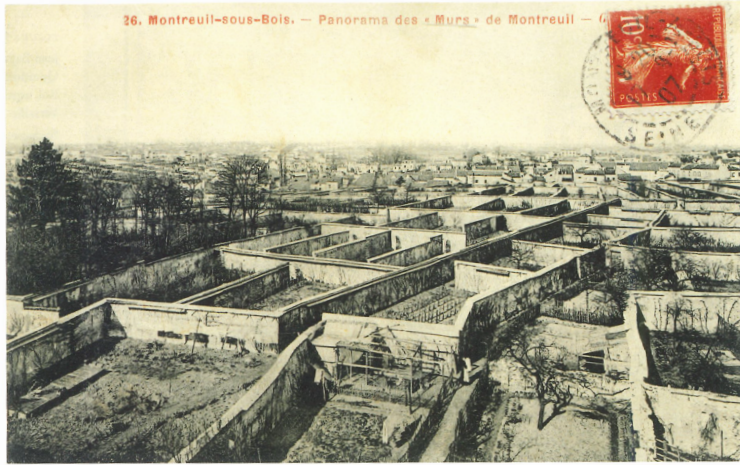


FIGURE 1.5
Murs à pêches (peach walls),
Montreuil, near Paris.
Collection Musée
de l'Histoire vivante.

food deserts and poor diets. But there are other scales and motives at play in securing food.⁵ The search for autarky is simultaneously conservative, expressing distrust of the outside, and dynamic, acting against crises (war, fuel shortage, unchecked population growth) (Figure 1.6). The mechanisms to control food supplies for cities and nations have generated a range of responses from allotment gardens to colonization. The 1940 Wahlen Plan for Switzerland aimed for alimentary self-sufficiency through territorial reorganization.⁶ Named after the agronomist Friedrich Traugott Wahlen, the strategic plan addressed the geographic weakness of neutral Switzerland during World War II in terms of food imports. Intervening at the local (canton) and the territorial (federal) scales, Wahlen and his agricultural army fundamentally altered land use and crop management through agricultural reform, labor rationalization, and moral mobilization. Beyond food security, the cadastral changes also had an effect on planning policy well into the 1980s. Rural land resisted urban expansion and the typical centrifugal impact it exerts over the productive landscape.

In the past few years, food security and land tenure have come under scrutiny. The rush for land to grow food or biofuels evokes new forms of colonization. Farmers across Africa are particularly at risk with millions of acres now held by foreign investors. Promoted as beneficial exchanges that advance technology, improve yields, and employ and feed the local population, farmland transfers do not always bring the expected returns, suggesting instead massive landgrab schemes. The relation between urbanization and food production is now stretched to a maximum: the cultivation of land in Africa supports the expansion of megacities in China, with few benefits for the locals.

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FIGURE 1.6
Wartime vegetable garden,
Luxembourg Gardens,
Paris, 1941.
Reproduced from *L'illustration*,
May 31, 1941.

Urban agriculture is appealing for making the relationship between food production and city visible and thus renewing the historic tie between culture and cultivation. In this context, city and agriculture are not opposites but two sides of the same coin. Cities were not just supported, but defined by agriculture. The first sedentary settlements, or cities, date back to the fourth millennium BCE in Mesopotamia. Excavations at Uruk, close to present-day Baghdad, have revealed the clearest signs of urbanization: buildings, pottery, and traces of the cultivation of grains and leguminous plants. Farther west, the ancient agricultural terraces of Battir, near Bethlehem, have remained in use for 2,500 years. Today, farmers continue to maintain the extensive system of walls and the Roman-era irrigation channels to grow vegetables and olives on the dry slopes of the West Bank. The immediacy of the relation between food production and urban form endures in a striking cultural landscape.

Food and the City: Histories of Culture and Cultivation considers the production of food for the city, food in the city, and the impact of food on the city itself, meaning the spatial implications of agricultural systems. The resilient terrace system of Battir or the remainders of walled gardens around Paris not only testify to technological and horticultural ingenuity but also offer cues for design. Past agricultural practices are recorded in landscapes and structures, overlaying food production and urban form elsewhere. Among the clearest overlays are the so-called floating gardens of both the Pre-Columbian Chinampas of Tenochtitlán in Mexico and the fifteenth-century *hortillonages* (specialized market gardens) of Amiens in northern France. The

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Chinampas of the Xochimilco-Chalco Basin combined dwelling and intensive agriculture to form the island-towns of Mizquic, Cuitlahuac, and Xochimilco (Figure 1.7).⁷ Similarly, the exchanges between environment, technology, and societal values of Amiens's *hortillonages* yielded a typology of floating market gardens controlled by the highly codified society of *hortillons*.⁸ The insular network that covered up to 1,500 hectares allowed the *hortillons* to live in autarky and to supply Amiens with greens. The knowledge for growing specialized *primeurs*—early lettuces, radishes, and artichokes—was transmitted from father to son; the intensive cultivation of three-crop rotation was managed by “captains” and “lieutenants,” and the produce was transported by women on flat-bottomed boats. As the city expanded and the gardening dynasty succumbed to the pressure of rail transportation and to the lure of an easier life, the *hortillonages* were reinvented as a highly picturesque open space reserve within Amiens, not unlike the Xochimilco Chinampas for Mexico City (Figure 1.8).

A more tangible trace of past urban agriculture can be found in the *murs à pêches* (peach walls) of Montreuil, east of Paris. The market economy of Montreuil was intimately tied to the growth, production, and regulations of the capital.⁹ Originally known for its vineyards, the town would achieve fame from the seventeenth century onward for the espalier cultivation of peaches.¹⁰ In the early nineteenth century, Montreuil's *murs à pêches* crisscrossed the mostly south-facing slope, totaling six hundred kilometers (Figure 1.9). Built of rubblestone plastered with white-painted gypsum, the approximately two-and-a-half-meter walls sheltered the espaliered fruit trees from wind and accumulated heat during the day to release it at night, thus improving the region's microclimate. The “Montreuil system,” as it was known, yielded refined peaches across an extended growing season, from the early *grosse mignonne hâte*

FIGURE 1.7
Chinampas,
Xochimilco,
Mexico City.
Photograph by
Dorothee Imbert.



FIGURE 1.8
Hortillonages,
Amiens, France.
Photograph by
Dorothee Imbert.

in late July and early August to the *belle beausse* in mid-September.¹¹ Grown in close proximity to Paris, the fruits could reach consumers within hours of being picked: an early example of extreme localism. As the late nineteenth-century urban expansion continued to displace vegetable and fruit production outward, and railroad tariffs made imports from southern France affordable, the growers around Paris further specialized with mushrooms, ornamental plants and flowers, labor-intensive salads, and late fruit production. The subsequent increase in land pressure and in shipping from both north and south marked another stage in the decline of suburban cultivation centers: the walls fell into disuse, interrupting several centuries of a productive urban morphology.

Ultimately, the interrelation of urban form and cultivation across times and geographies points to our current conflicted notions of urbanity. Frontier squatter gardening, community plots, markets, and edible school yards hold the promise to rescue our failing cities, health, and education systems. Yet urban agriculture is occasionally seen as enabling speculation in shrinking cities.¹² In more rural settings, farmland is protected by conservation easements at the risk of becoming a luxurious scenic commodity accessible only to the very few.¹³ In our view of urban agriculture lies our view of the city. The productive landscape has become a marketable image, a nostalgic background evoking the preindustrialized city and countryside, or a panacea to relieve contemporary urban ills. Conversely, adaptations of historical models offer an alternative to the



FIGURE 1.9
Aerial view of *murs à pêches* (peach walls),
Montreuil, near
Paris, 1926.
Photograph courtesy
of Institut Géographique
National, France.

dialectical relationship between dwelling and cultivating. Victory gardens, the German *Schrebergärten*, the allotment gardens of Copenhagen and Amsterdam, the French *jardins familiaux*, and the post-Soviet *dacha* all attest to a continued belief in working and inhabiting the land, for sustenance and for leisure (Figure 1.10). In spite of their reform and paternalistic origins, these productive plots present socially and ethnically flexible spaces. Likewise, the suburban-rural interface in traditional cities such as Paris or Vienna and the *desakota* checkerboard pattern of Southeast Asia present a rich terrain for economic, programmatic, and spatial exchanges. Geographers and designers have studied the region surrounding metropolitan Paris as a “realistic utopia,” fostering a new type of landscape preservation and new partnerships of development between agriculture and suburban development.¹⁴ In this light, the productive landscape reinforces the regional open-space system, offering recreational amenities for suburbanites and a market outlet and urban amenities for farmers. On the plateau de Saclay, south of Paris, the tension between conservation (agricultural fields) and development (elite science and corporate campuses) has yielded a hybrid productive landscape for research and leisure (Figure 1.11). The city visibly relies on agriculture and vice versa.

Michel Desvigne and Jean Nouvel’s 2009 submission for the Grand Paris initiative focused on the redefinition of this very interface. Desvigne described the eight-hundred-kilometer joint of varying width as a *lisière*—a term for the band along a forest

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FIGURE 1.10
C. Th. Sørensen, allotment gardens, Nærum, near Copenhagen, Denmark, 1948.
Photograph by Dorothée Imbert.



FIGURE 1.11
Michel Desvigne, Wheat Garden, Paris-Saclay Cluster, south of Paris, 2013.
Illustration courtesy of MDP (Michel Desvigne Paysagiste).

FIGURE 1.12
Atelier Jean Nouvel
and Michel Desvigne,
aerial detail of the *lisières*
project, Grand Paris,
2009.
AJN + MDP
(Atelier Jean Nouvel +
Michel Desvigne Paysagiste).

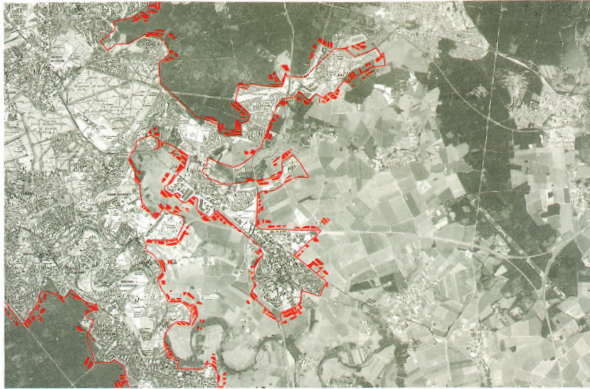
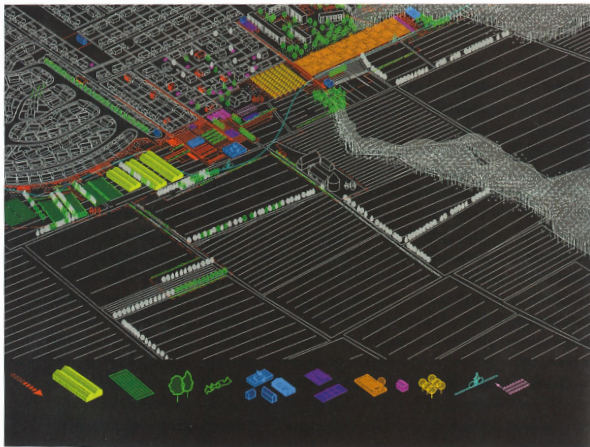


FIGURE 1.13
Atelier Jean Nouvel
and Michel Desvigne,
typology of *lisière*, Grand
Paris, 2009. This detail
of the eight-hundred-
kilometer *lisière*, or
seam, surrounding Paris
exemplifies the possible
exchange between
suburban development,
agriculture, and forest.
AJN + MDP
(Atelier Jean Nouvel +
Michel Desvigne Paysagiste).



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edge or a seam (Figure 1.12). Traces of a long gone farming landscape—hedges, ditches, thickets, and paths—and an infrastructure of greenhouses, allotment gardens, recycling, energy production, composting, and sports fields organize this seam (Figure 1.13). Strictly codified, it is a terrain for exchange and experimentation, a means to make the landscape accessible to all users. In this scenario, planned indeterminacy hems the suburbanization of the countryside and allows agriculture to reenter the urban. In a sense, there is a reversal in the perception of the rural supporting the urban world. Agriculture directs urban expansion and urban populations support the revitalization of rural territory, revising the dichotomy between city and cultivation.

This volume is but one foray into the history of productive landscapes. The perspectives collected here do not claim to offer a continuous narrative, shifting from the lens of architectural history, landscape history, history, and geography to that of planning and landscape architecture. Furthermore, few of the contributors considered their topic in relation to current trends in urban agriculture. Yet it is the very shift in scales and methodologies that may suggest future directions for scholars of the environment and designers.

Acknowledgments

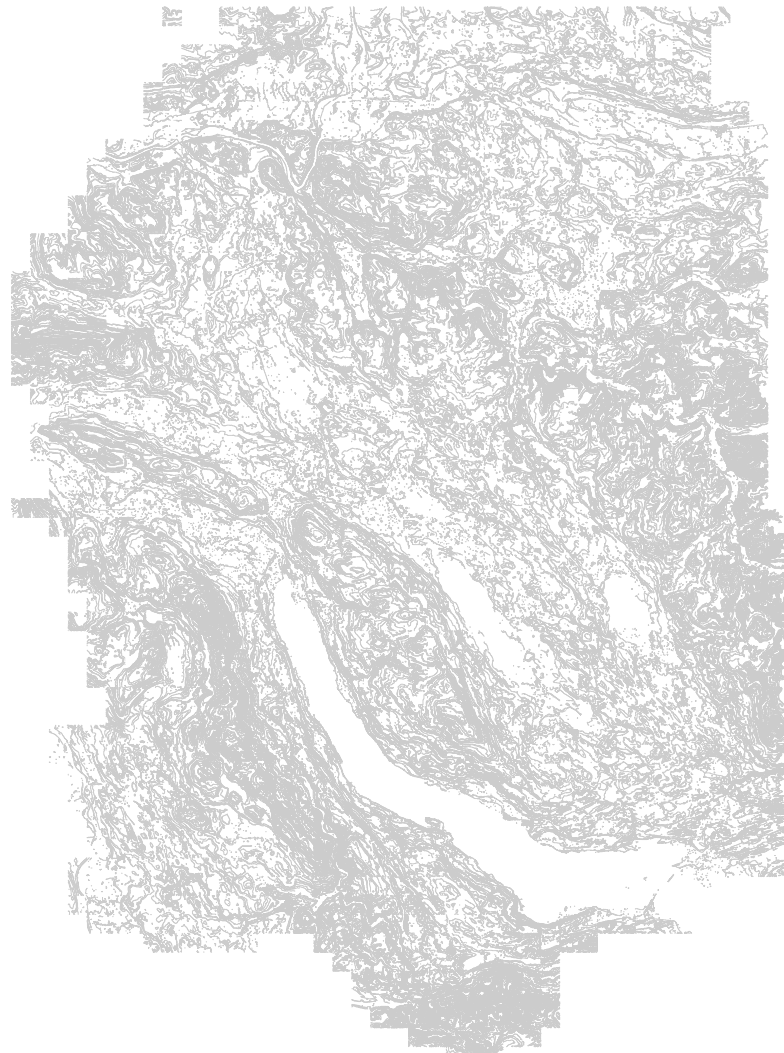
I must direct my thanks to John Beardsley, director of Garden and Landscape Studies, who has offered editorial, critical, and moral assistance for this project from its inception as a symposium through its completion as a publication, as well as to Jan Ziolkowski, director of Dumbarton Oaks, for supporting a broader view of landscape studies. Anatole Tchikine deserves particular mention for maintaining poise, precision, and good humor through endless rewritings and searches for illustrations. Friends and colleagues, fellow senior fellows, reviewers, authors, and family should be acknowledged here for their suggestions, critiques, edits, and revisions: Georges Farhat, Maristella Casciato, Michael Lee, Kenny Helphand, Thaïsa Way, Jean-Louis Cohen, Andrew Cruse, Richard Ingersoll, Joan Ockman, and the countless others who have helped bring this project to fruition.



Lanzarote vineyards, Orthophoto

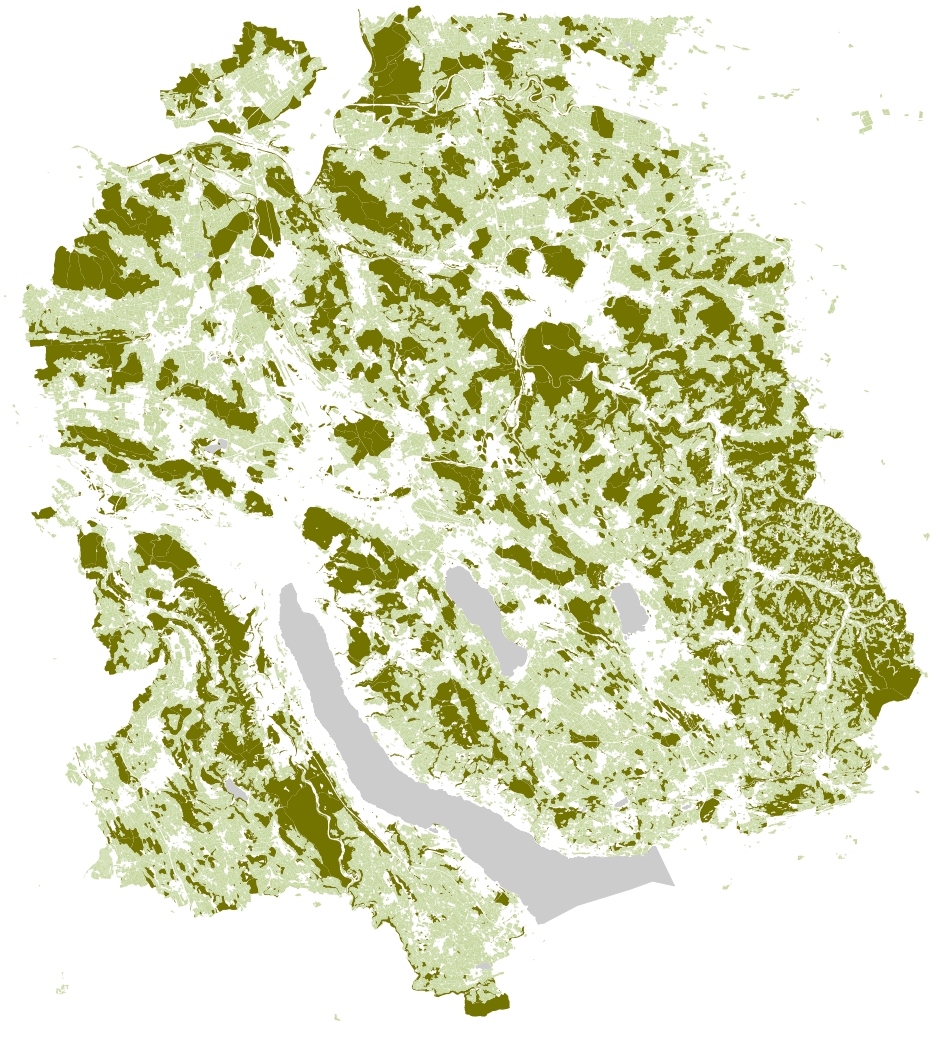
BASE CARTOGRAPHY

TOPOGRAPHY



0 4 8 16km

FORESTS AND AGRICULTURAL LAND



ROADS, RAILROADS AND BUILT AREAS



0 4 8 16km

SURFACE AND GROUND WATER

