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**Relating Systems Thinking and Design  
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## **Feral Systemic Design**

### **(re)wilding methods and methodology for systemic architectural design**

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How little can we design systems to design systemic—landscape—architectures?  
Do we need to map the system at all? Which media are most useful?

An analysis of the tools used by (re)wilding practices, here called feraling, reveals a mode of design that co-creates with existing socio-ecosystems and species. All these practices delegate part of the decisions to the emergence of ecosystems and species, as well as work with the knowledge embedded within them. They firstly let ecosystems be so that they can emerge, diversify and provide ecosystem services. Some control is present but to steer the evolution. Often, they use species to guide this systemic evolution—seeding, creating fear, and killing as needed. They time actions precisely around regular monitoring.

Each of these five tools of feral practices uses a broad range of leverage points assembled in dynamic constellations. Systems are conceived in multiple ways, primarily as living organisms, ideally working in harmony or at least towards common goals. But sometimes, they are simplified as machines and/or abstracted into categories to allow conceptualisation.

An impressive level of trust in the systems is displayed. This is a refreshing and optimistic approach in our anxious times, weighed down by the weight of responsibilities to alleviate climate change and reduce the collapse in biodiversity that we—humans—both create. These practices seem to show that we need to co-create more with the ecosystems we are nested within, delegate to them what they can do, and learn to let them be. And this requires us to simultaneously relax our desire for control and engage closely with the processes live, as well as accept our role as meta-apex-predator.

KEYWORDS: systemic design, regenerative design, rewilding, architecture, co-creation

RSD TOPIC(S): Methods & Methodology, Architecture & Planning, Socioecological Design

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## **Presentation summary**

### **Can we design systemically without mapping systems?**

Systemic design approaches are often criticised for over-focus on mapping existing systems in extreme detail to the detriment of designing and action. Some also criticise the limits of the user-centred consultative approach and the associated “positioning of [the] designer as neutral facilitator which works against more radical creation necessary for systemic breakthrough” (Drew, Robinson, Winhall, 2020). Most seem to agree that the relationship between systems thinking and design needs further investigation and conceptualisation.

Birger Sevaldson rightly pointed out that the aim of mapping is not the creation of an accurate and complete map of all relevant factors—a task that is impossible when applied to complex adaptive systems—but a drawing practice that develops “a sense of the system” and an understanding of their “Gestalt by indicating the main structures, layers, diversity and connections” (2017, p. 8).

Sevaldson also highlights that the act of mapping—whether through an actual map, a diagram, or what we call in our design studio an “ecological section”—is always both “descriptive [of something experienced—or found data] and generative”, projective and

creative, of a future yet to come (2017, p.3). At the very least, deciding what to show, what is relevant, indicates a direction for a journey, a position that is inevitably, although often implicit, political and ethical.

If the point is not to map the entire system, as it is impossible, and to leave enough time and energy for creativity and action, it seems important to reflect on how much mapping is needed to design systemically. Do we need to represent the system at all? What is/are the best medium/ia for the most essential and effective representation? Is it a map, a section, a diagram, or a combination of the above? And, associated with this, how much do we need to do on the ground, if anything at all?

Could we design systemically without designing—or drawing—the system? Or at least only designing minute interventions?

## **Feral practices**

Wilding practices—usually called rewilding—are an unusually little-planned form of systemic design that may reveal how little can be done to design systems. These complex adaptive systems—the feral socio-ecosystems—do substantially change, humans do design, or at least plan and act, but they do very little; they work with the ecosystems and species as agents that simultaneously are co-creators and products (ecotourism, ecosystem services, food ...)—environments and living beings create themselves.

The combined questions of the tools and how little or how much design is used in feral practices arose during the first year of a research project called Architectural Animism on learning from (re)wilding practices for the architectural fields. In a recently given conference paper, wilding has been described as any reduction of control in any situation and practice; this parallels the mainstream societal use of the word. Feraling is a lessening of control on a place to the point that it affords its ecosystem agency and nurtures ecological functions, speciation, and diversification, towards higher resilience. The socio-ecosystem is to varying degrees cared for / managed and thus is both domestic and wild—feral—a “natureculture” (Guibert, 2022; Harraway, 2016).

Feraling is a co-creative process between humans and the socio-ecosystem they are part of. It is systemic in a particular way that focuses on the resilience of the ecosystem as a whole and its capacity to adapt and thrive after major disturbances, more than defining what it does precisely or fixing it in an idealised version to conserve. Whereas detailed mapping generally aims to comprehend what is already present in order to redesign it partially, feraling does not. Feraling can be seen as a form of systemic design through limited action; Freya Matthews described the approach as wu wei, a concept from Taoist philosophy (Matthews, 2004).

### **Systemic leverage points**

To reveal how feral design practices design systemically, the framework of twelve “leverage points” defined by Donella Meadows as the “places to intervene in a system” will be used to reveal the feral methods (2009). She classified them from the most to least effective when dealing with complex systems (ch. 6).

1. Transcending Paradigms
2. Paradigms – “the mind-set out of which the system — its goals, structure, rules, delays, parameters – arises”
3. Goals – “the purpose or function of the system”
4. Self-organisation – “the power to add, change, or evolve system structure”
5. Rules – “incentives, punishments, constraints”
6. Information flows – “the structure of who does and does not have access to information”
7. Reinforcing feedback loops – “the strength of the gain of driving loops”
8. Balancing feedback loops – “the strength of the feedbacks relative to the impacts they are trying to correct”
9. Delays – “the length of time relative to the rates of system changes”
10. Stock and flow structures – “physical systems and their nodes of intersection”
11. Buffers – “the sizes of stabilising stocks relative to their flows”
12. Numbers – “constants and parameters such as subsidies, taxes, standards”

(Meadows, 2009, ch. 6)

Feraling practices, as examples of the least controlled form, seem ideal to reveal other systemic design tools than mapping. It also allows us to question how much we need to map and design before acting. Lastly, it may highlight possible methodologies.

There are five key techniques in feral practices: letting be, seeding, creating fear, killing, and timing. The first is described in detail, the second, third and fourth tools have been condensed into one brief section, and the last, timing, will only be mentioned in passing. Similarly, the media used were shown in the presentation, but the descriptions have been removed.

***Note:** The leverage points used to design systemically with each tool will be written in capitals and followed by their number in brackets. For example: BALANCING FEEDBACK LOOP (8<sup>th</sup> LP).*

## **1 – “to do as much as possible with, and as little as possible against”**

Feraling practices are primarily a process of letting go, of letting the ecosystem be, but not entirely. Gilles Clément’s motto for his practice, “to do as much as possible with, and as little as possible against,” is one of the best expressions of this position (2015, p.144). The ecological philosopher Freya Matthews also clarifies this unusual form of light control further by making a difference between different forms of wu wei. This Taoist concept is often described as non-action, whereas it is really a not acting against. She distinguishes two forms, a passive wu wei, where you work with existing dynamics like a surfer on a wave, this is passive rewilding, and an active part, where you change the situation, but once set, the species and systems can follow their own conatus (2004).

In terms of a leverage point, letting go replaces the currently dominant PARADIGM (2nd LP) of design as designing a vision anew and realising it with complete control, of conceiving of systems as machines with defined outputs, to systems as conditions of harmony. But these practices also, at times, do design in a traditional way some elements; not only is their primary design paradigm radically different to the dominant one, but it is also applied freely and pragmatically with the dominant one. Feral practices TRANSCEND PARADIGMS (1<sup>st</sup> LP). Donella Meadows considers these the most

effective leverage points. The new main paradigm is based on a belief that ecosystems will increase in resilience if they are allowed to self-generate. This means Meadows' 4th leverage point – SELF-ORGANISATION – aligns with PARADIGM.

Setting GOALS such as economic benefits, the third type of leverage points, are present but in a systemic way – as opposed to a narrow range of goals, they are conceived as innumerable ecosystem services that these ecosystems provide to humans and others. The most discussed are biodiversity, human amenities such as ecotourism, food production, flood control and water quality, and carbon sequestration, but there are many more.

This tool is, in effect, a constellation of four leverage points that are enmeshed and dynamically interacting and where one is integrated with the paradigm in question.

## **2 – Seeding – fearing – killing – timing**

### **Seeding**

In wilding projects, it is often the introduction, the seeding of species or their adjustment that are used as ecosystem engineers to nurture ecosystemic functions. These species are often those that have disappeared or similar species that use the same empty niche and disturb the ecosystem in similar ways. In the descriptions of wilding practices, there is often a focus on animals such as wild cows, boars, and horses, probably due to our bias towards that kingdom and the fact that, in most cases, the empty niches are often those of larger or more dangerous mammals. Nonetheless, plants are ecosystem engineers also; for example, trees are planted in landscapes devoid of them.

In the rural and more densely populated areas of Europe, the focus is often on a combination of large mammals that together disturb the ecological process of succession, each gardening the landscape in their own way to maintain a diversity of ecosystems, forming an open woodland (Jepson, Blythe, 2020).

The animals and plants introduced are combined reinforcing and balancing feedback loops that self-define the extent of disturbance (7<sup>th</sup> and 8<sup>th</sup> LP). Plants gradually enrich the soil with organic matter in a process called ecological succession; a piece of barren ground will be colonised gradually by lichen and mosses, which creates enough organic matter for grassland, then scrub, pioneer trees and terminating in mature woodland. Herbivores disturb and balance the plant communities delaying succession as well as maintaining a grassland environment that allows them to increase in numbers. This dynamic interaction between various plants and animals forms a complex web of feedback loops that dynamically create a diverse mosaic of habitats and, as a result, biodiversity.

### **Fearing**

The following two tools adjust these processes. Fearing is a way of limiting the impact of the above reinforcing and balancing feedback loops by making the animals circulate to limit their effect. This corresponds to the leverage point type of giving a STRUCTURE to the land and guiding its FLOWS (10<sup>th</sup> LP). This leverage point type interacts with RULES of punishment and constraints (5<sup>th</sup> LP).

### **Killing**

Killing is a BALANCING FEEDBACK LOOP (8<sup>th</sup> LP) that aims to balance the NUMBERS (12<sup>th</sup> LP) of ecosystem engineers to achieve sufficient disturbance while retaining a sustainable population BUFFER (11<sup>th</sup> LP) for each species. It also keeps the NUMBERS low enough to avoid a disturbance that will lead to the loss of trees and shrubs due to overgrazing as well as deaths in winter due to lack of food. Through these adjustments, a broad range of ecosystem types develops in a complex and dynamically changing mosaic that leads to maximum diversity. Humans act as meta-apex-predators.

### **Timing**

The last tool is the combination of careful timing of the above actions based on regular monitoring. It manages DELAYS in feedback loops such as processes of natural succession (9<sup>th</sup> LP). The decisions are made based on monitoring that acts as the leverage point of INFORMATION FLOW (6<sup>th</sup> LP) as it communicates information present



in the ecosystem to the practitioners. Key to these projects is also the flow of this information to the broader public to convince them of the value of the paradigm shift and explain what are sometimes violent acts.

## **Conclusion**

In feral practices, all the 12 key leverage points defined by Donella Meadows are used. They congregate around five constellations of leverage points.

Instead of designing an upfront system entirely and from scratch or fully mapping and redesigning/altering an existing system, feraling is a systemic design practice that works with the existing ecosystem and species as co-creators. Such practices primarily remove control to let the systems be. They shift the paradigm almost entirely around self-generation, but not exclusively. Some goals are present nonetheless, but as systemic, a diversity of ecosystem services is provided by a healthy ecosystem instead of a limited range provided mechanically.

Practitioners nonetheless punctually alter the scene and the actors within it. They tweak the system's development by seeding new species, killing, cutting, and managing fear, and monitoring their evolution along the way to precisely time actions.

There is something disturbing in feraling practices. Whereas systemic design generally appears – maybe from the viewpoint of an external individual such as myself – to be a gentle form of co-creation. In feraling practices, the ecosystems force humans back into the often empty niche of meta-apex-predator, especially when the apex predators have disappeared, yet the high degree of agency given to life in all its forms, however harsh this life may be, is undeniably ethically attractive.

There is an efficiency in these modes of practice; mapping and action are reduced, while live monitoring of some species numbers and ecosystem evolutions – in more or less formal and systematic ways – is enhanced.

Can this be applied to more human and built ecosystems such as cities? Killing and creating fear in humans bring to mind the death penalty and coercive legal systems; such systems work through the creation of fear over the population instead of the

ethics of democracy and the rule of law. Without idealising nor condoning either of these unethical positions, feral practices show that a complex adaptive system works most effectively, diversifies, emerges, and provides for a broad range of ecosystem services when not overly controlled.

We are faced with a question: Is our current societal tendency, at least in Europe, towards a high level of control leading to lesser resilience of our socioecologies? Could partially and carefully feraling our ecosystems, in association with a cultural shift towards ecology, lead to an ecological enhancement?

These projects seem to indicate that design that leads to thriving and resilient systems is less about detailed mapping and more about understating an ecosystem's character and being attentive to its behavioural changes. It is more about live engagement than upfront design, more about dynamically guiding constellations of leverage points than individual ones. This is also design, of course, but an organic type disseminated over time, as well as through the ecosystem, iteratively developed on the ground as the landscape itself develops.

Descriptions of perfectly designed mechanistic systems — such as for future cities and large buildings such as The Line — bring to mind the issues of modernism when applied to social housing in the 1960s and 1970s, criticised by the anarchist architectural historian Colin Ward in his articles and books on self-created (designed and built) architecture and landscapes: over control from the top applied with little care for and attention to the reality on the ground leads to the inhabitants total passivity and lack of care, and as a result of this reduced agency, council estates are uncared for environments that become deadly — in both sense of the word, as atmosphere and as a danger to life.

In other words, when we attempt to entirely map, shape and control the future of systems to fit a static upfront vision and – theoretically – limit all risks, are we risking destroying the life and capacity to provide of the systems that we aim to improve? Should we instead map less, act less, but sooner, letting species and ecosystems do more and improvise? Should we engage with and trust, more the existing socio-ecosystems?

This does not mean that we should avoid envisioning possible futures, but these, as in the drawings of imagined future wilded landscapes, may be best considered as representations of evolving paradigms for our socio-ecosystems to cohere around and make decisions live, more than as precise descriptions to be realised.

## References

1. Bennett, J. (2010). *Vibrant Matter: a political ecology of things*. Duke University Press.
2. Buchanan, R. (2019). Systems Thinking and Design Thinking: The Search for Principles in the World We Are Making. *She Ji: The Journal of Design, Economics, and Innovation*, 5, no. 2, 85–104. <https://doi.org/10.1016/j.sheji.2019.04.001>
3. Clément, G. (2015). *The Planetary Garden and Other Writings*. University of Pennsylvania Press.
4. Drew, C., Robinson, C., Winhall, J. (2020). Not the Venn: An emergent notion of systemic design which transcends the intersection of design x systems thinking. *Proceedings of the Relating Systems Thinking and Design (RSD9) 2020 Symposium*. <https://rsdsymposium.org/not-the-venn-an-emergent-notion-of-systemic-design-which-transcends-the-intersection-of-design-x-systems-thinking>
5. Guibert, E. (2022, May 20-23). Co-creating with Feral Landscapes: (Re)Wilding definitions and ontology for the architectural fields [Conference presentation]. *AlterRurality: Re-scaling the Rural conference*, Aarhus School of Architecture, Denmark.
6. Haraway, D. (2016). *Manifestly Haraway*. University of Minnesota Press.
7. Jepson, P., & Blythe, C. (2020). *Rewilding: The Radical New Science of Ecological Recovery*. Icon Books.
8. Lorimer, J. (2020). *The Probiotic Planet: Using Life to Manage Life*. University of Minnesota Press.
9. Mathews, F. (2004). *Letting the World Do the Doing*. Australian Humanities Review, issue 33, aug-oct. <http://australianhumanitiesreview.org/2004/08/01/letting-the-world-do-the-doing/>

10. Meadows, D. (2008). *Thinking in Systems: A Primer*. Chelsea Green Publishing.
11. Sevaldson, B. (2017). Redesigning Systems Thinking. *FormAkademisk*, 10(1).  
<https://doi.org/10.7577/formakademisk.1755>