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Bodenschatz Berlin
A cyber-mythological approach to the *Bodenfrage*

Richard Brautigan, 1967

I'd like to think (and the sooner the better!)
of a cybernetic meadow
where mammals and computers
live together in mutually
programming harmony
like pure water
touching clear sky.

I like to think (right now, please!)
of a cybernetic forest
filled with pines and electronics
where deer stroll peacefully
past computers
as if they were flowers
with spinning blossoms.

I like to think (it has to be!)
of a cybernetic ecology
where we are free of our labours
and joined back to nature,
returned to our mammal brothers and sisters,
and all watched over
by machines of loving grace.

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Technology, in Richard Brautigan's utopian poem on the previous page, is watching over us, almost as a Deus *In* Machina. Visionary when technology was an unimaginable black box for a majority of his recipients, Brautigan's words of cohabitation still resonate into recent times. Gradually becoming technically feasible, the unimaginable black box now seems to be "nature" with its dwindling meadows, forests and ecologies. Tangible territories are degrading while the digital ground is upgrading. What "nature" could we even be joined back to? Can "loving grace" guide our machines to encompass the very environment exploited for their construction? Can the spark of new symmetric habitation be our cities? Adding a utopian verse in 2022 could go along:

I like to think (after all!)
of a cybernetic city
long-lost companions invited in again,
telling campfire tales
of chaotic genesis
in the damp heat
of sweating algorithms.

I am fascinated by approaching Berlin's *Bodenfrage*, often translated as the property issue, from a cyber-mythological approach, for we already are hybrids: archaic-futuristic, caveman-cyborg. Can we extend this in a hybrid way of habitation along a self-fulfilling myth, re-spiritualising our relation to the ground - German *Boden*?

Ground - globally - is subject to "gradual and dramatic reduction […] to a technical medium", as Bernardo Secchi pointed out in 1986. While being part of this development, German *Boden* simultaneously is conglomerating terminological layers of meaning. These are telling stories of physical and metaphysical grounds, terrain and soil, land and floor. In Berlin's case, I want to explore the inductive ambiguity of the term along its socioecological, digital and economic significance and potential. My research and design shall stratify to the complex contextual thickness of Berlin's *Boden*, as a resumption of the "long and fruitful reflection" of the historic significance of urban ground (Secchi, 1986).

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Cybermyth, Methodological Animism, Territorial Alliances, Urban Marginalisation, Systemic Reciprocity, Digital Collective Autonomy, DAO, CLT, Terraforming, Mnemosyne, Iconography

Introduction

Berlin's ground has been a stage for biological and cultural diversity unique among European metropolises. In its ongoing history of chaotic genesis between construction and destruction, the city's terrain in many instances proved to be fertile to foster open ecological and sociocultural agency (Lachmund, 2013).

In the recent regime of financially contested territories, such diversity on the ground is threatened. Expanding along densifying domestic developments, the city is simultaneously shrinking in agency, accessibility and autonomy for many actors.

Especially marginalised groups of both the ecological and social sphere are gradually excluded by fragmentation fences. Moreover, there is a tendency of framing such marginalised groups in competition to each other over a scarce good: the ground of the city.

The research is located within the larger context of this *Bodenfrage*, revoking extensive academic literature on commons in the urban context by authors like Florian Hertwick, Michael LaFond, Dirk Löhr, Reinier de Graaf and Sabine Horlitz and practical actors in Berlin like Stiftung trias, Stadtbodenstiftung, Arno Brandlhuber, *Initiative Deutsche Wohnen & Co enteignen* (among others). While acknowledging these theoretical and practical advances in the field, my thesis is working within a triangular field of shortcomings in the Bodenfrage discussion.

First, the German term *Boden* is excavated. The diverse attributes and associations to the term render it an untranslatable chaos, a condition to be looked into. What is the significance and potential of this terminological ambiguity? I am going to sample and de-stratify the layers comprised in Berlin's *Boden*. Discovering.

Second, the (eco-)systemic perspective is to be introduced to the discourse. Urban territories only become truly resilient under inclusion of all actors and objects (Latour, 1991). Engaging in a spatial-spiritual approach, I will utilise methodological animism for narrating scientifically accurate yet graspable tales about complex co-dependencies of territory habitation. This is looking back into archaic times, reviving myths about multi-systemic magic in the genesis of land. Uncovering.

Third, this myth is to be brought to life by researching the role technology could play in an actual spatial representation of Brautigan's "machines of loving grace". In this, the subversive potential of peer-to-peer networks and ecosystem participation goes along an amalgamation of the Parliament of Things with the Internet of Things, following Michel Serres: „I think that out of this place of no law that is the internet there will soon emerge a new law, completely different from that which organized our old metric space" (2014). The myth is powered by the machine: narration and operation synthesise for replenishing urban socio-ecological diversity. Recovering.

The German *Bodenfrage* therefore is analysed from different viewpoints along the three vectors of curation, narration and operation. Each of these will venture out and cross-infuse each other before coming back together in a bundle, which can be stretched out to become a bank: a stratified representation of a non-linear sequel to the chaotic, iridescent, oscillating genesis of Berlin's *Boden*. In the following, I am going to lay out my project's theoretical framework, its methodology and the objective along the problem statement and research question.

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Problem Statement

The question of the ground in Berlin's *Bodenfrage* is discussed along agency, accessibility and autonomy relating to ownership. Berlin, once famous for its affordable and appropriable urban space, is recently undergoing a progressive land privatisation. Ground in this is merely conceived as a two-dimensional, technical object of speculation. Along this over-simplification of the ground's multi-systemic significance, dramatic changes are imposed to a collaborative genesis of the city. In effect, actors are marginalised and driven out of the city, causing the depletion of biological and cultural diversity.

Berlin's *Boden* is understood as a neglected diverse conglomerate in a state of economic, socio-ecologic and physical exploitation for an auto-marginalising growth. The objective of this research is to revive the reading of urban ground as a three-dimensional bank of biodiversity, history, cultural memories. The current practice of an exploitable singular ground layer is counteracted with a vision of "thick" ground promoting resilient cyber-socio-ecological cohabitation of Berlin's physical and digital territories.

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Research Question

How can the *Bodenfrage* discussion in Berlin be enriched by thickening the metaphysical and physical genesis of its terrain?

Theory: To what degree can reciprocity mediate former extractive and exploitative urban processes?

Methodology: How do curative, operative and narrative strategies congregate in theory and practice of conceiving anticipatory urban futures?

Design: How could spatial constellations in renewed urban territories reflect on their cyber-socio-ecological autopoiesis?

Theoretical Framework

The research is aiming at finding out how to adapt the approach towards urban territory. Departing from an anthropocentric approach of understanding the ground as a mere market product - property, resource, site - the research is a venture into the realm of indigenous-inspired alliances of symmetric cohabitation, replenishment and reciprocity as integral duties of every actor in a (eco-)system, as proposed by scholars like Michel Serres in *The Natural Contract* (1992).

Dismissing the notions of "nature" in "circularity", my research is embarking on the concept of an entangled, complex ecology, which is inseparably including human activity. Ecology represents a system of "obscure streams and flows" which is never graspable nor computable in full (Chan, 2022). From this derives Methodological Animism as a theory proposing to mediate between the system's wickedness and humanity's naiveness by mystifying instead of over-rationalising (Lowenhaupt Tsing, 2018). Most of the historic territorial myths have vanished, dismissed as pagan superstition. However, I argue that they could be revived or at least reinvented along narration following Donna Haraway's *Speculative Fabulation*, Naomi Stead's *Ficto-Critical Approaches* and Jose Luis Borges' *Magical Realism*. I want to approach architecture and urban planning through these myths, tapping their primordial power of explaining, enchanting and canonising complex systems.

I understand Berlin's genesis as a reflection on the constructive and destructive forces that have been shaping a unique morphology, a rich nurturing ground for the hyper-diverse city. This state is threatened by perceiving and conceiving the ground merely technically, resulting in speculation, over-development and fragmentation. In times of radical reorganisation, the awareness of the role of ownership and agency in the city is elevated. One of the concepts investigated in this are *Community Land Trusts* as a way to overcome the property hegemony of private (speculative) capital. Such a model works as a non-profit community alliance. It grants a community the means of realising affordable housing and other functions according to its self-governance. As summarised by John Davis, it is "community-led development of community-owned land" (Davis, 2015). My aim is to lay the foundation of a new relationship to urban territory in the CLT movement, yet take another stance by including ecological actors and their interests in the governance of development and non-development. Bruno Latour describes the Parliament of Things, a delegate-based interspecies convention of actors: "Natures are present, but with their representatives, scientists who speak in their name. Societies are present, but with the objects that have been serving as their ballast from time immemorial." (Latour, 1991). By creating a space of representative governance, he argues, a merely inevitable step is taken for collective survival in an all-entangled world. Embarking on this, my research is investigating the feasibility of including ecological actors in a Community Land Trust model. What does it mean to think the city as a habitat of all instead of only a privileged circle with economic, cultural and species compatibility? Dare we a departure from habitat eclecticism?

To promote such collective autonomy, representation and delegation are to be explored along a blockchain-based operative scheme. I want to explore cyberspace as another dimension of urban and ecological processes. The potential of digital technologies in the creation of spaces, the construction and destruction of cities is inherently obvious to architects and planners.

Triglav, a three-headed deity who played an integral part in territorial myths of the region that now is Berlin. Singing his songs was an indigenous way to move around the swamps of Spree and Havel by night.
Image: https://image.jimcdn.com/app/cms/image/transf/none/path/sd2f448b6b36203f1/image/ib5205d68f3cc6367/version/1437497923/image.jpg

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However, I see subversion as the decisive slumbering force within these digital advances. The notion of *hacking* has gained visibility and impact in countless instances, but there is yet much to discover on the appropriative use of digital means to create bottom-up implications on ownership, governance and design in the city. In my vision, the two theories of the Parliament of Things and the Internet of Things converge, creating a sort of *Boden*-Parliament. This subversive strategy "hacks" the metaphysical code of the existing city to become a more inclusive physical environment.

The Anthropocene goes hand in hand with extraction and exploitation. In terms of quantity, mining is decisively revolving around sand, extracted and processed to concrete, which then builds houses, cities, infrastructure. Germany, contrary to many other countries, in theory sits on nearly infinite sand deposits as a Bodenschatz ("ground treasure"/resource)(Neuhaus, 2019). Berlin even had sand mines within its perimeters as it is built on vast sedimentary accretions from its glacial past. The awareness of the land's economic value, hardship in obtaining concessions and public mining aversion are skewing prices and incentivise cheaper imports from other federal states or even countries. The irony of a city built on sand importing itself from somewhere else is fascinating, and in the context of reciprocity even more. I want to understand the city as a morphological result of extractive processes happening elsewhere – in the sense of removing one landscape to re-erect another one – Anti-Berlin? Is there a way of mitigating extraction and achieving habitation in balance? Can the city itself be mined; or the surroundings de-mined?
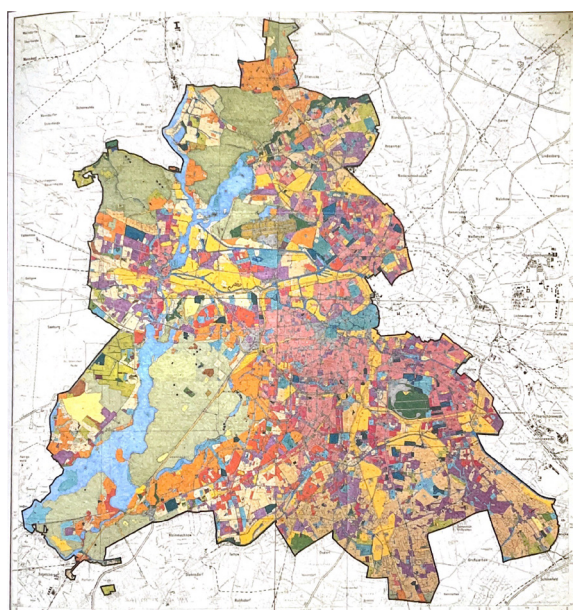

Geological substratum scheme for Berlin, yellow represents sand and other sedimentary accretions. Overlay with municipal borders and boundaries done by author. Geology base map source: geoviewer.bgr.de

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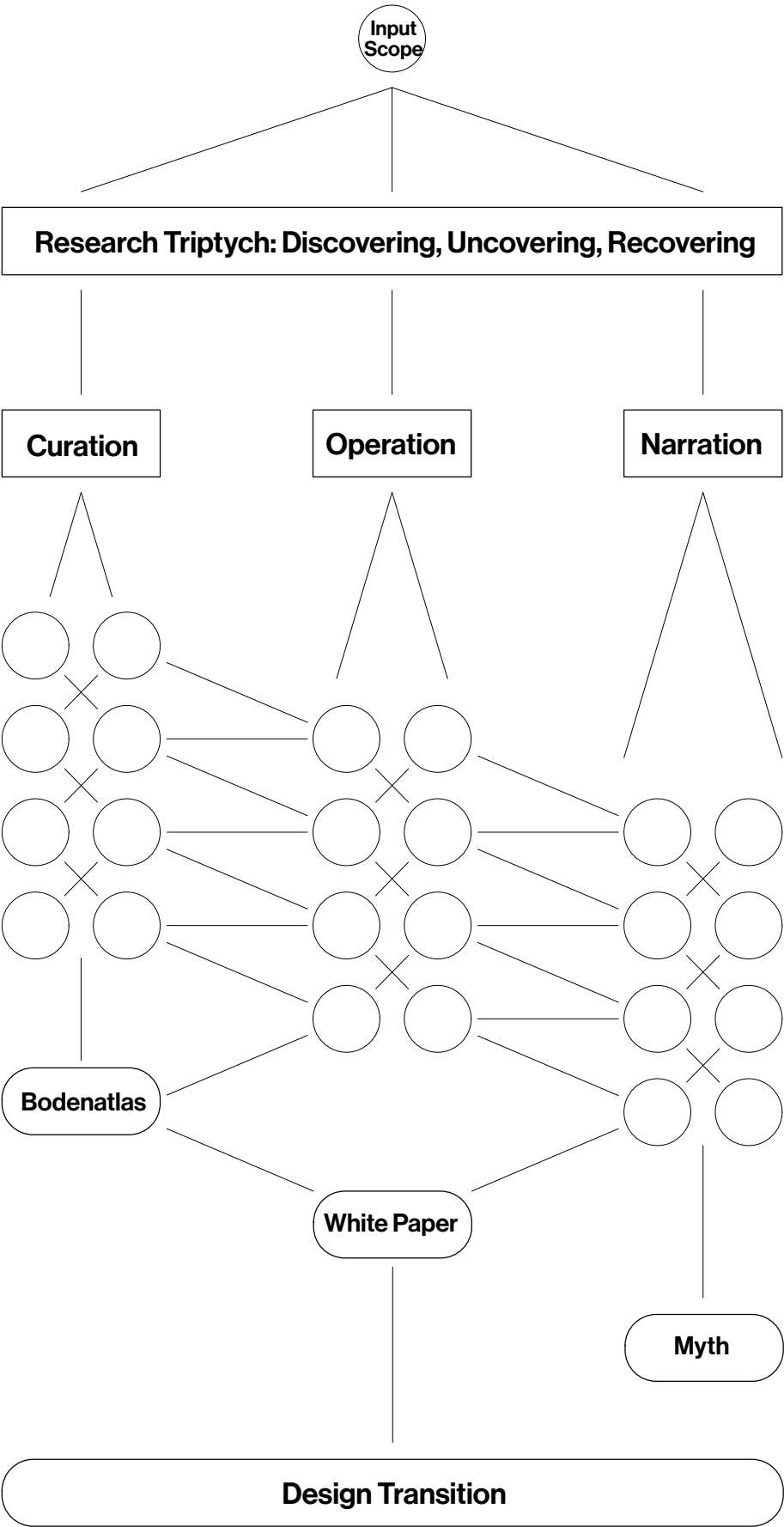
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West Berlin mapped as an agglomeration of biospheres, habitats, eco-terrain.
Arbeitsgruppe Artenschutzprogramm Berlin (1984) *Biotoptypenkarte West-Berlin.*
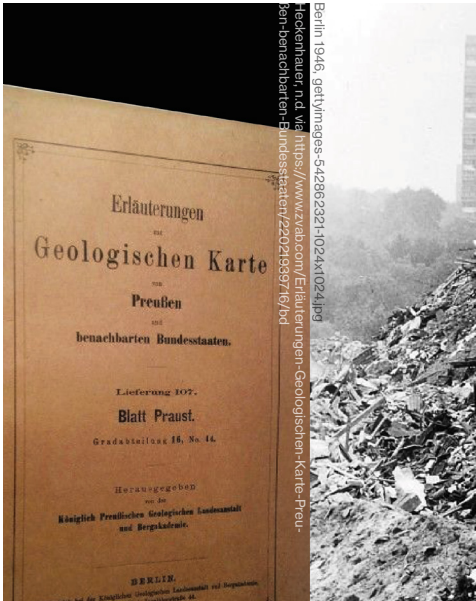
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Input Scope

Research Triptych: Discovering, Uncovering, Recovering

Curation **Operation** **Narration**

Bodenatlas

White Paper

Myth

Design Transition

Curation: The *Bodenatlas*, a traditional geological mapp[ing]
pic state; Aby Warburg's plates of the *Bilderatlas Mnem*[osyne]

Operation: Urban Community Land Trust protests in the
Club's *Blinkenlights* in Berlin (2001); *terra0* white paper

Narration: Magic? Wim Wenders' *Himmel über Berlin*; O[...]
calamita; A cyber-myth on display in MAK Vienna, *La T*[...]

Methodology

...ping method; the ground as a cultural archive in entro-
...mosyne

...e 1980s in the US; Hacking the city: Chaos Computer
... of a forest governing itself on the blockchain

...verlooked protagonists of habitat mythology, i.e. *Bufo
...urbo Avedon*

The research is understood as a triptych of curation, operation and narration: Three outcomes requiring different approaches and methods. They are, however, strongly interwoven in constant cross-referencing and have to be understood as parallel working processes. An ordering principle for informing each section is the degree of specificity. I am already working along this to achieve input iterations from low to high specificity to create a coherent outcome along the triptych. In the following, each of the three frames is explained in detail.

Curation: The *Bodenatlas* curates a large-scale set of historic and existing exhibits to outline the multiplicity of layers in Berlin's ground. Here, I am investigating into the manyfold meanings, attributes and associations to the German *Boden*. How can this term be conceptualised, emotionalised, understood? In the tradition of Aby Warburg and Erwin Panofsky, the *Atlas* will look into iconography as a curative approach to (visual) data. Warburg's unfinished *Bilderatlas Mnemosyne* project is my point of departure. In his approach "zum Bild das Wort" (the word associated to the image), Warburg engages images for their evocative power as a vehicle of socio-cultural memory and history (Warburg, 1929/2012). The curator's role lies in composing plates triggering audiences to actively engage in associative iconographic processes. The result is a composition where less the singular image than the relation of plural objects induces meaning and sense. I am exploring the potential of such a curative strategy to a non-geographic mapping of the city's ground as "a machine that illustrates the mechanisms of tradition, themes and figures from the past to today" (Lucarelli, 2013). The goal is to disseminate and re-collage Berlin's *Boden* to foster and inspire new ways of interpretation, using the primordial power of the image to include the audience. Method-wise, this works along visual *mining*: intuition leads to sampling resources at locations, to then attentively follow veins to deposits. In my research, this includes photographic work to be carried out as research, a *dérive*-inspired approach of wandering the city while documenting it (Debord, 1956). The outcomes are accompanied and processed by working with archival resources, fortifying the resources.

Operation: The *Code* is following a pragmatic agenda, as it is understood as a contextual white paper. A business plan of a certain degree, it is presenting the eco-democratising strategy linked to its actual use cases. It is reflecting on the vision of granting multi-species access and agency to Berlin's land at the intersection of Blockchain technology and Community Land Trust models. By engaging the syntax of a traditional white paper, which is usually the initial point in founding digital ventures, the feasibility of the project's real-world application is tested. This section is elaborating on the underpinning strategies through degrees of complexity as a "proof of work". The white paper is going to follow the methodological flow of a business plan, i.e. showcasing target groups, elaborating on key numbers and laying out use cases, potential pitfalls and overall viability of the project. Therefore, it will engage methods like market analysis, diverse calculations and an overall evaluation. The result aspires to be a study in socio-ecological entrepreneurship within the larger frame of property and governance in cities.

Narration: Working its way along the ideas presented in both the *Atlas* and the *Code,* the narrative is selective to become a piece of accessible tale-telling. The aspiration is a coherent contextual narrative engaging historic mythological elements and modern-day ways to explain phenomena of physical and

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metaphysical cohabitation of the technosphere, anthroposphere and biosphere. Thereby, this frame of the triptych aims to rejuvenate the significance of narrating the territorial genesis of cities. The style of Methodological Animism represents a bridge between complex multi-systemic urbanity and the lives of its actors and dwellers. Spatial constellations are narrated before conceiving them, creating an appropriable frame for an architectural design position. The methods used are revolving around Stead's Ficto-Critical narration approach to highlight the importance of the unheard voices of marginalised actors. At the same time, the rich local history of myths is revived to act as another silent protagonist: the terrain itself. The ancient Slavic cult of Triglav enabled the early settlers of the Berlin region to navigate their ways through the original landscape of *berl* (swamps). The heads of the three-headed deity respectively stand for the under-ground *Nav*, the ground *Yav*, and the above-ground *Prav* (Váňa, 1992). My research metaphorically operates along the Triglav's heads, as the *Atlas* is looking under the ground, the *Code* working on the ground and the *Myth* affecting how to perceive and conceive objects above the ground.

Relevance + Summary

The project aims to eco-democratise Berlin's urban terrain. By filling up the trenches between ecological, human and technological actors, the hypothesis of a multi-systemic alliance is tested. Existing research and practice fragmentarily treat some of these aspects. My thesis however is first proposing their amalgamation in the triptych of narration, operation and curation to enrich and diversify how architects, developers and dwellers approach Berlin's ground.

Through the re-enchantment myth, interwoven processes in the proposed alliance are accessibly explained. Simultaneously, the white paper pleads for the amalgamation of Community Land Trust models to the subversive power of blockchain technology and points out use cases within eco-inclusive land governance. The iconographic approach of the Bodenatlas is curating a visual diversification of "Boden" in Berlin.

The overall impact is a utopian, experimental multi-systemic collaboration which is discovered, uncovered and recovered in the proposed research process. Altogether, narration, operation and curation assemble to singular and collective threads to pick up in Berlin's *Bodenfrage* discussion and will facilitate an inclusive design within cyber-socio-ecological alliances.
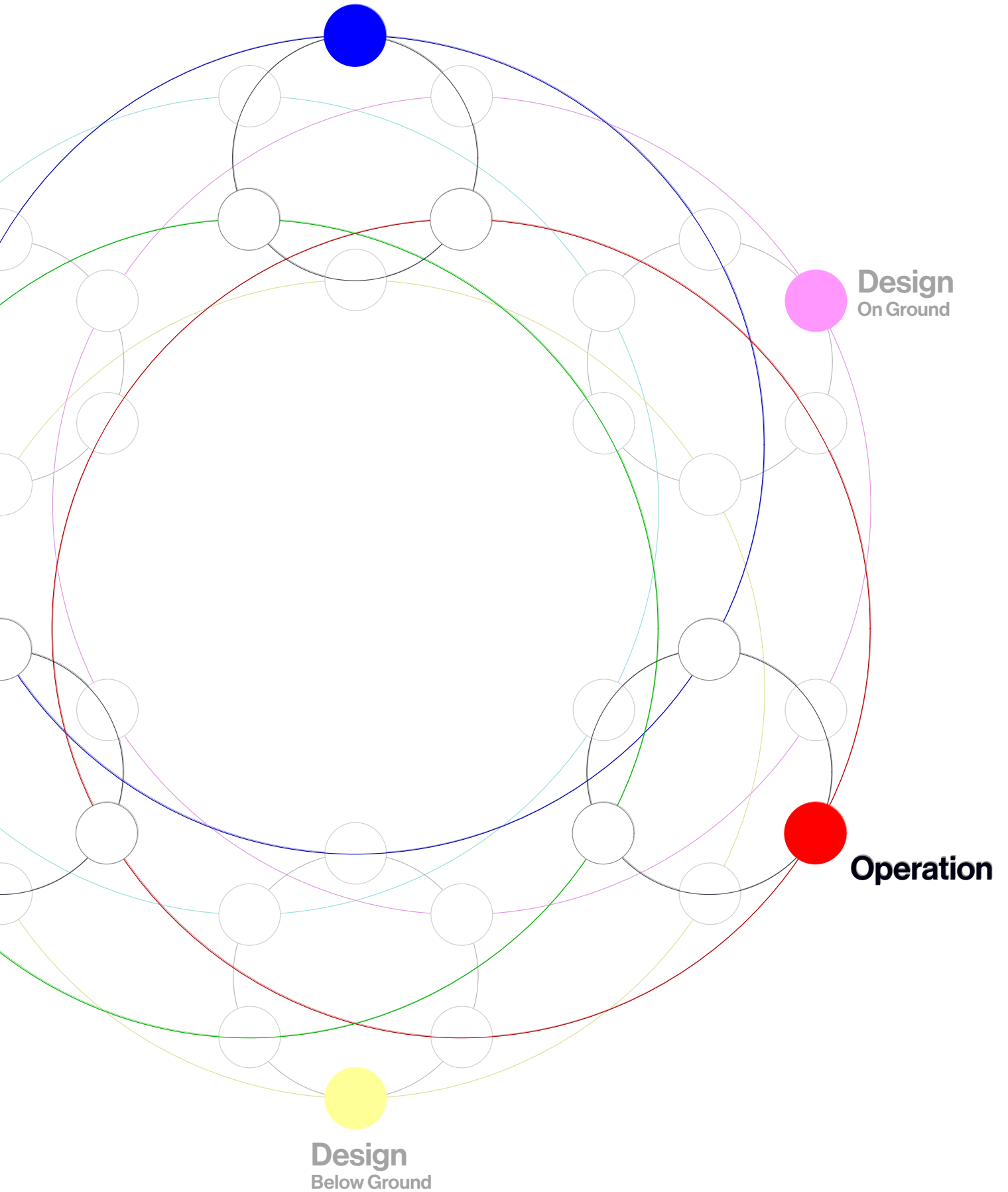
Design
Above Ground

Curation

Narration

Design
On Ground

Operation

Design
Below Ground
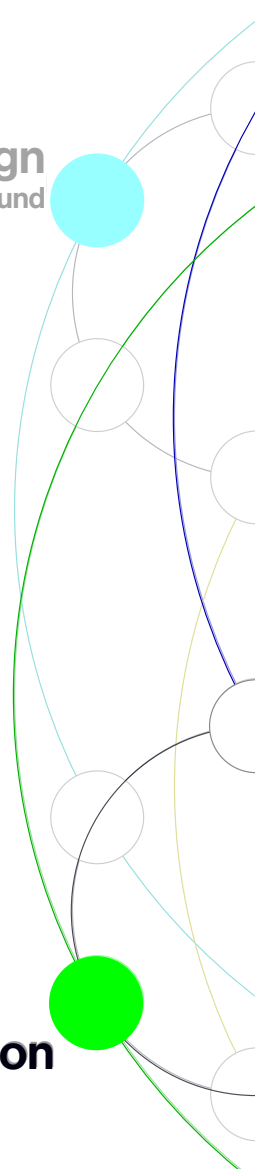
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