Faculty of Design

2020

COLreg: The Collective Regenerative Region

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The Collective Regenerative Region

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Abstract

The paper presents a practice-based systemic design project regenerating former gardening colony of Prague 22 district. Codesigned with local and transdisciplinary stakeholders, COLreg is integrating human and non-human communities, generating a bioregion for- and with- all. Our regions and economies are dependent on the overall ecosystem. However, recent models are not good at equally integrating other species and beings. The COLreg project is aiming at introducing a new, 21st century, model of symbiotic synergy of Post-Anthropocene.

Introduction:

'Over the past three decades we have witnessed shifts, connections, and reframings in just about every area of design: how design is done, who is doing it, for what goals, and what its results are. These changes show a move from the designing of things to interactions to systems, and from designing for people to designing with people and by people.' (Sanders & Stappers, 2014)

Codesigning public spaces services with local residents and other stakeholders is slowly entering communal practise. In this case, Collaborative Collective NGO was invited by Prague 22 district to facilitate codesign workshops and to conclude their results in systemic design proposal for communal land regeneration. The project was approached as 'bioregioning—an activity that creates value' (Thackara, 2019), connecting 'What is' with 'What if' (ibid). It is following traditions of democracy including equality of voice and inclusive participation, mediates between city state of government and individual citizen (Jenlink & Banathy, 2002). The project is synergising both, a biocorridor as well as circular economy within the region through communal and community-based cocreation – combining bottom up and top down approaches. Whilst 2nd order cybernetics moved from the study of observed systems to the study of observing systems (Montuori, 2011), 3rd order cybernetics oscillates between the two (Davidová, 2019; Kenny, 2009). This way was also leading the codesign processes within this project that is introducing a new economic model for 21st century. This model is inspired by the project 'Artists Re:Thinking the Blockchain' where a coffee machine has its wallet and can operate with it (Cathlow, Garrett, Jones, & Skinner, 2017). In the 21st century, rivers and others are reclaiming their legal personhood with social, cultural, economic, and environmental interests. The example that has raised this discussion was the Whanganui River in New Zealand (Argyrou & Hummels, 2019). Integrating species habitats in anthropocentricly developed settlements have been appearing in other architectural proposals such as designs by Andrew Kudless (Kudless, 2009), Terreform I (Joachim & Aiolova, 2019) or Rewild my Street (Moxon, 2019). However, having personhood and rights is a step forward from the simple protection this project follows. The preoccupation with defining the legal person in anthropocentric terms highlights what is of value to society. The fact that the environment in most legal systems does not have legal personhood entity status, but that corporations do, indicates how

contemporary western societies see the natural world as a source for profit. As a result, the natural world is seen as property to be used and controlled (Hutchison, 2014). Such an attitude of uncritical exploitation has led us destroy biodiversity, creating the crisis we are facing today. This project tries to integrate an environment into communal cocreation of circular economy in the region.

The municipality of Prague 22 bought a land within its city centre to enable cross-species connectivity within its landscape and to provide communal activities opportunities to its residents. However, at this moment, the land is rented out for a historical gated gardeners' colony, where small group of local residents have small gardens with glass houses and huts. This community did not wish this situation to change. Therefore, conflicts across the city hall, gardeners and other community members arose. Therefore, Collaborative Collective was invited to search for synergy across different stakeholders, such as the city hall representatives, ecologists, gardeners, and the residents eager to obtain recreational public space. This paper exemplifies how bottom up and top down approaches can be combined through minimapping and collaborative gigamapping across various interests and how this can be implemented within 'real-life codesign laboratory' (Davidová, Pánek, & Pánková, 2018).

In this case, minimap is a personal map that enables the stakeholder to map her/his personal universe within the discussed area (Davidová, 2020). Gigamapping is a technique for facilitating mapping, contextualization, and relating of complex systems by groups, revealing their environment and landscapes (of interaction), their current states, as well as preferred future states. It has been a central tool for co-inquiry where experts, users, and other stakeholders are brought together and are immersed in dialogue across their specialized cultures and terminologies (Sevaldson, 2018b). Typically, the multi-disciplinary and multi-stakeholder team also involves representatives of those who cannot be present' (Sevaldson, 2018a), such as when dendrologists talk on behalf of trees (Davidová & Zímová, 2018). The 'real-life codesign laboratory' is the real-time cocreation with the community through real life. The synergetic proposal from gigamapping is not final. It is a real-life prototype that is constantly tested and redesigned whilst performing within the real-life environment and its situations.

The Ecosystem:

The site is recently used as a place for gardening. It used to be a pheasantry, which was part of the Uhříněves Game Reserve. According to nature protection, the park is a famous natural monument.

The game reserve was declared a natural monument in May 27, 1982 by the Prague Municipality. The fact that an area became a natural monument also secures more care and attention, given the reason why it was declared: 'A valuable set of natural forest communities (hornbeam oak, bird ash) with old oaks and a rich herbaceous and shrub layer.' Under this designation one can imagine mainly forest stands in the central part of the park around Říčanka stream. These stands are in a state in which the local forests would grow without any human intervention. The long-term goal of the protection of this area is to preserve (at least in the current state) the forest stands and plant communities. At first glance, it might seem that the ideal procedure is not to do anything. However, it is not so. Although these protected trees are natural and would grow in the location without our intervention, the surrounding nature and landscape has changed by human activities. Therefore, other species of woody plants and plants that do not correspond to the natural state are gradually entering the locality. Therefore, the species composition of stands is monitored, and so-called management interventions are carried out. This aims to adjust the condition of the location to as natural form as possible.

To understand the current state of the forest, it is important to know its history. The natural forests around Říčany lived their own lives until almost the 19th century. At that time, a pheasant house was established in the territory. On its largest part it was farmed as a stump with a twenty-year wash. This means that the young trees were cut down about 1 m above the ground and their wood was used for heating. After such an intervention, tall stumps are formed. These form several branches very quickly.

These are then cut off in the same place after around 10 years. This method has been used in the region for many centuries. It was a very convenient and simple way to obtain wood for heating without the need to cut down whole trees. In addition, the wood grows very fast after this intervention. Even today, one can find several sromas in the location. These have multiple strains growing from one place. These are just witnessing the former farmed stumps. This type of farming is suitable for many species of animals. In one place there are both old and young trees, light, and shadow. Age, species, and habitat diversity is always the most important in nature protection. Therefore, it is ideal to keep the vegetation as diverse as possible in terms of age of trees and their species representation. The presence of a gardening colony also benefits from this. Thanks to this, there are also many fruit trees.

What are the protected species currently present in the area? From the plant species, there is a European ochmet, which is a semi-parasitic deciduous shrub similar to mistletoe. Birds such as a little owl, which loves the forest stands that are adjacent to meadows and fields are striking in the location. There is the common sparrowhawk that nests in forest stands and hunts in the surrounding fields and around Podleský pond. It likes old trees with cavities and shrub edges of the forest stands. Similar localities are also inhabited by the eared owl, the gray flycatcher, or the green woodpecker. The woodpecker is also a representative of date birds that like older trees with cavities. If there are not enough of them in the vegetation, nesting boxes that they like to inhabit are placed for them. From amphibians and reptiles in the past (year 1988) in the vicinity of Říčanka stream species of brown frog, green toad, common lizard, and brittle hen were found. Among other animals, interesting inhabitants are, for example, red fallow deer, dark polecat, ermine weasel, kolchava weasel (The Capital City of Prague, 2019).

How did forestry management develop in the location? While nature protection is governed by the aforementioned care plan (The Capital City of Prague, 2019), forest management is based on a forest management plan. The forest management plan has changed a lot over time. After 1868, the care consisted of an awning of acorns and an oak undergrowth that prevailed in the 1950-ties. From the 90-ties of the 19th century, oak was planted in a mixture with spruce. Later, spruce, larch and pine predominate. In the period 1905–1932, modern farming methods were spread according to the forest council of J. Wiehl, whose aim was to grow small-scale mixed stands with the support of natural rejuvenation and with the use of exhibitions. Exhibitions are selected trees that are left to stand in the middle of the clearing and their seeds ensure natural regeneration. In addition to habitat conditions, the composition of the stand mixture was also determined by sales conditions. In the Říčany region, locally in the first years of the 20th century, deciduous and coniferous exotics were used. To this day, we can still find them individually in the location. The economic guidelines for the decennium 1950–1959 prescribe mainly artificial regeneration of stands. Pine and oak are the main tree species. Spruce should be limited to appropriate habitats. Attention is also paid to the cultivation of larch, fir, and domestic deciduous trees - maple, ash, and beech. Subsequently, the game reserve in Uhříněves was included in forests of special purpose, requiring a different way of management. The situation is similar in the current plan, where recreational functions and functions of special purpose forests for forests protected under nature protection regulations overlapped (Tlapák, 1962).

The long-term goal of the current nature protection is to focus interventions in the stand on the adjustment of species composition, support of sub-level individuals (shrub layer) and support of natural rejuvenation and growths only in the form of individual selection. In general, only the most necessary educational interventions gradually in the shortest possible horizon will switch to a selective method of farming. This means marking individual trees in the stand that will be felled. Keeping of old individuals of oaks, ash trees and other trees is established. The area supports natural regeneration. It uses possible areas after health selection clearings of non-native woody plants that are freeing up places with perspective rejuvenation. Invertebrates are supported and upheavals and dead wood left to disintegrate spontaneously as an environment for the development of some species. In the case of a small amount of

decaying wood, measures to secure it are taken. When intervening over 10 trees, 10% of individuals from the total number of felled trees are left to decay in suitable places - stumps with a minimum height of 30–40 cm (The Capital City of Prague, 2019).

This knowledge was critical to include in the whole process of what design to support the natural properties of the discussed ecosystem.

The Gigamapping CoDesign Process:

To accomplish the study, the project covers four actions, two of which were simultaneous. Following Sevaldson's research (Sevaldson, 2018b), gigamapping (visual diagramming of complexity) was selected a tool for the first cocreative processes. At the first stage, only the critical expert stakeholders and critical community representatives were invited to engage larger audience through their network (see Figure 1). This is because there was large conflict of interests. The former gardening renters of the place were not happy that the city hall bought the land and plans its regeneration for community use and biodiversity connectivity, therefore terminating their contracts. The discussion was too sensitive for too large group which would probably turn into argumentation without conclusion. At the first meeting, there were crucial representatives of the gardening colony, community, ecologists, and the city hall.

All representatives were first asked to develop their own 'minimap' (Davidová, 2014) – to map their own universe in relation to the location, mapping 'what is and what if'. Each of the representants presented their map to the team. After that, they received scissors and they had to organise the items from each minimap into a gigamap, finding relations amongst each other's universes. Interestingly, many of the items repeated in their basis and it was easy to find synergy across the conflict sides as they we often imagining similar visions. It was also a big surprise to the conflict sides. Learning about each other's universes generates empathy and understanding (Davidová, 2020).

Figure 1: First codesign workshop with critical community representatives and stakeholders at the City Hall of Prague 22 (Photo: Davidová 2019)

Figure 2: Ecosystem mapping (Photo: Zímová, 2019)

Simultaneously, an ecosystem mapping was performed by the second author together with the first author's students (see Figure 2). Migration routes and their barriers and existing shelters for wild animals were searched during this mapping. Furthermore, interesting objects suitable for conservation were mapped. The survey showed that the area creates a migration barrier between the forest, deer-park and the watercourse due to the fences. This barrier is impermeable to all larger animals, such as dears. It has also been found that most of the existing areas can be maintained for the regenerative park design. The second author also performed a basic mapping of the ecosystem. It showed that the area is very attractive for honeybees and birds. These species have enough food and nesting possibilities thanks to the ecosystems of old gardens. The session was finalised with presentation and discussion of both groups in search for synergy amongst mapped human and non-human communities and stakeholders (see Figure 3).

Figure 3: Mapped Human and Non-Human Stakeholders (Davidová 2020)

This workshop shaped and formulated the discussion for the call to the second gigamapping workshop that was already fully open to public (see Figure 4). It was important, that the issues were synergised before such action and critical conflicts were already avoided. The workshop followed the same methodology of combining mini- and gigamapping with presenting minimaps to others, scissors and reorganising of the items and relating them in gigamap with final presentation in the end of the workshop. It involved all age groups and developed further interests. An elderly lady informed us on how the ecosystem and the community performed in the past with the features that can be restored, a child showed a vision for the future and the school involvement. Productive age representatives were interested in the spaces for cultural events and relaxation with enough entertainment for their kids. This part focused a lot on ecological literacy for the current and future generations through real life experience opportunities and engagement.

All these sessions were afterwards concluded into the systemic design proposal (see Figure 5) to be discussed with public. For the public discussion, the original plan was to print out the map and collaboratively draw over it on transparent paper. However, due to the COVID-19 pandemic, this part was cancelled, and even online events were not possible as the city hall was busy by securing the community. Therefore, it will be already developed, tested, and redesigned through real-life by tokenisation through assigning value to different actions and things.

Figure 4: Second codesign workshop with community representatives and stakeholders in local museum (Photo: Davidová 2019)

Systemic Design Proposal:

The current regenerative codesign (see Figure 5) proposes token circular economy where all existing from the former gardening colony except its fences is left on site and upcycled. This covers existing huts, greenhouses as well as vegetation. The locality will use purely rainwater for public and private showers, laundry and taps for animals and it will provide composting toilets. The possibility of filtering rainwater for drinking water will be investigated. The locality site use plan is graduating from a more secret part on the west towards a very collective part on the east (see Figure 6 and Figure 7). This was a critical wish across all stakeholders that the park offers both 'introvert' as well as 'extrovert' spaces for relaxations and events. This secures variety of opportunities of uses by both humans and non-humans. In between of the secret and open part is a kiosk located in an old glasshouse built of PET bottles. The project keeps its existing genius loci whilst upgrading it with the opportunity to grow herbs from those pet bottles that need to create shade. The kiosk that sells its own and local gardener's products keeps being the glasshouse for its own vegetable growing. The typical products will be locally produced cider and fruit wines, lemonades and syrups, fruits, and vegetables and other self-grown food. Local people will be able to exchange their own production that will be kept on site for tokens. This will be accompanied by Prague City Chairs and Tables that the Prague Institute of Planning and Development offers for free to all city's public spaces (Prague Institute of Planning and Development, 2021). Those together with decking chairs are also placed in coworking space and playground area. The coworking spaces enable school and workspaces in nature.

Two of the existing huts (see Figure 8) and one greenhouse (see Figure 9) of the gardening colony will offer dwellings and food production to two people in need to start new life as service administrators and providers for the location. They will be gardening, take care of the kiosk and its food production, rental of the other existing huts and their maintenance. Such action will secure control and systemic regenerative performance of the park. Security is namely important as the existing fences will be removed to enable biocorridors with access to water stream from the forest and the deer-park in the location. Opening the park to the neighbouring forests will secure natural mowing by deer. The location will as well increase its biodiversity through meadows, water collectors and keeping its existing fruit trees. Thanks to these opportunities, the site will offer even greater opportunities for bird nesting and the occurrence of small mammals, including protected species. Such spots will also serve to educational purposes of the two local schools for which the ecologists and gardeners can provide excursions and workshops.
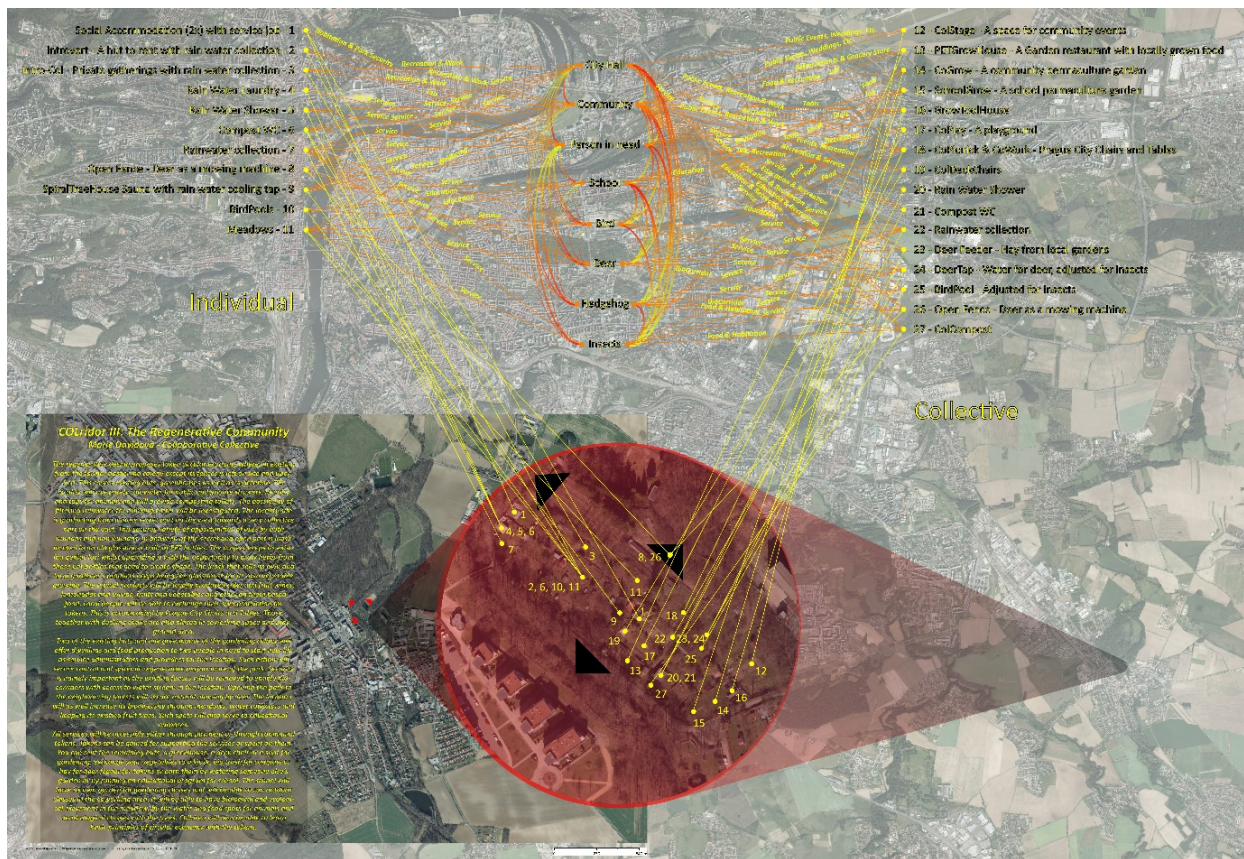

Figure 5: The project proposal for public discussion (Davidová 2020)

Figure 6: Individual part of the region (Davidová 2020)

Figure 7: Collective part of the region (Davidová 2020)

The details of the gigamap (see Figure 6 and Figure 7) show the different arrangements of the individual (see Figure 6) and the collective parts (see Figure 7). They also show the services they provide to different stakeholders that interact in feedback loops (see Figure 3). This is integrated in the token system. Therefore, the deer will gain its tokens by its grass mowing. The butterflies will be paid for pollination of the school and community garden. Both will be paid for educational programs they provide by their observation opportunity. For these tokens, they can gain a meadow, feeder, or water. The children and the gardeners will earn their tokens on their tomatoes in the kiosk. Whilst the children can be paying for their wildlife excursion to a hedgehog or a deer and butterfly. Therefore, the community can start being integrated into economy that integrates an ecosystem as an active part of the global performance.

All services will be accessible either through payment or through communal tokens. Tokens can be gained for supporting the services or spent on them. One can rent the remaining huts, a greenhouse, a deck chair, or a spot for gardening, exchange her/his vegetables in the kiosk, bio trash for compost or hay for deer feeder for tokens or earn them by watering someone else's garden or by running an educational program for school. The school will have its own garden for gardening classes and will be able to run outdoor classes in the coworking area. It will be able to have biological and ecological excursions in the meadow, by the water and food spots for animals and dendrological classes with the trees. Children will also be able to learn basic principles of circular economy with the tokens.

Figure 8: The territory with existing huts and greenhouses (Photo: Zímová, 2019)

Figure 9: One of the existing DIY greenhouses in the territory (Photo: Zímová, 2019)

The Real-Life Codesign Laboratory:

The most important part of the codesign process is the real-life cocreation. The synergetic systemic design proposal is just a prototype. In hands of the community, ecologists, city hall, and other stakeholders, the project will keep cocreating its systems of values and will be constantly redesigned. This means that if the pollinators support well the garden's harvest, they might be receiving more water

sources and food opportunities. If one earns enough tokens on tomatoes, s/he can extend her/his garden. Realising the benefits of the pollinators to her/his garden, s/he will be happy to pay them to expand their habitats. Therefore, this project is generative and 'time-based' (Sevaldson, 2004). The gigamapping workshops and the systemic design project just serve as 'leverage points' (Meadows, 1999) for the evolving social and environmental change in progress.

Conclusions:

We are all dependent on the overall ecosystem. There is no harvest without pollinators, compost, worms, etc. However, our recent economic models do not seem to reflect this fact (Dasgupta, 2021). As a result of this, the world is facing an Anthropocene Extinction. This means that a large number of living species are threatened with extinction or are becoming extinct because of environmentally destructive human activities (Wagler, 2017). The planetary boundaries model clearly shows that biosphere integrity is beyond the zone of uncertainty (high risk), one of the two most riskiest parameters on planet Earth (Steffen et al., 2015). Currently, the World Economic Forum has recognised that blockchain, crypto-currency and the 'token economy' provide a means for 21st century communities and distributed organisations to reclaim power and enact their values in a way not possible through 20th century centralised banking, industrial and commerce models (World Economic Forum, 2018). The term 'community' in our work is therefore extended from how it has been traditionally understood in an anthropocentric cultural context (Davidová & McMeel, 2020). If there is a clear dependency on larger then human agency within our systems, we need to integrate the participation of the non-human members of the communities. The word 'species' also structures conservation and environmental discourses, with their 'endangered species' that function simultaneously to locate value and to evoke death and extinction in ways familiar in colonial representations of the always vanishing indigene (Haraway, 2011) or memories of elderly. We are proposing leverage points to this that could act as inclusive opportunities of those who have not been heard by now as the system is relatively open to all in its real-life performance.

There seems no other way then to prototype, test and develop, such integration in real-life. According to Haraway, disciplined representation in such conditions is a flawed but often noble calling. Calling; calling toward; ad-vocare. Advocacy is not just re-presentation; there is a sensual tension and rasping, noisy friction her' (Haraway, 2011). Though there is an emerging research on interaction of humans and other species (Westerlaken, 2020), there needed to be a mapping point when the ecologists and others talked on behalf of them to start with the intervention which then evolves in real-life. This is because without initial action, we would not generate their appearance, and therefore, interaction. At this moment, the project is in the process of initial implementation. However, it should never stop, being constantly codesigned and redesigned.

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