CELJE (SI)

BACK OFF!

~ Time as a cure for an injured territory ~

The current biodiversity, climate and environmental crises may be seen as results of a human-non-human relationship in which the human perspective has dominated and sought to control the nonhuman. One of the most prominent examples is certainly the industry with its exploit of resources to gain human welfare at the expense of the non-human surrounding; another great example could be the greenhouse, where nature became optimized for human food production, and sometimes even aestheticized. The greenhouse is a closed environmental system that, in the end, strictly connects the humans' need for comfort and life. Architectures such as greenhouses better highlight how the role of human control and overpowering of the non-human domain is mainly exercised through proximity and this, in the long run, manifests itself in the form of pollution that inevitably endangers both systems. Working with distance and separation therefore necessarily (and even paradoxically) becomes the most sustainable and respectful technique to (re)connect and include non-humans in human society (Clement, 2004). On the other hand, coexistence means understanding that there can be forms of human habitation that do not stifle other forms of life or other lifestyles, therefore understanding that it is necessary to take a step back and make room for a freer and more independent development, while at the same time creating meeting points (Latour, 2018).

Distance translates not only into a spatial dimension, but also into a temporal one, so that a new balance can be found. Working within a long-term transitional time interval and starting from this idea, the project intends to activate a gradual process of non-humans-remediation and caring, starting a regenerative process capable of actuating a landscape metamorphosis which, after having been sedimented and spread, gives back a reclaimed landscape to much more responsibilized humans.

A spatio-temporal architecture that tends towards a reconstruction of social and individual practices of ecosophy (a philosophy of ecological harmony or equilibrium) to solve the ecological disequilibrium on the site through an ethico-political and ethico-aesthetic articulation in three ecologies: the environment (or nature), human subjectivity and social relations (Guattari, 1989). Those three ecologies are translated into architectural strategies over the course of a more than 15 years long process for the site of Stara Cinkarna in Celje.

All those operations are thought to connect non-humans and humans within an initially separated but still cooperative process. In fact, while in the first stages, the site transformation excludes almost totally humans creating spatial distance and focusing more on the environmental side, the subsequent phases develop a collaboration with it and work with a human subjectivity, that ends with the development of a research and cultural center, that reopens to the possibility to reconcile with the healed nature and territory while taking care of it and creating a new social relation.

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POST(HUMAN)CARDS N.1: Environment:

After more than 15 years, in 2040, the old Stara Cinkarna site is finally regenerated and available to the city of Celje. I never thought that a place so polluted and isolated from the city could now become an indispensable node for all of us. And to think that it all started with the restriction of human contact with the whole lot! They told us that the "backing off" was a necessary action to restore environmental balance to an area that human beings had seriously contaminated.

I remember that, especially in the early days, in 2024, the real estate companies fiercely resisted this way of proceeding, arguing that new technologies should be developed to control pollution and thus build on the lot in a short time. In doing so, however, they would have continued the same logic and dynamics that led to an extremely polluted lot in the first place.

Fortunately, the municipality of Celje did not give in to the pressure and decided to ensure that the plot was recovered conscientiously and in compliance with EU regulations. Incidentally, an EU task force together with architects and landscape architects initially came to explain to us how, nowadays, the fastest and most effective way to dispose of human pollution is through nature, illustrating how certain bacteria and plants have bioremediation properties. They therefore showed to us that it is important to find a balance with nature, and that not everything has to be controlled and managed by humans.

This is precisely why, in order for these plants and bacteria to be able to act as effectively as possible, we were advised to leave them undisturbed, trying to interfere as little as possible. Only in the beginning, in fact, a few gardeners, supported by the neighboring green maintenance center, had access to the site to plant and care for this new ecology and to monitor the progress of pollution reduction.

The bioremediation not only operated on the levels of pollutants present within the soil but has helped to contain and reduce even those more widely traceable in water and air. In the latter case, the process of purification and sanitization has been supported by the construction of the depurating towers, essential to keep the vertical spread of pollutants under control, specifically during the operation of excavation and moving of the polluted soil. By adopting positive ionization technologies, these towers, whose functioning is based on green electricity, allow the cleaning of the air from the polluted particles.

The team of architects, urban planners and landscape designers who took over the development of the plot together with the municipality of Celje, then began work on the landscape using a different set of strategies. At the same time that they depaved most of the unnecessary asphalted areas of the lot, they introduced a new grid, a matrix, of new plants that extends throughout the site.

Planted on this widespread and pervasive grid, new metal-tolerant herbaceous and arboreal essences have been selected to support, permanently, the existing plant population characterized by the presence of maples, hornbeams, and sambuca, enriching the ecosystem of the site and contributing to the redevelopment of its soil.

The heavy metals-accumulator plants were displaced within the polluted epicenter of the area and planted to form horizontal strips capable of reducing organic and inorganic pollutants from the soil, water, and air. They have been planted intensively, with a density of 4-5 plants/m2, and formed a landscape in movement that, cyclically, was removed and re-installed within site. In fact, the architects explained that these hyperaccumulator plants have to be collected once they reach their maximum pollutants absorption capacity, and the saturated vegetable biomass is then removed and sent for controlled disposal. The selected species were: Rough bluegrass (poa trivialis), Dense-flowered catchfly (silene bellidifoglia), and Field pansy (viola arvensis); they were planted alongside with an alternation of Rapeseed (Brassica napus) and Great millet (Sorghum bicolor).

At the same time, new plants were placed where there were paved terrains. These plant masses activate a phytoextraction process through their woody apparatus, absorbing and assimilating the pollutants present inside the soil. Here the selected species were: Willow (Salix viminalis), Weeping willow (Salix babylonica), Black poplar (Populus nigra), and Aspen (Populus tremula).

Furthemore, the designers used similar strategies also to reduce river and water pollution. In fact they extended the plant grid even in the water, to induce the oxygen transfer from the aerial parts to the submerged ones, creating aerobic microhabitats in an anaerobic environment, favoring the development of a rich

bacterial flora that carries out the phytofiltration process. To do so, they used two diverse dispositifs. The first one was the construction of phytofiltration tanks, within which the water coming from the site's wetlands was filtered through the intense planting of high-metal-reactive species. While the second operation embodied a much more diffused and spread strategy that consisted of planting into the river bed the same species of the tanks. The result was the formation of a riparian aquatic landscape, contributing to re-evaluating this vital landscape element, with this selected species:Reed (phragmites australis), Cattail (Typha), Club-rush (shoenoplectus lectures), and Soft rush (juncus).

They also explained the importance of the role of bacteria in this pollution reduction process. Indeed, there are bacteria capable of processing metals such as pseudomonas aeruginosa, cupriavidus metallidurans, geobacter and alcanivorax; others are able to process mycorrhizal pollutants and oils such as pseudomonas putida, marinobacter, thalassolituus oleivorans, lysinibacillus sphaericus and rhodopseudomonas palustris.

POST(HUMAN)CARDS N. 2: Human subjectivity

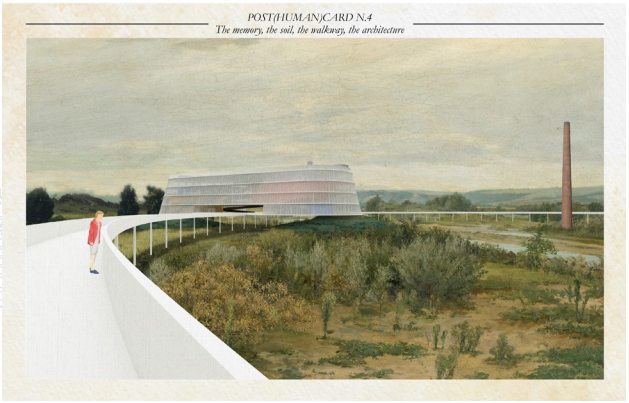
I was thinking back to that day in 2030 when they opened the first elevated walkway on the Stara Cinkarna site and how many people were there. After so many years, the city centre, Technopolis and the southern area were finally connected, saving us all a lot of time. I didn't think it would be so easy to overcome a series of barriers such as the railway and the river and connect previously isolated areas, but the elevated walkway proposed by the group of architects, urban planners and landscape designers actually works!

From the new walkway, the work done in the early stages of the project was finally visible, seeing the actual progress of regeneration and bioremediation. It felt like walking suspended among the trees and nature! How much the plants have grown without human presence! And how many animals have returned to the area!

In fact, the footbridge allowed human movement to take place efficiently, while leaving the ground level with its ecosystem that was created in the first phase untouched. In this way, nature has been left free to continue to develop while reciprocating with a less polluted area, and we have been able to overcome the physical barriers of the railway and the river by standing 6m above the ground. The fact that it is elevated also ensures that human transit takes place at a height where pollution levels of particulate matter are generally lower.

This forced distance between humans and nature that the footbridge imposed on us, I believe, helped us all to rediscover a new balance with nature itself, to observe its rhythms, its times and its spaces, thus understanding how important it is to coexist together, without the desire to prevail over the other. The EU task force and the designers called this process 'mending the relationship between humans and non-humans', and from there we also learnt to use these terms to refer to what is not human and should not be under our strict control.

Over time, other paths were added that enriched the lot's connectivity and gave it a symbolic image that we still appreciate today. In fact, at the same time as the main cycle and walking path, they also built a perpendicular footbridge connecting the Zgodovinski arciv Celje to the main path, which ends in a viewpoint over the entire area. This spot has always been frequented by people both to rest and to observe the change in the area, and soon became a meeting place. It is curious how it was placed right above the area where we first experimented with pollution control techniques with the belief that we could solve the problem through intensive human intervention, almost hiding our damages to the site beneath the ground. A sort of warning-memento reminding us that we cannot have the ambition to control nor solve everything, especially if we live in a dynamic ecosystem.



The last route they added was the circular ring that still embraces the three chimneys of the old zinc factories. The architects told us that this ring marks the epicentre of pollution, the most polluted area where practically all bioremediation strategies have been adopted alltogether. The ring has now become a walk that we all take on sunny days, reminding us of what we are capable of doing, in the bad and the good, in destruction and pollution, in recovery and respect for our territory. I personally enjoy spending time there trying to remember how unlivable this area of the city used to be and how far we went from that situation.

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POST(HUMAN)CARDS N. 3 Social relations

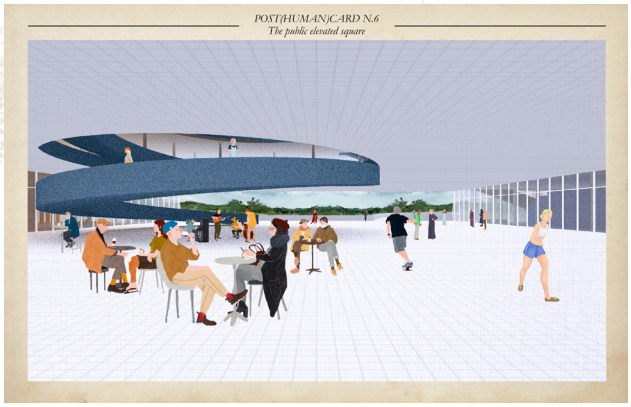
When, five years ago, in 2035, they started construction of the cultural and research centre, I remember being a little weirded out. I didn't understand how, after all those years of recommending to create a distance with nature, to respect the context of non-humans and to learn to coexist with them, the design team could propose such a thing!

But once they showed the project to the population, I understood the intentions and I must say that I agreed! In fact, the building would have been one of the first examples of a construction specifically designed for polluted land such as ours. It would have been innovative architecture that could have been an example for other similar situations in Europe.

Moreover, it was a building aimed at us humans that did not, however, change the hierarchies already initiated in the previous stages of the project and respect the presence of non-humans. In fact, the building rests on two artificial hills that used the terrain excavated for the foundations. These hills were covered with clay to prevent the spread of pollutants, and conceal the building's load-bearing structure; furthermore, an alternation of Creeping red fescue (festuca rubra) and Purple osier (salix purpurea) were placed on the clay. The same red chromatisms of this landscape still indicate the building material of its composition, constituting a plant warning of the area's industrial past.

Leaning over the hills, the building is raised to the same level as the walkways and the ground floor remains permeable for the continued development of the non-human sphere. In practice, after more than 10 years of bioremediation that have considerably reduced the pollution levels of the area, the architects have begun to slowly mend the relationship between us and the non-humans, through an actual architecture. It was in fact possible to build again without compromising the environment of the entire city of Celje. After all, balance, at least in a city, must come about through forms of coexistence, where both sides do not overpower the other but at the same time remain free to develop.

The planners then placed the building in a strategic position that does not interfere too much with natural development but limits human one. In fact, the size of the building and its location do not allow the construction of other buildings in the vicinity, thus preventing speculative development of the area, protecting the land reclamation work carried out over more than a decade.



I like to think of the building as a kind of 'greenhouse for humans', that is, a protected environment where we can carry out social, cultural and research activities, but without interfering with or subjugating the surrounding nature. A sort of "non-visitor center" where the citizens can have a view of the landscape and the non-human sphere. It is ironic how this time we are the ones who have to be kept in check to ensure that we do not fall back into the mistakes of the past. Irony aside, the building functions as both a cultural centre and a research centre. Today it is always very busy and it is very difficult to find a free seat! Evidently there was a need for such a place in the area.

On the lowest floor, at the level of the walkways, is the large suspended public square connected to the walkways, where I like to have an after-work drink accompanied by some live music. As you go up, there are more interesting activities! On the first floor there is a library specialized in the relationship between humans and non-humans and also an exhibition centre for the city's young artists and students; on the second and third floors there is an auditorium where there are often concerts or lectures and a municipal archive; while on the fourth floor there is a research centre. The latter specialises in the study and development of sustainable solutions for the rehabilitation of polluted and uninhabitable land and continues even now to attract researchers from neighbouring regions, but also from other EU countries. I have never been at the research center, because it is a protected environment to ensure lab activities with pollutant agents, but it seems to have cutting-edge technology.

Finally, right now, in 2040, the entire area is a public park with no longer a clear separation between the human and non-human domains. We have learnt to appreciate the mutual coexistence and mutual benefit we can derive from each other. At ground level, some paths have returned and more and more activities are taking place, but that is a story for another post(human)card.