

I-yeasts on Job: An Environmental Haute Couture

Life in nature is nomadic, temporary and open, unlike the vast amount of effort of how we statically construct our environment. Everything is constantly changing. This change is the beginning of new formations and perceptions. The uncertainty of the environment is in an uneasy and chaotic order. In our over-designed world, if we call design the inherent composition and organization of objects and objects, we need intelligent designs with a scientific and artistic perspective that have the potential to generate archetypes as a paradigm in this age rather than already sought ways of thinking.

In an age that values characteristics based on image and consumption, a healthy life with immanent and clean energy and sustainability is becoming increasingly difficult in many societies. It is a fact that the pharmaceutical industry does not strive to improve the rapidly growing world population. For example, it is no coincidence that cannabis, due to its positive effects on health and its economic value, began to be banned in the 1920s with the advent of chemical companies. It is increasingly common for personal consumption products (such as cosmetics, detergents, perfumes) to increase the estrogen hormone and interfere with the water cycle or groundwater, causing great damage to chemicals into the natural cycle.

In this fast production consumption cycle, efforts by architects alone to increase energy efficiency towards sustainability of materials and energy efficient certifications are unfortunately seen as a one-way effort. It is true that in the world of images, the architect has little experience in choosing the windy air-water land cycle compared to the architect of the past. Since an architectural practice has settled somewhere in built environments, the building unfortunately remains clogged between norms and tastes.

In the natural world there is a cyclical system in which there is no such thing as "garbage"; all resources and living things progress in this cycle. The waste of one species becomes the food of another species, from which energy is produced and entities grow, develop and cycle again and continue on their way from a different place. It comes from renewable energy sources that nature also uses. Applying the diversity philosophy applied by nature instead of just one energy source, focusing on energy sources such as geothermal, wave and biogas instead of focusing only on the sun and wind effectively balances efficiency and provides resistance against external influences. It is enough to remember that there is no such concept as waste in nature. If we rethink and redesign products, safe and biodegradable products can return to nature as a resource.

Thus, starting from environmental concerns, this micro narrative entitled "i-yeasts on job" is an imaginary fiction between fantasy and reality, starting from R.U.R. (Rossum's Universal Robots) by Karel Čapek, one of the archetypal science fiction games of the 1920s. An artificial army of humans, called robots in the game (derived from the Czech word robot, meaning forced labor or slave), is produced in a factory that is sold to the world as cheap labor. These robots serve as mechanical workers for humans and they look happy. However, they change themselves to gain emotional understanding and then things change. At the end of the film, robots riot and kill all their creators and all humans except a human worker named Alquist.

However, this is not a big victory because humans destroyed all robot reproductive systems and factories, and robots can't figure out how to make it functional. They begin to die, and only the two of them who love each other are replaced by Alquist to be copied. In this play, Čapek warns of man's abuse of science and his desire to dominate life. He also thinks about an important part of our lives: work. "Contrary to the popular opinion work is an indivisible part of our life. Work is one of

our essential needs. Without work we would degenerate because we wouldn't need to be interested in anything" (Zunt, 2014).

This scandalous riot of the robot story can be updated to our genetically modified architecture not to be criticized but to take the game to a different level. Thus "i-yeasts on job" as graphic work counteracts the effects of post-R.U.R syndrome, heightened by the human-made world stereotype against technology, and is a traditional and romantic robot and human interaction for a greener world.

An environmental haute couture

Yeasts have been used for human benefit for many years; like making bread, in brewery, and generating electricity in cells. In addition to their advantages, they can have generally harmless uses for environmental issues. Artificial i-yeasts can be created as smart agents for the regeneration of working materials in distinguishable time, such as natural damaged areas and prosthetic colonies. Second, they can be used as urban agents in producing architectural simulations and art installations.

As a self-organizing strategy system, i-yeasts consist of two components: a smart container and an artificial yeast based on nanotechnology. The container is made of rigid e-textile material woven with smart polymer stripes for multiple sensing contexts, similar to the technology used in smart textiles and wearable technologies. It acts as a repository for i-yeasts to reproduce, provides energy to the system and is a means of communication between i-yeasts and humans. And i-yeasts can multiply and form agent colonies depending on the content of the problem identified by the system.

Artificial intelligent yeasts are self-thinking employees of the system and are stored in containers. It is a combination of natural and artificial genes and biosensors that are similar to the genetics of natural yeasts and based on the logic of self-regulating systems. It is a combination of natural and artificial genes and biosensors based on the logic of self-organizing systems, which are similar to the genetics of natural yeasts. They have the ability to reproduce and create agent colonies. Containers and i-yeasts detect environmental changes through biosensors and suggest formulas to solve the problem. There are already systems that control and map burnt forest areas or sites with this potential and receive frequent spectral, temporal and structural changes. However, this system creates a topographic map of the site for the decision level for regeneration or repair, and together with statistical data, the colony takes photographs of the area, sends via satellite to the yeast pot and the human-controlled center.

i-yeast colonies working with the operational algorithm have spread over the coordinated area. The colony spread limit depends on the scale and degree of destruction. Colonies imitating nature's patterns produce a connective tissue for the natural matrix in the region and begin to repair the area with a similar texture. Mapping in burnt soil creates an artificial texture similar to skin repair devices as in tissue engineering. Under uncertain conditions, yeasts decide and recommend the type of repair on the surface.

The system has been optimized by combining genetic algorithms (GA) and simulated annealing (SA) methods for optimization of problems. These methods are used in the case of high dimensional fields, such as arbitrary functions and extreme conditions of interrelated data. Because the data in the environment is on a global scale, but collected on site, the system measures the limits within the specified and requested repair. The system collects environmental data and provides alternative solutions to repair the space within the human centered control center. This chimeral narrative can be proposed for experimental form finding and art installations in the urban area. The type of restoration, whether its content is environmental or artistic installation, and what items are to be produced in context autonomously haute-couture.

Both the utopian and anti-utopian evolution of the I-yeast army, coupled with artificial intelligence, is the edge of a system that continues to evolve and can lead to an irreversible robot invasion of the

world. In this case, the situation underlines Čapek's attitude towards technology and progress that “that all technology can prove worthless to the mankind if it doesn't know how to use it” (Zunt, 2014). (Figure 1).

Figure List

Figure 1. i-yeasts on job

Notes:

Zunt, Dominik (2014). “RUR Rossum's Universal Robots play summary”, <http://capek.misto.cz/english/rur.html> (Accessed April 12, 2014).