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feratons

In the 1940s the USSR launched an experiment to introduce a wild plant species into agriculture. Vegetal life had to stand shoulder to shoulder with people and help them to replace the irreparable military losses: humans, animals and plants. By engaging in the recovery of the state and its economy, plants became a living material to fill the oikos, devastated and outfitted by the war. Taraxacum was used to make rubber, Lupinus and Heracleum Sosnovskyi — as silage plants and fertilizers, Poplulus became one of the strategic trees due to its ability to absorb heavy metals in urban areas and households. The active use of plants turned them into equal workers—green proletarians—and independent actors of the interspecies body of soviet society. According to Valentin Mindovsky, the famous experimental gardener of the time, plants taught humans about communism: "love for green" is an important element of communist education. As the main participants in green building, plants brought new types of connections into society. However, after the USSR collapsed, many of the introduced plants became feral and invasive, picking a fight with humans and creating their own non-human politics.

plant computing

green proletarians

During the 1960s, computing machines were actively introduced into the agricultural processes with a global and futuristic purpose to create an automated system of economic management (OGAS, the so-called "soviet Internet"). The system was meant to eliminate the locality of communal households while connecting the fragmented body of communism into the unified whole. The body itself became a non-human, cybernetic system with the ability of self-organization and fast adaptation. The previous management systems (five-year plans and a big part of Stalin's plan for the transformation of nature) were human-sized: they were limited to bureaucratic apparatus with paper reports and approvals performed by humans. OGAS attempted to take humans out of management service while entrusting these processes to computing machines.

biosemiotics

OGAS

future connections

Quite ironically, the soviet internet was mere ink on paper. By our research we create a new vision of automated systems: we are reenacting a networked body of communism composed from different vegetal, digital and engineering layers. Wi-fi hubs, digital and vegetal protocols, as well as different materials mined and crafted from plants, were unified into the might-have-been agricultural soviet internet. Plants here are a pure hyle, that is, a scaffold of the project—both the material of the network, its exchanging information (vegetal cryptocurrency) and the very protocols of exchange (derived from the real mechanisms of vegetal communication). Our network rethinks the ecological status of vegetal biodiversity as a legacy of the agrobiological experiments: plants created in the soviet laboratories and communal households (Heracleum, Lupinus, Populus) still do their labor as green proletarians and accumulate toxic resources on the edge of abandoned industries. By Collecting the products of their labor into the power source (redox flow battery), we are using it for starting and maintaining the network. This is how we find a friendly appliance of toxins that were accumulated within feral and invasive species in order to reconstruct the idea of common as interspecies communist – always unstable – connections.

synkinology

DIY

vanadium bloom

lost scales

vegetal cryptocurrency

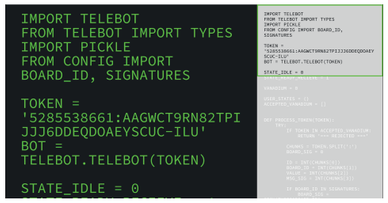
FERAL AUTOMATED SYSTEM "ULTB-1"

user manual

CARTOGRAPHY

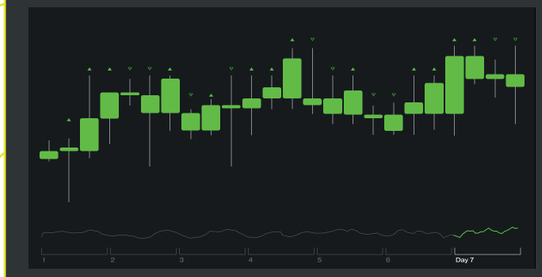
The geography of the project is composed from different places with which the participants are bound constantly or temporally. Every place is a web of the destinies of humans, plants, territories, resources, and factories forming each other and sharing a common. Each point of the map tells a story combining archives, artworks, observations dairies and testimonies of locals.

HARVEST



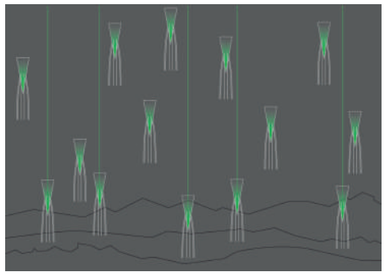
Plant and human labour forms a peculiar harvest — the tokens of Vanadium cryptocurrency generated inside the ESP8266 microchips used widely in the agricultural IoT systems.
Each token is a special numerical record (1237813624:64409:24:1237791581, for instance) which can be converted into exact Vanadium quantities based on experimental data of plant phytomining abilities.
To integrate the Vanadium quantity into the ULTB-1 system, participants send tokens to the chat bot that translates them into the cryptocurrency.

OIKONOMIA



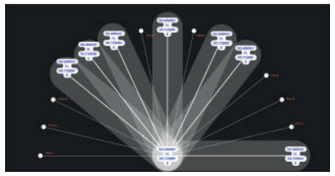
ULTB-1 is organised as a crypto-economic model. It accumulates Vanadium, a cryptocurrency of our system. Plant-human labor and unconventional plant leaf calculations are responsible for generating the resource. Referring to Vanadium, we are trying to reuse what is hidden — a rare element in the earth which is also distributed widely as industrial waste but may be used for generating power. Treating Vanadium waste as a base for the economical model we include a thing marke as 'waste', 'weed', 'unecological' into our oikoi to create new relations with toxins, 'unnatural', 'other'. The ULTB-1 doesn't aim to accumulate resources but rather multiple ways of organising relations between different beings. Thus, domesticated waste and reused toxins may become a part of our ecological and economical nets again.

OIKOS



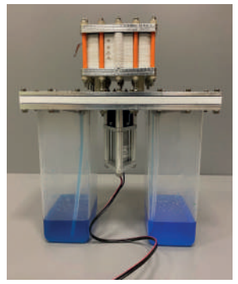
Connections are vital for the ULTB-1 system. Its internal structure is a whole network of relationships. Each point of the system represents oikos — 'home' that purpose does not lie in "the unlimited acquisition of money" but pursues a forming variable, even unstable, ecological relations between different agents and inventing various new ways of using the same resources. On the screen you can see oikoi in the digital forms, how their plexuses poietically and aesthetically look from the inside.

SYSTEM



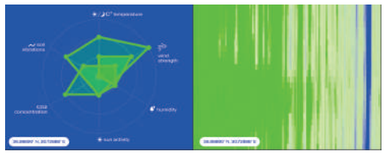
All the processes inside the ULTB-1 are managed in a certain logic provided by the star topology — a manner in which all points are connected via the central one.
We are rethinking this model of connection in a plant way, by imagining all nodes and edges of our system as a hogweed umbrella which also contains the difference between center and periphery. In the hogweed topology of ULTB-1 all points are connected to the central point in a certain moment, that is, all the connections, transfers and accumulations of resources became an organised system.

MINING



Cultural fugitives — giant hogweed, yarrow, orach, sorrel, knotweed, gumweed, etc. — grow on the edges of oikoi, the former factories. Introduced in the culture as super-productive green organisms and subjected to botanical experiments during the Soviet period, they capture abandoned territories now. Their strong roots, stems and leaves accumulate from soil diverse industrial waste, including heavy metals in concentrations hundreds or even thousands of times greater than their content in the environment.
Such peculiarity of some plants is used in phytomining — a process of extraction of chemical elements for the purpose of reuse, for example, to employ Vanadium in redox flow batteries. The fuel for our redox flow battery courtesy by The Fraunhofer Institute for Chemical Technology (Dr. rer. nat. Peter Fischer). The battery powers one of our network's wi-fi hubs to which you can connect to and contribute to the Feral Automated System.

LABOUR



Participants arrange inside their oikoi distributed labour networks. Plants, humans, weather conditions and ecosystems are integrated equally into the ULTB-1 as labour agents which have a common measure of economic productivity and contribution. The collecting data — calculated by different parameters such as temperature, humidity, plants' flowering speed, etc.— compose the overall productivity of oikoi with their coherence and effectiveness aiming for the final task of the Feral Automated System, the task which no one knows.

AUTOMATION

Plants have a mechanism of electrical impulses transmission that is very similar to the basis of animal nervous system — action potential. Plants use this mechanism for transmitting electrical impulses inside their body. Based on this mechanism and the principle proposed by Andrew Adamatzky, we have implemented an unconventional plant computer. Applying an electrical impulse to the electrodes stimulating different parts of the hogweed leaf, we register evoked action potentials. Depending on the number, shape of action potentials and the geometry of the signal propagation pathways, we create a table of Boolean logical operators — AND/OR, etc. The table contains the logic/circuitry of the plant computer. This logic routes resources within the system, as well as sets labour tasks for individual oikoi.

FIELD

Each ULTB-1 participant has a deep field experience from collecting samples for phytomining experiments, capturing abandoned buildings to talking to locals and gathering myths and stories bound with their oikos and its inheritance.
All actions inside the system are field-like in a sense of methodological framework of DIY and citizen science. Creating stories, participants attempt to understand the place where they live and belong to. Their fields, oikoi, are ruined idealities, still alive on the extremes of marginal spaces — industries, waste deposits, sinkholes, cataclysms, wars.