The Imaginarium

A Theater for Constructed Ecologies

– Studio Lukas Feireiss and Tomorrow's Thoughts Today with Luis Berríos-Negrón –

The Imaginarium – A Catalogue of Speculative Specimens

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Ecology (from Greek: οἶκος, »house« or »living relations«; -λογία, »study of«) is the scientific study of the distributions, abundance, share affects, and relations of organisms and complex structures and their interactions with each other in a common environment.

As a living »wunderkammer« and alchemists' den, *The Imaginarium – A Theater for Constructed Ecologies* acts as a discursive exhibit and performative platform suspended within the landscape of the main exhibition. *The Imaginarium* is devoted to the prescient subject of ecological change and adaptations caused by artificial interventions into existing ecosystems. It catalogues a world in which the sun is setting on our idealistic and preservationist views of the natural world. The slow burn of evolutionary change, its endless generations, duplicating and multiplying with gradual mutation and variation is coming to an end. We now design the natural world as if it were the built landscapes of our cities. We sculpt and engineer designer ecologies while organizations remake the earth's surface at a scale previously unimaginable. Corporations, as native animals of the globalized world, give form to reclaimed islands, instant cities and simulated environments. Against this backdrop, *The Imaginarium* aims to reflect upon the major contemporary processes that evoke, drive and control the changes and challenges we are facing today, all in order to project a creative archaeology of thoughts and inspirations.

The Imaginarium is curated as an unnatural history museum of archaeological fragments, botantical samples, exhibits, evidence and curiosities contributed to the exhibition by leading figures from the world of architecture, art and science. Archived in the accompanying *Catalogue of Speculative Specimens* we see this jump in the fossil record, an evolutionary leap, as the interbreeding of biology and technology gives birth to a strange new nature. Here we gaze out across the near future population of our augmented wilderness. We lie in wait, where the wild things are, as these early specimens breed and multiply, to generate the new cities of a day soon to come.

Project management: Urs Kumberger; Graphic design: Matthias Hübner – possible.is
Cover image: 'Scarabattolo' (1675) by Domencio Remps (1621-1699). Oil on canvas, 99 x 137 cm.
Opificio delle Pietre dure, Florence. Photo: akg-images/Rabatti – Domingie

— 01 — LEARNING FROM HENRI

{ Image on canvas }

2 A + P/A – Architectural firm; founded 1998; based in Rome, Italy – *www.2ap.it*

»The woman who has fallen asleep on the sofa dreams that she has been transported to this forest and is hearing the sounds of the snake's charmer's music.
That explains the motif of the couch in this picture.«
Henri Rousseau

»Rousseau used to paint imaginary landscape where he never had been and his surrealist view of nowhere places is based on stories kept from others who have been in exotic lands. His imagination assigns a value and a place to an accumulation of images and signs, according to Baudelaire's idea of the whole visible universe. The world he described in detail is both ideal and surrealistic. His paintings tell histories about nature, cities and men who dream for utopian landscapes. Thus a Rousseau's scenario becomes the right location for our *Productive Condominium*, a self-sufficient housing prototype for development and land management, to be applied in areas where town and countryside are only tenuously separated. Our aim is to produce a new kind of community, able to share spaces and devices, to realize a new alliance between humans and nature. It aspires to join the broad tradition that has explored alternative destinies for our environment, once utopian visions now seen as the seeds of innovative forms of realism.«

— 02 — THE MAGIC MOUNTAIN

ECOSYSTEM MASK FOR AMES THERMAL POWER STATION

{ Film }

AMID (Cero9) – Architectural firm; founded 1997; based in Madrid, Spain – *www.cero9.com*

»In the city of Ames, placed in the centre of Iowa, an extremely big power station is running at full power. We proposed to transform it into a piece of landscape inside the city, totally covered with a membrane of roses, lights and honeysuckle shrouding and unifying them with a silhouette and a single common material. The species chosen for the construction of this vegetation crust are many species of roses adapted to the harsh continental climate of Iowa developed by Griffith J. Buck. For the covering of the outer shell of the power plant we propose to use the growth of the living matter as a base in a grid of recycled polypropylene pallets. Like a real mountain, the membrane tries to attract the most important butterfly species, right on the southward migratory route on the American continent, and will provide a resting place for migrating birds and turn into an artificial alternative to the disappeared forests and wetlands. The assembly of the existing power station and its new image produce an ecosystem that is subject to human interaction.«

— 03 — LIVING TECHNOLOGY

{ Film and Image }

Rachel Armstrong – Writer, multimedia producer, television presenter, arts collaborator, general medical practitioner; lives and works in London, United Kingdom – *www.rachelarmstrong.me*

»Protocells are an example of *Living Technology* – that exhibit some of the characteristics of living systems but are not considered alive. This film provides a view of the range of interactions of protocells, which are based on a dynamic oil in water droplet system, which does not possess DNA (the chemical programming system which biology uses) and takes the viewer on a journey from the perspective of the performance of individual agents that are able to move around their environment, modify it and undergo complex chemical interactions, such as the shedding of skins to their interactions on a population scale. The film is accompanied by 'thought moments' that highlight some of the observed behaviours and ask the audience to reflect on whether these very simple systems are actually alive, or not.«

— 04 — PIGEON D'OR

{ Image }

Tuur van Balen – Designer; born 1981, Belgium; lives and works in London, United Kingdom – *www.tuurvanbalen.com*

»*Pigeon d'Or* explores how pigeons can serve as a platform and interface for synthetic biology in an urban environment. By modifying the metabolism of pigeons, and specifically the bacteria that live in their gut, synthetic biology might allow us to add new functionality to what is by many seen as flying rats. This would happen through feeding the pigeons special bacteria and would be as harmless to them as eating yoghurt is to us. Initially, the project attempts to create bacteria that would allow a pigeon to defecate biological soap. *Pigeon d'Or* considers the city as this vast and incredibly complex metabolism of which the human species is the tiniest of fractions: tiny yet intensely linked into an intricate organic embroidery beyond our understanding. It is in this hugely complex fabric that (future) biotechnologies will end up. The project therefore sets out to design the appropriate architectural interfaces for these technologies.«

— 05 — DRY MARTINI

{ Object }

Christop DM Barlieb – Architect; born 1973 in Bethlehem, USA; lives and works in Berlin, Germany – *www.barlieb.com*

»If Mad Max is the charming epic adventure of a post dystopian nuclear holocaust society then you must be prepared for such a lovely drink! Born out of the notion that distilled materials as found in alchemy may someday lead to the ultimate crystallization of mankind in the form of its simplest element, or as Bowie puts it: *Ashes to ashes, funk to funky / We know Major Tom's /A junkie.* No more than a reflection into that glass of Gin I so love drinking after a hard day's work. Cheers to Dust!«

— 06 — HYLOZOIC GROUND

{ Photography }

Philip Beesley – Architect, born 1956 in Westcliff on Sea, United Kingdom; lives and works in Toronto, Canada – *www.philipbeesleyarchitect.com*

»*Hylozoic Ground* is an immersive interactive environment made of tens of thousands of lightweight digitally fabricated components fitted with microprocessors and sensors. The glass-like fragility of this artificial forest is created by an intricate lattice of small transparent acrylic meshwork links, covered with a network of interactive mechanical fronds, filters, and whiskers. The environment is similar to a coral reef, following cycles of opening, clamping, filtering, and digesting. Arrays of touch sensors and shape-memory alloy actuators create waves of diffuse breathing motion, luring visitors into the shimmering depths of a forest of light. The project's title refers to *hylozoism*, the ancient belief that all matter has life. *Hylozoic Ground* offers a vision for a new generation of responsive architecture. *The Hylozoic Ground* environment can be described as a suspended geotextile that gradually accumulates hybrid soil from ingredients drawn from its surroundings. Akin to the functions of a living system, embedded machine intelligence allows human interaction to trigger breathing, caressing, and swallowing motions and hybrid metabolic exchanges.«

— 07 — THE TURTLE THREE

{ Installation }

Luis Berríos-Negrón – Architect artist; born 1971 in Puerto Rico; lives and works in Berlin, Germany – *www.luisberriosnegron.org*

»*The Turtle* series are mobile curatorial units. *The Turtle Three* has a system of swiveling doors that are both pin-up and sketching surfaces. The modules and the doors form a variety of spatial configurations that allow its users to provide indoor and outdoor activities, such as workshops, screenings and exhibitions. Considering our proliferating, customized reality, as an opposition to its virtual counterpart, *The Turtles* aim to house emerging labor societies exploring ever-more accessible knowledge and technologies, not only to transform the output and scale of City, but fundamentally question traditional values of what production is. In all, as war machines, *The Turtles* are evolving centers of knowledge serving their users as cultural equipment to build the institutional memory of events and audiences.«

— 08 — THE FUTURE AND THE NEST

{ Object }

Friedrich von Borries – Architect, writer; born 1974; lives in Berlin, works in Hamburg and Berlin, Germany – *www.friedrichvonborries.de*

»The nest is the ideal of the capsule, a world in which we feel safe and comfortable. Currently, the western world is encapsulating itself in an artificial nest of wealth and prosperity, violently protecting our consciousness against poverty and global social injustice. Do we want to live in a world which is encapsulated? Finally the nest is nothing else than an imagination.«

— 09 — HYDROGENASE

{ Image }

Vincent Callebaut – Architect; born 1977; lives and works in Paris, France and La Louvière, Belgium – *www.vincent.callebaut.org*

»Between engineering and biology, *Hydrogenase* is one of the first projects of bio-mimicry which draws its inspiration from the beauty and the shapes of nature, but also and especially from the qualities of its materials and its self-manufacturing processes. The new green revolution is really in progress and enables us to design the air mobility of the foil after shock, 100% self-sufficient in energy and zero carbon emission! This inhabitated vertical aircraft inaugurates a clean and ethic mobility to meet the needs of the population in distress touched by natural and sanitary catastrophes, and all that without any runway! Its architecture is subversive and fundamentally critic of the ways of living of our contemporary society that we have to reinvent totally! Let's take off thanks to biofuels and let's propel to the eco-responsible transport of the future!«

— 10 — THE ELECTROCYTE APPENDIX

{ Image }

Revital Cohen – Designer; born 1981; lives and works in London, United Kingdom – *www.revitalcohen.com*

»The *Electrocyte Appendix* is an artificial organ that could be implanted into the body to allow people to become electric organisms. Inspired by the electric eel and the way it uses electrocyte cells to produce electrical current from its abdomens, the organ is constructed of artificial cells* that mimic and improve the electrocyte mechanism by converting blood sugar into electricity. Replacing the vestigial appendix, the artificial organ brings a new functionality to the human anatomy, giving humans the ability to farm and produce electricity directly from their body. By discarding the remains of redundant anatomical functions in favour of new abilities, the body is redesigned in order to sustain its new way of living. Biotechnology could allow us to transform our genus into something else. The idea of our species changing from Homo-Sapiens into Homo-Evolutis (the human as a species controlling and designing its own evolution) is materialising quickly in research labs.«

*Based on the research *Designing artificial cells to harness the biological ion concentration gradient* by Jian Xu and David LaVan, Nature Nanotechnology, September 21, 2008.

— 11 — COUNTER-COMMUNITIES

{ Film }

Oliver Croy and Oliver Elser – Oliver Croy: artist; born 1970 in Kitzbühl, Austria; lives and works in Berlin, Germany – Oliver Elser: architect, critic, curator, born in 1972 in Rüsselsheim, Germany; lives and works in London, United Kingdom – *www.croynielsen.de*

»Artist Croy and architect Elser chart the contemporary legacy of the utopian tendencies born of America's 1960s alternative movements. Depicting five experimental architecture projects (Arcosanti; Earthships; The Lama Foundation; Nader Khalili and LA's Dome Village) in their pioneers' own words, the documentary examines applied utopian thinking in both built structures and concurrent ways of living, from a desert megastructure to a homestead inspired by ancient Persia and NASA research.«

— 12 — SAVED BY SCIENCE

{ Photography and Film }

Justine Cooper – Artist; born in Sydney, Australia; lives and works in New York City, USA – *www.justinecooper.com*

»Over the course of a year (2004-2005), with unprecedented access, I explored the behind-the-scenes storage areas of the American Museum of Natural History in New York. What is revealed is a trail of scientific desire that reaches from the present back into the 19th century and across the four corners of the Earth. At its founding in 1869, The American Museum of Natural History was an embodiment of the royal cabinet, the 19th century name for natural history collections. Radically different from the random oddities of 17th century cabinets of curiosity, royal cabinets were founded on the belief that they were a collection of scientific and natural facts. Now, 150 years later, the collections represent far more than facts, they record our relationship to the natural world as well. Beyond the science, the historic and contemporary motivations for collecting, preserving, cataloging and systematizing the natural world ultimately say as much about Homo sapiens as any of the other species represented in these vast holdings. Chronicled behind the scenes is a complex web of science, history and human desire.«

— 13 — AIR TREE

MADRID PAVILION PUBLIC SPACE – EXPO 2010 SHANGHAI (CN)

{ Photography and Image }

Ecosistema urbano – Architectural firm; founded 2000; based in Madrid, Spain – *www.ecosistemaurbano.com*

»The *Air Tree* emerges as an experimental prototype of intervention in contemporary urban public space, capable of reactivating sites and creating the conditions to empower the use of the collective space. It is conceived as a technological urban furniture, a self-sufficient climatic comfort generator, that is being used not only as a breathing space but as well interactively. The *Air Tree* with its different technical layers supports multiple final configurations and a myriad of intermediate positions (opaque, translucent, transparent, bright, interactive, open, etc.). Different textiles for video projections allow an unlimited combination of scenarios adaptable to citizen needs. By sensors it is connected in real-time with the climatic conditions of Shanghai, constantly adopting the optimal physical configuration and energy consumption to generate climatic comfort for the citizens.«

— 14 — SPECIES OF SPACE

{ Sculpture and Soundpiece }

Eric Ellingsen – American architect, landscape architect, teacher; lives and works in Berlin, Germany – *www.speciesofspace.com*

»*Species of Space* is a continous experiment in design founded by Eric Ellingsen in 2009. Ellingsen's design work seeks to explore an ecology of experiments, constraints and pressures. His experiments takes place in public spaces, where he makes self-organizing, self-structured architectural models while engaging with strangers in conversations about architecture, art, and ecology. For the exhibition Ellingsen contributed a sculpture as well as personal voice-recording of Kurt Schwitters Ur Sonate.«

— 15 — OSCILLATING BETWEEN BLINDNESS AND ILLUMINATION

{ Photomontage }

Love Enqvist – Artist; lives and works in Stockholm, Sweden – *www.loveenqvist.se*

»I dug a large hole, approximately two feet wide, two feet long and one foot deep. I planted four tree whips to be grown into a chair. A living tree chair. I sat down to read my book but as I touched the cover, I suddenly remembered. My mind dissolved into the book. The words vanished and the print became physical. Only three dimensionally existing experiences remained ... She walked down the steep wild wooden path to read in the apple tree chair. She sat down in the luminous shadow from the apples growing at the top of the tree. Her comprehension of the book was complete, even though she was blind. It was as if it the book had melted into her hands. Beyond words, the visible and the invisible. There were actual physical changes to her brain just like the thin tapestry is woven together by numerous threads. One could say it was like an autobiography where she for a moment was no longer dependent of anyone else ... You are looking for the right spot where to plant your tree chair. In your hands is a triangular metal object. You hear the traffic as a distant roar of the world beyond your garden. It is sometimes as if you could see yourself from the outside. The shape of life: your life given form in an apple tree chair.«

— 16 — CHAPEL VERTEX

PROJECT FOR THE BENEDICTINE ORDER

{ Modell }

finsterwalderarchitekten – Architectural firm; founded 2000; based in Stephanskirchen, Germany – *www.finsterwalderarchitekten.com*

»The chapel is twisted around a courtyard with a tree in the centre. Once you enter the building you are on a path of deceleration. The route becomes darker and quieter, until you find yourself in the main space, which is lit from above, like a small pantheon. Along the path the space widens twice. The first wide space offers a bench to sit on with a view, through a window, to the tree. The second also offers a bench opposite a window. This window is constructed with stapled glass, giving the observer an interesting, cloudy view to the tree. The complex form can be easily assembled, since every piece of timber is the same as the one below. The pieces are joined similar to traditional block-houses, with a timber dowel used to connect the layers and avoid leaks.«

— 17 — SPACE PROJECT

{ Photography }

Vincent Fournier – Artist, photographer; Born 1970 in Ouagadougou, Burkina Faso; lives and works in Brussels, Belgium – *www.vincentfournier.co.uk*

»The work of Vincent Fournier is offering a photographic journey at the edge of documentary and fiction, around some of the most representative utopia of the 20th and 21st century. The *Space Project* series is exploring the retro futuristic space odyssey from the space age to the new contemporary space development. Vincent Fournier's photographs pay tribute to the way science and technology are changing our way of living and the world we are living in. Regarding the form, the work is orientated towards an aesthetic research influenced by the documentary photographs, the landscape painting, and science fiction movies.«

— 18 — THE PARALYTIC ORNITHOLOGIST

{ Image }

Lynn Fox – Director and animator; based in London, United Kingdom – *www.lynnfox.co.uk*

»A frail shadow roams the infinite depth, alone. Staggering closer it amounts to little. Only a vain sheen, glistening under the dim light. A crippled figure drowned by a shimmering weight; limp, ailing. Torn his twisted extremities. The wings a dislocated nothing; mere lumps of perverted cartilage. No mystical father to fashion delicate prosthetics of feathers and wax. Aspirations futile it seems. ›*Is this our beloved Icarus?*‹ No, not the faintest echo of lament can be heard reverberating the endless gloom. Despite all heavenly desires such pathetic existence is bound to be condemned by the gods of old. All heroic audacity inherently denied. Heart a bird; body a beast? He himself reversed? Or else even? ›*Eyes to the skies, my feeble friend. You are a scientist!*‹«

— 19 — VEGETABLE CITY

{ Photography }

Terunobu Fujimori – Architect, writer; born 1946 in Nagano, Japan; lives and works in Tokyo, Japan

»A half century ago, when I was a student of architecture, avant-garde architects all over the world conceived future images of cities and architectures, Archigram in London, Metabolism in Tokyo, etc. Their proposed images were different to each other, but one thing was common in basic concept; that is the progress of science and technology. They dreamed that dreams would come true in the future with science and technology of 20th century. A half century has passed since then. Nobody doubts the indispensability of science and technology, but science and technology already lost the motive power to produce the future images. What could be clues for us, architects, for our wings of imagination to fly over to the future? When I was thinking of this, images of woods, and then, vegetables appeared in my mind. Instead of science and technology, ›vegetables‹ could lead us to a new imaginary world. Thus, in 2009, the concept of *Vegetable City* was born.«

— 20 — MISFIT (PARAKETT/MOLE)

{ Taxidermy }

Thomas Grünfeld – Artist, born 1956 in Opladen, Germany; lives and works in Cologne, Germany – *www.galeriemichaeljanssen.de*

»Thomas Grünfeld's anomalous creations are some of the strangest and most surreal of contemporary taxidermy. The creatures from his appropriately titled *Misfit* series are composed of bits and pieces of animals, all flawlessly sewn together to create entirely new species: a doberman pincher with a calf's head, a beast combining monkey and parrot, another creature, part mule, part giraffe, part ostrich. The *Misfits* are reminiscent of early natural histories in which strange and unfamiliar animals were described according to the bits and pieces of well known creatures. The *Misfits* could have seemed jerry-rigged together. They could have looked piecemeal and man-made (which of course they are) but instead the structural integrity of their parts convey a sense that these beasts are anatomically plausible, that they could actually exist, that they could actually function.«

— 21 — TREE REVOLUTIONS

{ Photography }

Ilkka Halso – Photographer, artist, born 1965 in Orimattila, Finnland; lives and works in Orimattila, Finnland – *ilkka.halso.net/*

»Making nature obey man's will has been central in the history of mankind. Ability to guide growth of living things has provided us many important food sources, but has also shown its darker side in animal breeding and genetical manipulation of plants. Growing trees into a full circle is probably not the most urgent in line of research projects, but makes one think or...Not?«

— 22 — GARDEN BUILDING WITH HOST AND NECTAR PLANTS FOR CALI´S BUTTERFLIES

{ Film }

Husos (Diego Barajas and Camilo García) with Francisco Amaro – Platform for spatial interventions and research projects in architecture and urbanism, based in Madrid, Spain – *www.husos.info*

»The *GBHNPCB* houses living, production and retail space for TallerCroquis, a small design atelier in Cali. At the same time it works as a biometer, by means of hosting and feeding butterflies, which are effective bioindicators of the environmental quality and biodiversity of the local ecosystem and are particularly important in this region that has the greatest diversity of butterflies on the planet. It also serves the business as an indirect marketing strategy forming part of a spatial exploration of a multifarious Caleño identity for the atelier, which is faced with the challenge its expansion entails, both locally and transnationally. Through lists of local host and nectar plants written on product's labels and information campaigns about the importance of preserving the urban biodiversity, it fosters a potential network of environmentally aware citizen-gardeners in Cali.«

— 23 — STRANDBEEST

{ Film }

Theo Jansen – Artist, engineer; born 1948; lives and works in The Netherlands – *www.strandbeest.com*

»Legs prove to be more efficient on sand than wheels. Wheels have to work their way through the sand and shift relatively more of it as a result. Try pulling a cart through loose sand and it's hard work. The advantage of wheels, however, is that they don't lurch; their axle is at a constant height, which saves energy. But the legs of the strandbeest have this same advantage; they don't lurch either. The upper and lower leg parts move relative to one another in such a way that the hip joint (at the juncture with the upper leg) remains at a constant height, just as with the axle of a wheel. But they don't have the wheel's disadvantages; they don't need to touch every inch of the ground along the way, as a wheel has to. Legs can leave out patches of ground by stepping over them. Which is why you can better have legs than wheels on sandy ground.«

— 24 — LIVING DRAWING

{ Film, Image and Modell }

Christian Kerrigan – Digital artist and architect; lives and works in London, United Kingdom – *www.christiankerrigan.com*

»*Living Drawing* is a film using ›Living Technology‹ as a 3-dimensional drawing technique. Live recordings exist at nano-scale are captured through high powered microscopic zoom. The ›Living Technology‹ in the film is a programmable cell which exists by manipulating organic chemistry in order to create a program of movement. The recording monitors the ›droplets‹ movement within a fibre glass landscape. The movement initiated by the artist using UV light activates the spontaneous drawing process. Kerrigan's work is concerned with the role advancing technology plays on our society and its relationship to the natural world. As we continue to modify the world and learn more about it, he enquires how this can, with time, modify our understanding of what is natural and beg the question, what is Nature.«

— 25 — STUDY MODELLS

{ Modell }

Greg Lynn – Architect, writer; born 1964 in North Olmsted, USA; lives and works in Los Angeles, USA – *www.glform.com*

»Greg Lynn, who graduated with degrees in Architecture and Philosophy, is distinguished for his use of computer-aided design to produce irregular, biomorphic architectural forms, as he proposes that with the use of computers, calculus can be implemented into the generation of architectural expression. Lynn has written extensively on these ideas. Lynn's latest works begin to explore how to integrate structure and form together as he discovered some biomorphic forms are inherently resistant to load. He is also one of the forerunners in exploring and integrating the tools of digital fabrication, into the process of design and construction.«

— 26 — EI-POD

{ Sculpture }

Ton Matton – Urban planner and artist; born in 1964; lives and woks in Wendorf, Germany – *www.mattonoffice.org*

»I am the Old-World Flycatcher
and I am a looser,
not a fashionable cosmopolite
just a conservative, from the countryside.
When I return from the warm south,
there is nothing left to eat,
except some left overs of faded flowers and tough seeds.
I am the Rose-Ringed Parakeet
and I am a real winner.
I escape from your warm loft
to go out for dinner.
Outside it is as warm as in Amazonas.
I don't eat nuts, I prefer the leftovers from McDonald's.
People say the city is no good for nature,
but I don't agree, it's a matter of behaviour.
If you earn your money with emissions on stock exchange,
why shouldn't I be the winner of climate change?
The winner takes it all
the looser standing small«

— 27 — LEVEL GREEN

THE CONCEPT OF SUSTAINABILITY

{ Modell }

Jürgen Mayer H. – Architect, born 1965 in Stuttgart, Germany; lives and works in Berlin, Germany – *www.jmayerh.de*

»The offices of J. Mayer H. Architects and Art+Com Berlin were commissioned to develop the permanent exhibition *Level Green* on the topic of sustainability for the Autostadt in Wolfsburg, Germany. The architectural design of the exhibition takes the numerous interdependencies of the topic as a starting point and translates this quality into the metaphor of the web. Similar to a continuous organism, the single elements of the exhibition are connected into one homogenous structure that houses all content and technical installations. As one of the first prominent signs of the growing consciousness for environmentally friendly consumption, the well known PET-sign was taken as a starting point from which the metaphor of the extensively branched web was developed. This originally 2-dimensional sign was extended into the third dimension and through a series of step by step manipulations a complex structure was created, which allows for an abstract property of the topic to be experienced on a spatial level.«

— 28 — CHLOROPHYLL SKIN

{ Film }

Lucy McRae – Artist, designert; lives and works in Amsterdam, The Netherlands – *www.lucymcrae.blogspot.com*

»As a body Architect, the Australian designer and artist Lucy McRae, invents and builds structures on the skin that re-shape the human silhouette. Her design research focuses on themes associated with ›Breed Out‹; which is one of the most extreme forms of human amalgamation; organic mutations of human with machine, plant and animal. Running alongside her design research, Lucy's art practice visually crystallise's her vision and provocation's for new human archetypes through imagery that is often grotesquely beautiful. Trained as a classical ballerina and architect her work inherently fascinates with the human body.«

— 29 — RESPONSIVE SURFACE STRUCTURE

{ Modell and Film }

Achim Menges – Architect, born 1975;lives and works in Stuttgart, Germany – *www.icd.uni-stuttgart.de*

»Wood differs from most building materials in that it is a naturally grown biological tissue. Thus wood displays significant differentiation in its material makeup and structure as compared to most industrially produced, isotropic materials. Upon closer examination wood can be described as an anisotropic, adaptable, natural fiber system. Because of its differentiated internal capillary structure wood is also hygroscopic. It absorbs and releases moisture in exchange with the environment and these fluctuations cause differential dimensional changes. This project investigates alternative design strategies that aim at understanding wood's differentiated material make up as its major capacity rather than a deficiency. Utilizing wood's intrinsic material characteristics a surface structure that responds to changes in relative humidity with no need for any additional electronic or mechanical control was developed. The resultant ›Climactive Skin‹ investigates the ecological potential of meso-structures that form the natural yet unexplored link between an integral understanding of the micro-structure of materials and the macro-structure of the built environment, in order to achieve a direct response to environmental changes.«

— 30 — PRINZESSINENGÄRTEN

{ Installation }

Nomadisch Grün – Non-profit company for mobile urban farming; based in Berlin, Germany – *www.prinzessinnengarten.net*

»Nomadisch Grün (Nomadic Green) launched *Prinzessinnengärten* (Princess gardens) as a pilot project in the summer of 2009 at Moritzplatz in Berlin Kreuzberg, a site which had been a wasteland for over half a century. Along with friends, fans, activists and neighbours, the group cleared away rubbish, built transportable organic vegetable plots and reaped the first fruits of their labour. *Prinzessinnengärten* is a new urban place of learning. It is where locals can come together to experiment and discover more about organic food production, biodiversity and climate protection. The space will help them adapt to climate change and learn about healthy eating, sustainable living and a future-oriented urban lifestyle.With this project Nomadisch Grün intends to increase biological, social and cultural diversity in the neighbourhood and pioneer a new way of living together in the city.«

— 31 — AUTONOMOUS OBJECT 01

A TYPOLOGIE OF SCALELESS OBJECTS

{ Modell }

Anton Markus Pasing – Architect, artist; born 1962 in Greven an der Ems, Germany; lives and works in Münster, Germany – *www.remote-controlled.de*

»No Scale
No Sense
No Function
No Context
No Gravity«

— 32 — EDIBLE ARCHITECTURE

NEURONAL AND PHYSIOLOGICAL STIMULATIONS AS ARCHITECTURE

{ Object }

Phillipe Rahm – Architect, artist;born in 1967; lives and works in Paris, France – *www.philipperahm.com*

»*Edible Architecture* focus on the perception of the temperature related to the stimulation of the different neuronal ionic channels and how we could for example compensate a high temperature by a direct activation of the ionic channel TRPM8 involved in the transmission of the cold temperature with some chemical molecule like menthol. Our product, a candy called ›Eau de fraicheur‹, contained mint, which has molecules of crystalline origin known as menthol that cause the same sensation in the brain as the coolness perceptible at a temperature of 15°C. The menthol activates the TRPM8 (transient receptor potential) molecular sensory receptors on the skin and in the mouth that stimulate the group of peripheral sensorial neurons known as cold-sensitive units. The traditional field of architecture thus contracts, operating on the gastronomic scale, breaking down the barriers between internal and external, body and space, neurology and physiology.«

— 33 — LIST(EN)ING

{ Film and Image }

Francois Roche – Architect; born 1961 in Paris, France; lives and workes in Paris, France – *www.new-territories.com*

»Ecology is not linked to natural rights
Ecology is not a contractual right,
Sustainable development is oxymora,
Ecology cannot be used as the substitution
of the death of Stalinism,
Ecology is not a new moralism,
Ecology cannot be used as a new propaganda
of slaviness,
Ecology cannot be used by post capitalism,
to sell items by oriented subjectivity,
Ecology is not a passeist dream, not a retro-futur,
Ecology cannot be reduced by ecology, this word has been
burned by green washing disease,
Ecosophy has been definitively substituted to ecology
Ecosophy is politic
Ecosophy is neither a utopia phantasm neither a
fatalism failure
Ecosophy accepts the human as it is not as he should be
Ecosophy is hidden within a *cabinet de curiosité*
Ecosophy is not imitation
Ecosophy is not mimicry
Ecosophy is not plagiary or copism

The best way is to follow the path of the unknown path, of the 'Holzweg' and incidentally to suicide Jean Nouvel.«

— 34 — MUSHROOM INSULATION

GROW YOUR MATERIAL !

{ Object }

Christiane Sauer – Architect, lives and works in Berlin, Germany – *www.formade.com*

»Manufactured materials are getting replaced by materials that are literally grown. The power of nature is utilized to produce these insulation panels. Filamentous fungi* (the roots of mushrooms) are growing on local byproducts from agriculture or cotton industry such as seed husks, buckweed hulls or cotton burrs, thus bonding them into a strong and rigid board. The production process takes place without the input of significant heat, light or petroleum even in dark places. The final step in production renders the material biologically inert and stops the growing process. The result is a strong rigid board that contains no resins or glues. Due to ist porosity, it has excellent insulating properties and is fire resistant by nature without any additives necessary. It can be used as thermal insulation in roofs or walls or even as acoustic insulation panels in the interior. The mushroom insulation can be produced close to the market it serves, using plants that are locally available as nutrition to the fungi. For instance the base material can be byproducts from cotton industry in the US or from rice production in Asia. Local sources of raw materials also help minimize energy and costs for transport. After use, grown materials are basically reproducing themselves. By composting them they become a renweable source of nutrition for the next generation of plants. Thus the cycle of production, use and disposal is closed in the most natural and effective way.«

*Sample by Ecovative Design, USA / Greensulate™

— 35 — RAPID RE(F)USE

WASTE TO RESOURCE CITY 2120

{ Image }

Terreform 1 – Nonprofit Organization for Philanthropic Architecture, Urban and Ecological Design, founded 2006 in New York City, USA; based in New York City, USA – *www.terreform.org*

»New York City is disposing of 38,000 tons of waste per day. Most of this discarded material ended up in Fresh Kills landfill before it closed. The *Rapid Re(f)use* project supposes an extended New York reconstituted from its own landfill material. Our concept remakes the city by utilizing the trash at Fresh Kills. With our method, we can remake seven entirely new Manhattan islands at full scale. Automated robot 3d printers are modified to process trash and complete this task within decades. These robots are based on existing techniques commonly found in industrial waste compaction devices. Instead of machines that crush objects into cubes, these devices have jaws that make simple shape grammars for assembly. Different materials serve specified purposes; plastic for fenestration, organic compounds for temporary scaffolds, metals for primary structures, and etc. Eventually, the future city makes no distinction between waste and supply.«

— 36 — RIVERS IN MINIATURE

{ Film and Photography }

The Center for Land Use Interpretation – Research and education organization; founded 1994; based in Los Angeles, USA – *www.clui.org*

»This is a video transfer of a 16mm film made to describe the purpose and function of the Mississippi Basin Model, the largest hydraulics model in the world. Built by the U.S. Army Corps of Engineers, and constructed continuously from the 1940s to the 1960s, it is a 1:2,000 scale physical model of the entire Mississippi River drainage basin, an area that represents almost half the landmass of the continental United States. Located outdoors in an open field outside of Jackson, Mississippi, it was built primarily to model the flood characteristics of the river, in order to aid in the design and placement of flood control structures. By the time the model was completed in 1966, the automation was complete, and the entire model could be run off a central clock. Water would flow through the model in proportionally compressed time and volumes. 15,000 miles of river channel were represented by 15 acres of interlocking sculpted concrete slabs, and one day lasted 5.4 minutes. An engineering marvel, and an unrivaled monument of miniaturization, the model is now obsolete, and lies abandoned and degraded to a point beyond repair – a relic from the apogee of the analog era. Despite this and other considerable earthmoving efforts of the Army Corps, whose largest work was the Mississippi River, flooding continues.«

— 37 — SOLAR THERMAL FLOWERS

{ Modell and Image }

***The Why Factory** – Think tank on urban futures, MVRDV together with Delft University; based in Delft, The Netherlands – *www.thewhyfactory.com*

»Imagine giant water lilies, floating in the sea off the coast of Thailand. Over the course of the day, they slowly open and close their blossoms, catching the sunlight and turning it into valuable, clean energy that feeds the coastal towns. The *Solar Thermal Flowers* are a beacon of a new green infrastructure that goes beyond bio-mimicry and creates its own esthetics from nature's logics itself. It uses the known principles of solar thermal energy generation: the flowers blossom leaves are large mirrors that reflect the sunlight and focus it on an absorber in the middle of the structure. At the focus point, temperatures of 500 degrees Celsius and more can be achieved. Inside, molten salt is used as heat transfer fluid, transporting the captured heat into the base of the flower. Here, gas turbines are transforming the heat into electricity, which is brought to the coast by undersea cables. The solar thermal generation of energy is different from photovoltaic techniques. PV cells directly generate electricity, which is difficult and expensive to store. Solar thermal structures generate heat, which can be easily kept with little loss of energy. With good insulation, the molten salt can hold its heat for several days, allowing the flowers to reliably provide electricity also during night and on overcast days. Underneath the large blossom leaves, there are artificial beaches, restaurants and even hotels. The newly created biotope becomes a tourist attraction celebrating a ›New Green‹ that ignores any notion of ›artificial versus natural‹, that is large and visible, economic and effective and that amazes with its beauty.«

**Giant Water Lilies in Phuket* is a project by Ulf Hackauf, Pirjo Haikola and Gonzalo Rivas for The Why Factory / Delft University of Technology. The proposal is based on based on a design that inventor Bill Gross (www.billgross.com) presented at a TED talk in 2003 (www.ted.com).

— 38 — TROPICAL

{ Modell }

Triptyque – Architectural firm;founded in 2000; based in Sao Paulo, Brazil and Paris, France – *www.triptyque.com*

»The french-brazilian architecture practice Triptyque is based on the idea of authorial dissolution, where the different participants mix ideas and debate. The name of the office is a literal translation of triptych (an object which appears in various parts), referring to the idea of a dissolving of the different repertoires and cultures of the participants into a single cohesive work. The project *Tropical* understands itself as a critic about ecological normatives. It is a reflexion of how far those rules could restreint architecture and how the power of the nature could take back its place.«

— 39 — EXTREME PROSTHESIS

{ Modell }

Mas Yendo – Artist, architect; born 1957 in Tokyo, Japan; lives and works in New York, USA – *www.masyendo.org*

»Its labyrinthine, steel filaments mesh together like roots of an overgrown tree. Mechanical elements bulge from decrepit structures. Naked pipes wrap around each other in bondage. Loose wires, rusted steel panels, chipped paint, and layered walls capture the essence of the city.
Extreme Prosthesis embraces the irrevocable change of reality by enhancing abilities and providing new experiences. A symbiotic relationship between organic entity and machine must be developed in order to accomplish this. Only then can the changes once considered adversity, be seen as opportunity and possibility.«

— 40 — SPECIMENS OF UN NATURAL HISTORY

A NEAR FUTURE BESTIARY.

{ Taxidermy }

Liam Young – Architect, designer; born 1979 in Australia; lives and works in London, United Kingdom – *www.tomorrowsthoughtstoday.com*

»...from so simple a beginning endless forms, most beautiful and most wonderful, have been and are being evolved.«
Charles Darwin

»Now, as we stalk the savannas of science fiction, robotics and neo-biological invention we are beginning to encounter the novel reality of engineered 'monsters'. Throughout history we have always invented monsters and myths as our way of coming to terms with phenomena we don't quite understand. They are fictional tales of the natural world but at the same time they chronicle the dreams and anxieties of the everyday. With these stuffed and mounted specimens from a new bestiary of unnatural history we see the speculative offspring from the interbreeding of biology and technology. These monsters may be hopeful inventions or unexpected by-products, wondrous possibilities or dark cautionary tales of a day that is already here.«

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The Imaginarium. A Theater for Constructed Ecologies is part of the exhibition *Examples to Follow! Expeditions in Aesthetics and Sustainability* curated by Adrienne Goehler.