

The Limits to Growth!

Design and
no-growth

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Design and no-growth

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Credits and thanks

The Limits to Growth!

Design and no-growth

Marie Pok



The 1972 report *Limits to Growth*, prepared at the request of the Club of Rome by the MIT professor Dennis Meadows, sounded the alarm: "Stop growth!" Researchers from around the world have been pointing out the risks of excessive consumption resulting from the all-out race for growth since the late 1960s. But how have we responded to their warnings?

Whilst numerous protest movements are expressing their outrage of experts and citizens alike, in the face of the dominant economic and social systems, the CID is questioning the role that design can play in this social movement. Condemned by numerous economists, as well as by designers and sociologists of objects, the capitalist system has undeniably entered a critical phase. In spite of the warnings expressed by such high-profile figures as Victor Papanek and Jean Baudrillard since the 1970s, the (over)production of objects, by means of processes in which ecology and ethics are swept aside or sidestepped, continues to flood the world. But we are now seeing that resistance is becoming organised.

Born into a generation whose values are changing—ownership is no longer the ultimate goal of professional success, whereas the concept of personnel development or self-fulfilment is gaining ground—young designers no longer get a sense of satisfaction from having produced a new chair or other consumer item. They are now passionate about the research process, working methods and tools that are more respectful of the environment and resources, and which promote a fairer distribution of profits. Open source and social design are bringing about new practices in which profit is no longer the driving force.

So can we consider design in another way? Can we use design methods to limit or reduce the number of objects and goods that are accumulating on the planet? Which projects invite us to reduce the consumption of raw materials and fossil fuels? Is there such a thing as not-for-profit design? Could design become a testing ground to reverse the dominant economic processes? Can design elude the obligation of growth?

List of the designers

Audrey Bigot

François Azambourg

Antoine Monnet

Thomas Billas

L'Increvable

Cléa Di Fabio

Christien Meinderstma

Floris Hovers

Henrique Nascimento

Jennifer Morone

Mathilde Pellé

Studio GGSV

CTRZK

Norm Architects

Hugo Meert

OpenStructures

Weilun Tseng

Rikkert Paauw

Olivier Peyricot

Julien Phedyaeff

Amaury Poudray

Studio Gorm

ECAL / Damien Ludi, Colin Peillex

Studio Swine

Studio Simple

Thomas Thwaites

Gabriel Tan

Laurent Tixador

Lenka Vackova

Diane Steverlynck & Maud Vande Veire

Jian Da Huang & Jasmijn Muskens



Design & no-growth

To live in rivers.

Olivier Peyricot, designer,
director of the
research centre la Cité du design

Design is the uncontrollable spray that coats beauty, the infinite section of domestic conspiracies between small objects and the equally small philosophies of the moment for us to consume without moderation for as long as we have the desire to live or the purchasing power¹.

We are at pains to discover the cause of this cumbersome layer.

Design is the textbook and its materialistic translation of the world in the same way as production or consumption is. Though it's the one thing that comprises the concept of project - that starts of as an idea under discussion- which provides the natural freedom to seize at the earliest stages the questions related to the materialistic world banana of which it is both ends. The designer confronts this material at every moment in life and at every place in society without assembling this multitude of philosophies about a multitude of objects into some theoretical rarity.

To confuse matters further, for the sake of the project, the designer indulges in trajectory hypothesis, personalised as can be, but in actual fact so commonplace that his energy dissipates towards a single objective: to ameliorate their comfort that is never his own.

However, it seems that the apprehension of the worlds movement, or the capture of moments in time or the projection of itself into a project space, are all territories for the imagination, without trying to find a fictitious solution to the fictitious enigma of the world. Objects always assemble by human desire and their heavenly aspect is always revealed to us by accident, therefore it's the empire of the mind that extends whenever

a material assembly whispers its potential beyond.

In turning this project matter round in every sense, searching for a structure, an origin, a destiny, we've discovered a vast field of possibilities.

DESIGN REVOLUTION - 7 000 YEARS ²

« That destiny is a mystery to us, for we do not understand when the buffalo are slaughtered, the wild horses tamed, the secret corners of the forest heavy with scent of many men, and the view of the ripe hills blotted by talking wires. Where is the thicket? Gone. Where is the Eagle? Gone. The end of living and the beginning of survival. »

Chief Seattle's Letter to the President of the United States (1894).

In close circle, the members of the washo tribe assess the risk of tomorrow's great hunt³. Taking rabbits from the vast prairies is the subject of one of the wisest assemblies in the world, because we know that this world could be destroyed in one fell swoop, if more arrows than necessary pierce more furs than can be worn.

When captain John Smith set foot on American soil in Chesapeake in 1603, the Neolithic instantly met with

modernity, the assembled technicians of unremitting squander encountered the magical turbulences in the precarious balance of the tribes. European certainties baptized them in blood, blind to this subtle balance: the raw riches present in the heavy soil of the American continent seemed to pour out in endless⁴ abundance.

ALL OF A SUDDEN, DESIGN IS CAUGHT IN THE SOCIAL WEB

To degrow⁵ is a survival process at a phase of explosive consumption of resources, but the radical notion preceding degrowth is *the search for balance*⁶. One man drained design before all the others, all in quest for balance, by deconstructing the workings of desire. William Morris (1834-1896), forerunner of decorative art subjected to industrial process relentlessly questioned the facts: we saw children, feed tied to wood pedals, operating the looms of industrial revolution, we heard of entire families working in industry for fifteen hours a day without a break, one black and worn costume for Sundays and funerals, we produce quantities of ersatz objects from tinplate and rubbish, speculating on the new theology of infinite needs. Major theoretician of emerging « Arts & Crafts », writer, prolific and indefatigable worker, our William explores in his books⁷ and lectures dozens of questions related to production, that until then, bothered neither designer nor client: the workers position, mass consumption of goods,

the beauty of the object in relation to the gesture, the approximate copy, the lower range, the pattern, the price of the assignment, etc. The complete man, artisan-creator-technician-theoretician, master of his technical destiny, organizes a rich set of activities: William sets up multiple enterprises, amongst others a wall paper firm. He searched for the *art* rooted in *artisan*, he tracks the gaze and the gesture of production. From the workshop of this first class designer came manufactured objects and a political and social controversy that he will never cease to inspire⁸.

FROM DESIGN TO SYSTEM

Think of William Morris, long before the ecologists and artists of the 20th century, as on an expedition in his century, observing people's needs, stigmatising *ersatz*, objects of poor quality, designed to gratify the smallest of desires. He denounces at the beginning of mass consumption, the impact of quantity on the quality of production. Following the speech « *We Live and How We Might Live* »⁹ by Morris in 1884, Serge Latouche describes his influence on today's thinking behind degrowth: « *the art of living artfully doesn't exclude, for whom conscientiously objects to growth, to desire the social justice of the communist project. (...) degrowth strives to achieve a form of eco-socialism that is developed throughout the work of William Morris* ». Because the behaviour of individuals, disrupted by desire, already indicated a need to own

the totality of catalogue items, available in down marked range or cheap copies. The tension between the desire to consume and the injunction to produce nurtured the mature phase of the industrial age. The machine was launched: the consumption-production alliance functioned in unison. Fashion, technological innovation and communication-advertising stimulated and placed emphasis on the desire. Morris however, pointed out other possible strategies for social structure in order not submit to this infernal rhythm of satisfying the most frivolous of desires: the search for a reflective and profound life project, prioritizing the existential dimension, which he endorsed in *News from nowhere*¹⁰.

THE RESEARCH INTO FORMS OF DEGROWTH

« *A prosperity strategy for a society is seen as an adaptation to its environment and material conditions, a process that may or not imply maximizing the use of resources. The substantive meaning of the word « economy » is seen in a broader sense as « economize » or « supply ». Economy is merely the way a society meets its material and immaterial needs (social status, rites, beliefs, etc.).* »

Karl Poliany

The divergent object of the industrial revolution encompasses all Europeans and their colonies and efficiently exploits cheap labour, technical and theoretical

intelligence and more besides, as well as all the raw materials on the planet. Capitalism generates both chaos and the theory of chaos. We think of the economists of the 19th and 20th centuries, with schemes and technician prose, fighting the cyclonic movements that carry them along. Systemic approaches, dynamic approaches, cyclic movements, organic forms, degrowth forms, bio-economics: the whole world comes up with forms to understand the *hyperobject*¹¹ of modern economy. The metaphors wear out in theses in order to understand the layers and pitfalls that enclose the every day and the people. « *Why Is Economics Not An Evolutionary Science?* ». In 1898, Thorstein Veblen described individuals, according to the psychology and anthropology of the day, as being « *merely a bundle of desires that need to be satisfied, (...) but on the contrary a consistent layout of tendencies and habits seeking accomplishment and to express themselves in the development of an activity. (...) The economic life of an individual is a cumulative process of adaptation of resources to goals transforming cumulatively as the process unfolds.* » Torrents of desires, individuals who feverishly produce the organics, where the production apparatus sorts the world into grids and rasters. Historian of economy René Passet quotes from Veblen in an attempt to capture the genesis of this movement¹²: the creative swirl is the dynamic that holds the economic life of individuals captured. Lacan says no less when he points out that the exchange value is made internally (*the storage*^{13*}) whereas the use value is on the exterior,

in the shared spaces, and disturbs our peripheries. The use value is totally taken away in the upset.

A fundamental question concerning the forms of the modern world: How do economy and design represent this world? The grammar of form, we see around us every day, is upset and far away from our organic life. It would therefore be better to observe, in a concept laboratory, movement like THE generic form, always illustrating growth and decay. These opposites are in the heart of capitalist revolution and are organic and natural movements too.

Think of Detroit, built on the movement of chromium embellished cars, speed and infrastructures, not supposed to ever interrupt the centrifugal movement of urban sprawl. Think of the wealth infinitely unfolding in standardized villas on the green lawns of America. Today, Detroit, city of sustained degrowth, *shrinking city*¹⁴, is taken over by the small, very real economics of survivors: urban farming on wasteland and recesses, invention of new songs (each day we search for a new song, literally, to get through the day, don't we?), Creation of new tunes, tinkered in reverse from electro music, preservation of the mystic Afro-American heritage, tests on autonomous vehicles in an effort to reduce infrastructure, etc.

The designer degrowth looks like this: build scenario's for DIY living with a few people, trying them out on a shared small scale and discuss the results with others while spreading information as widely as possible, start again and again, think about how to fill the vacancy in our

lives, think about how to turn over the place to future children, how to merge with the landscape in motion.

ONGOING LEARNING: DESIGN AS POLITICAL ACTION

« *The promise of growth and comfort, engines of the modern project, move away and leave us behind in a period of great instability, questioning the social model we build our lives on.* »¹⁵

Design is an activity of human science under construction: it helps to convey experience and discourse on the world of today and tomorrow. The consternation when faced with the violence of modernity, when confronted with its ideological incarnation in neo-liberalism and predatory oligarchies, renders design much more militant than we ever anticipated, as it reconciles a political and social plan with the production of form. This is the necessary condition for it to establish itself as an ideological tool, always ambiguous (Bernard Stiegler speaks of *pharmakon*¹⁶), fashioned to act upon the needs and the way they direct a large part of the world's material production. This neurotic overload of objects and services gets out of control the more it appears, degenerating and destroying our natural balance, creating an enormous imbalance in our vital spaces.

Carrying a social plan is a strange responsibility for a designer. This delegation from society (of which it would be presumptuous to say that it concerns a complete delegation of the project, rather, to

return to the words of William Morris, a simple « ersatz ») probably results out of the crisis of abundance, the surcharge of material obesity: to sort out, to classify, to index, « to methodologize », these were the first design missions, of which the modern project wishes to resolve the question of mass production. Today we understand that, after *Zyklon*¹⁷ gas, *Tchernobyl*, and the city in the fast lane, it no longer suffices to put the material world in order, but design, acting on form and meaning, might apply to an object, much larger and more complex in form, usage and radical practices of societies. This is why the figure of the designer even infiltrates amateur practices, civil engagements, territories, third places, socio-technical projects, public policies. This mutation of the professions offers a radical wake-up call and ways to embark for the end the modern period.

DESIGN IN MUTATION

« *Any post-capitalist project will inevitably require the creation of new cognitive maps, political narrative, technological interfaces, new economic models and new collective control mechanisms, in order to host the complex phenomena to improve humanity.* »¹⁸

New figures appear, offering multiple choices: the designer butler in service of the delirious commonplace, the designer assistant to a seance of collective exorcism, the designer survivalist at the heart of the ramshackle machine, the designer activist of revitalized neighbourhoods...

To reclaim the commonplace, in name of the collective, formed the key action that led to emancipation in the 1960s against the disciplinary society¹⁹. The reactionary revolution of the 1980s with Reagan and Thatcher, allowing neo-liberalism to engulf the planet, installed what Deleuze describes as « societies of control », a scattered and individualized presence of neoliberal ideology, aided by the generalized use of computers and the internet as its tools^{20*}. This tension placed on ordinary life creates a disturbing framework to live in and for designers to take responsibility over. Some, like Sottsass²¹, declare themselves definitely bad, others burn incense to the system of objects, while the most audacious join a resistance against auto-production and social confrontation.

To the latter, making society is a research process, imagining the society is very much being a participant and in the heat of the action: the third places (fab-lab, co-working spaces, etc.) are promises individuals work towards, adventurers of new forms of sharing. They are the children of Linux, free software, open source but also the workshops of design schools, the libertarians²², the « start-uppers » and also the punks with dogs, the anarchists. They are the hybrids of technology and social margins, where organization of the collective and new ways of organising work are constantly invented. To organize society: to observe, to learn, to ask questions, to debate long and act, each person is entitled to his desires, or his needs, or his skills, the way it worked in primitive societies. To find the way together. Make commons, communes, communities, make public space; shared

tools, scattered knowledge, broadcasted *worldwide*, but also regulate, first and foremost, the passions, to facilitate exchanges, collaborations, common matters.

Design is challenged by a social condition: individuals are engaged in a new project that seeks to resolve the insane accumulation and therefore joins collectives and constructs the Commons. Shaping the degrowth for participation. Design's manifest plasticity enables it to become the essence of the commons, projecting prototypes, scale models, layout, scripts:

- Regulatory design: the institution constituted of the commons, quoted by Elinor Ostrom, theoretician of collective actions, has in fact the intention to regulate « the passions », « the desires », « the egoism » or the « penchants » of the individuals who compose it²³

- Design of the alternative societal spaces: produced by social and solidarity economies, they emerge from the commons and make progress amid research and experiments;

- A governing design: « *A common is a governance model that facilitates cooperation between individuals who see the benefit of working together, creating a (modest) economy of scale.* »²⁴

To focus on the immediate environment and discover the connections between human (m/f) and non-human (m/f), between economical survival and subjective liberty, between rationalisation and emotion. Finally, production and subjectivity have been made organic again.

« *We aren't inspired by biology in itself, but through her, by the operating mode of complex systems.* » and René Passet

reminds us that the aim is not to « project the living » as a social organizational model, but to enable the system to « evolve while remaining coherent in a moving environment. » A tensed tightrope walk, to some extend.

EXTRACT THE METAL INTO FICTION.

« *We imagined that a river was ours. We imagined its strength, we sculpted it, cut it in slices, while the water slipped through our fingers. Thoroughly-soaked, we found strata and strata of life projects: the river, drinkable resource producing energy, the river as a transport mode for data, the river for relaxation and the body, the river for breeding, the river of variable densities for sensations and colours, silt for food, the bottom for surrounding needs, the contact of the water with the air for a foggy atmosphere, the exchange of ions in agitation, the swirls for contemplation...peace of mind ensured for eternity.* »²⁵

But how do we put in practice this connection to the organic? By living in rivers, by considering the heavenly, grand architecture as an inconsistent roof, by experiencing faunas with great intentions; by transforming the intellectual space, engaged in critical strategies into a space that feels passionate about controversies; to chat, to live by the mind, etc.

The production of the living conditions is more than empty words: building infinite banks to a river is a full activity for a living being. To identify the speaker in the woods, to hear what trees and animals

say, to integrate worlds always bigger than you, to discuss it, to become very tiny like an essential art of reduction, to be motionless, for a long time, to wait, to breathe, to love. Design is a practice that lets you contemplate a certain way of being in the world with immediate instructions for use.

NOTES

- Quotation from the introduction of fanzine F=F, Anne Chaniolleau & Olivier Peyricot, Galerie Mercier & Associés, Paris, 2013
- In reference to Jean-Paul Demoule, *Les origines de la culture, La révolution néolithique*. Éditions du Pommier et Cité des Sciences et de l'industrie, Paris, 2008.
- In the naturalistic novel *Rabbit Boss*, Thomas Sanchez insists on the debate engaged by the *washo* tribe on the great annual hunting of rabbits. The question of the reasoned taking away is crucial for the preservation of the balances, while they seem to live at the heart of a resourceful and abundant nature. Thomas Sanchez, *Rabbit Boss*, Knopf, 1973.
- « *In closing, and to speak only about what has been done during this voyage, I can ensure Your Highnesses that I will give them all the gold they need as well as spices, cotton and gum as much as they ask me to load, also slaves we can pick from the idolaters.* » Christophe Columbus, letter written in the Azores by mid-February 1493, addressed to the Catholic Monarchs of Spain.
- « *Degrowth is a platform concept riche in different meanings, influenced by five sources of thought: ecologist, bio-economist, anthropologist, democratic and spiritual. It emerged in the seventies and the word is frequently used from 2002 in relation to the convergence between the critical theory of development and the anti-advertising movement, first in France, then on the entire European continent starting with the Latin area. It radicalizes ecological criticism and doing so articulates and overdetermines multiple alternatives emerging at the margins of society.* » Timothée Duverger, *L'économie sociale et solidaire*, Documents Le Bord de l'Eau, 2016.
- André Gorz (1923-2007) questions the relation between growth and capitalism: « *Global balance, including non-growth - or even degrowth - of material production is a condition, is this global balance compatible with the survival of the (capitalist) system?* »
- William Morris, *L'Âge de l'ersatz et autres textes contre la civilisation moderne*, Éditions de l'Encyclopédie des Nuisances, 1996.
- « Morris believes that the system based on trade and profit, that dominated the end of the 19th century, has destroyed the decorative or "minor" arts, by violating their quality and status in society. This misfortune may seem insignificant considering the numerous horrors of the Victorian society. Nevertheless, this profound feeling of the causes of this degradation and its effects on possible camaraderie, creativity and human happiness will become the basis of Morris political analysis. » Kristin Ross, *Communal Luxury: The Political Imaginary of the Paris Commune*, Verso, 2015.
- William Morris, *How We Live and How We Might Live*, a lecture delivered to the Hammersmith Branch of the Socialist Democratic Federation (S.D.F.) at Kelmescott House, on November 30th, 1884. It was first printed in *Commonweal*, 1887
- William Morris, *News From Nowhere* - William Morris, Éditions Ellipses, 2004.
- Timothy Morton, *Hyperobject*, University of Minesota press, 2015.
- René Passet, *Les Grandes Représentations du monde et de l'économie à travers l'histoire : De l'univers magique au tourbillon créateur...*, Actes sud, 2012.
- " *Maybe we should start to move away from the fascinating virtue that comes with our incapacity to imagine the representation of a living being outside its body. Let's put this fascination aside for a moment to ask ourselves what happens inside and outside when we refer to merchandise for example. Collectively, we have been sufficiently informed on the nature of merchandise to know it divides into use value and exchange value. Exchange value, you say, must be what works outside. But what happens when we place this merchandise in a storage. This must happen sometimes.*
- A storage is an inside, where we store the merchandise, where we keep it. Barrels of oil, when they are outside, they are exchanged and then consumed - use value. Strangely, it is when they are inside, that they are reduced to their exchange value. In storage by definition we do not pull them apart, nor do we consume them but we keep them. The use value is clearly forbidden inside, where we expect it and there is no exchange value left.*" The seminar of Jacques Lacan : Book XVI: From an Other to the other: 1968-1969.
- Shrinking cities*, concept used to describe diminishing cities (demography, wealth, space...)
- O. Peyricot (under the direction of), *Working promise, les mutations du travail*, catalogue de la Xe Biennale Internationale Design Saint-Etienne 2017, Editions de la Cité du design, 2017.
- In ancient Greek, *pharmakon* meant both remedy and poison, also scapegoat. <http://arsindustrialis.org/pharmakon>
- See Zyklon gas design in Im Weltinnenraum des Kapitals, Peter Sloterdijk, 2005.
- N. Srnicek & A. Williams, *Accélérer le futur*, éditions Cité du design - IT, éditions, 2016.
- La Vie quotidienne dans le monde moderne*, Paris, Gallimard, collection Idées, Henri Lefebvre, 1968
- 24/7 Late Capitalism and the Ends of Sleep*, Jonathan Crary, Verso 2013
- « *je suis méchant* » texte d'Ettore Sottsass, in *Ettore Sottsass Jr '60/'70*, Milco Carboni, HX, Orléans, 2006.
- See: Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism*
- Quote from « *Le Comité invisible et les Communs : pourrions-nous encore être « amis » ?* » blog scinfolx.com de Lionel Maurel Juriste & Bibliothécaire, à propos de *Maintenant*, ouvrage du Comité invisible, 2017.
- Quote from Tine de Moor, historian and economists, specialized in commons and collective economies, <https://www.greeneuropeanjournal.eu/the-time-is-now-commons-from-past-to-present-an-interview-with-tine-de-moor/>
- « *We have a space: the river, an unusual object we consider a project. It is active, so are we. It is multilayered, we use some and let go of others (there are upcoming generations of explorers). It is science, we compare, we value, we act quietly; it's alive and master of itself, we share all of it, with elephants, the water drinkers, the rowers. Water with filtering glass disappears in dusty water. We have a conviction: we can fear the movement of the world, or capture its moments, or project ourselves entirely in a space project. But can we imagine these new territories without trying to find the fictive answer to the fictive enigma of the world? Let it go. Do you know man will never change, that he doesn't desire less than he has? Oversize the imaginary of your living environment, work on a wave, fresh air, a relation, a word, try another scale, decide that you are small, that you will get into trouble, that others will penetrate you, that you are flexible, that you will bend. Instead of creating lack and then using human potential to adjust: reach for non taxable temporalities, be relatively trustworthy.*» Quotes, A. Chaniolleau & O. Peyricot, F=F, Galerie Mercier & Associés, Paris, 2013.

A collection of colorful toy sailboats on a light-colored surface. The sailboats have various colored sails (red, blue, orange, white) and are made of different materials like wood and plastic. They are arranged in a row, with some in the foreground and others in the background.

Degrowth! On the Increase?

Olivier Wathélet, Users Matter

Can we envisage future scenarios of our species in isolation from the concept of growth? The notion of human progress associated with ongoing economic development now seems to be so strongly anchored in the functioning of the economy and in popular representations that we find it difficult to see beyond this cognitive horizon. Yet its theoretical foundations as developed by Adam Smith are based on three fundamental inaccuracies.

The first is the notion that the world is permanently evolving, successively traversing stages of increasing complexity; from primitive hunters to commercial societies, via agro-pastoral models. This chronological frame of reference, which was highly fashionable in 18th century political anthropology, is based above all on a significant ethnocentric bias, which consists of positioning the author, and those with whom he feels aligned, at the top of the theoretical evolutionary pyramid. Analysis of individual cases shows on the contrary that civilisations have succeeded one another in accordance with far less homogenous sequences than the history books suggest. Likewise

the multiplicity of economic forms within each society contradicts the notion of successive replacements of the existing model by another that is supposedly superior.

The second error consists of upholding the notion of the intrinsic poverty of economic structures that are based on non-extensive exploitation of local resources. Societies which have favoured this type of supply model are supposedly prone to poverty and have proved fragile in the face of unexpected obstacles, notably in terms of the climate. Already some forty years ago, the American anthropologist Marshal Sahlins (1976) demonstrated that “the stone age” attributed to these societies is in reality an “age of abundance”. Firstly because the available figures relating to their real consumption contradict the notion of insecurity or instability of resources; also because the distribution of work and leisure time, to take a modern-day criterion which is still considered to be a measure of wealth (“time is money”), weighs considerably in favour of less-developed societies compared with data on modern

American lifestyles from the 1970s.

The third is that mankind is motivated by a natural tendency to improve his condition, and consequently the onward march of growth is inevitable. To date, this intuition has not been subjected to any truly empirical demonstration. If the capacity for resilience or the constantly renewed quest for shared wellbeing are almost universal practices, as supported by intercultural studies conducted over the past 15 years by psychologists and economists of “happiness”, economic growth should not be confused with the capacity for transformation and the determination to improve the future of one’s fellow human beings.

Questioning the place of design in relation to growth, beyond any questioning of its “complicit” role in the market economy, therefore implies questioning its capacity to remove itself from the three visions outlined above. In practical terms, and to take the opposite view of the ideological basis of the notion of growth, this involves:

- assuming a diversity of trajectories of change in societies;
- developing other forms of abundance than those connected with the capacity to work that one might have or acquire;
- contributing to the transformation of communities, by questioning the objectives they are aiming towards.

These three issues are central to the practice of design, particularly when it is concerned with questions of degrowth.

The first two relate to the object under design (designing objects for various uses, contributing to the satisfaction of users beyond profitability in terms of time and effort) and are specific to approaches that are oriented towards a societal project that can be described, *faute de mieux*, as degrowth. The third relates to design as an activity. It covers all the processes and methods involved in achieving a project within a certain vision of the world. In this respect, it poses the question of what impact a conception of the project *beyond the notion of growth* can have on design itself.

Usually, the designer’s activity is undertaken within an agency remit, working either alone or more frequently in a team. Although each project is unique, several methodological tools of the profession, nuanced by each individual’s unique vision, make it possible to respond to the economic dictates of allocation in line with efforts at the various stages of the intervention. The anthropologists and designers Mike Anusas and Rachel Harkness (2016) have shown that such management tools—like the “double-diamond” model which infuses the practice of numerous agencies throughout the world—contain within them a theory of time whose efficiency is based precisely on its limited nature. The succession of stages in each project feeds into a form of permanent present, in which the needs addressed and the projected users tend to be envisaged whilst paying very little attention to their “past” (for example, the minimal consideration of the inherent controversies in the choices that govern the designer’s

intervention) and their “future” (for example the minimal consideration of post-development operations or impact on consumption activities beyond the actual product). Taken to the extreme, this logic enables an industrialisation of the service offered by the design agency. However it threatens to lose the temporal depth which makes it possible to project oneself, and to project oneself into another future than that proposed by the brief or initial remit.

Such presentism is not specific to commercial design approaches. It can also be expressed in critical, participative and social approaches; although in these contexts, the notion of a “preferable future” as an object to be defined and forged by futurists, finds greater resonance. However, discussing or assisting the implementation of a project with a social purpose does not of itself assume a departure from the system of here and now.

In such interventions, we readily think of projection into the future as a competence which the designer, as a facilitator, through the organisation of dedicated workshops and the creation of tools that generate dialogues, would make it possible to reveal. Yet as the Indian anthropologist Arjun Appadurai recently reminded us in *The Future as Cultural Fact: Essays on the Global Condition*, access to the future is unequally distributed between groups and individuals. This is the result not only of disparities between ecological and economic conditions, but also and perhaps above all owing to profound differences in the

capacity of individuals for aspiration, i.e. to conceive of projects in a credible future. Projective potential is therefore not only a competence to reveal in a workshop, but a capital to create and share.

Design *through* degrowth creates temporal density in its own practice of the project. Pasts and futures then become combined in more subtle approaches, leaving no room for the criticism that is sometimes hastily made of the concept of degrowth, which is resumed as a simplistic quest for a return to basics; a life “like before”, naively simpler and happier.

“Coming Home to the Pleistocene”, the most recent book by the American ecologist Paul Shepard, illustrates this ambiguity. In spite of its title, which conjures up images of a retrograde trajectory, the book is in fact an invitation to develop new visions of the future. The originality of the theory lies in it taking the community of hunter-gatherers as a starting point to this futurist exercise. The aim is not to copy their model, but to envisage another history of the evolution of the species, another form of growth which our imagined “growth” scenarios make it difficult to consider.

In many respects, Paul Shepard’s intellectual work clearly resonates with that of the British designers Antony Dunne & Fiona Rabby, when in 2009 they proposed their fictional design, “Foragers”. By presenting a future where individual gleanings provides a credible key to survival, they attempted to stir our

imaginings by offering an updated interpretation of human history. Put another way, they suggest another historical path—neither entirely uchronic nor really counterfactual history—which connects ancient and more recent practices. Gleaning, even for a “hypermodern” city such as Los Angeles, now accounts for 10 tonnes of the food consumed there each year. Extending the design process is therefore also about helping to peel away an attitude towards the past which serves, deliberately or otherwise, to disqualify numerous “marginal” practices.

One might justifiably reproach critical design for working “in an ivory tower”, in the comfort of shows and exhibitions. What practice should we therefore adopt to work on the actual terrain of imaginings, particularly amongst those whose capacity for aspiration is weaker? The translation of these practices into a project logic, as a prerequisite to any strategic reflection in a design approach, is one, initial response which some adopt nowadays in the industrial field (Minvielle & Wathelet, to be published). Others, doubtless, have yet to be invented.

Materialising “dominated” imaginings, offering them a presence within wider debates, is another useful perspective. Although it is modest, seemingly lightweight faced with the “tangible” arguments of mass production, it nevertheless has real performativity, that of making alternative future paths credible, other than those promoted by contracting parties or a small number of privileged operators. Such is the case in

the SankoFa City project in Los Angeles where, as an alternative to the obligatory prospect of the Smart City, the concept of totem public telephones, an obsolete technology par excellence, is a tangible means for residents in the Leimert Park district to appropriate its development and communicate to the public authorities another vision for growth in their district.

To conclude, we do not know if degrowth design exists, or whether design offers anything original to the issues surrounding degrowth. But we do know that any contribution to the practical implementation of alternatives to current forms of growth is based on several conditions where design can make a decisive input. It involves a capacity to propose and develop pathways for practices and inventions, but also imaginative alternatives on the margins of dominant projections. It is about giving density to time and searching in the past not for models, but for the roots of original projections. It is about focusing discussions on visions of the future to decolonise the imagination and ultimately contribute to “recapitalising” the projective capacity of those who find it challenging.

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Ecodesign— an ally of degrowth?

For the neophyte, the notion of “degrowth” often seems like a step backwards, towards a reduction in economic activity and therefore in our quality of life. It is a notion supported above all by social, political and citizen movements, questioning our consumption practices and advocating deliberate simplicity.

This concept runs counter to the dominant political, economic and social systems, which are driven by economic growth. Without growth, how can businesses be invigorated, how can we promise to achieve full employment, how can we respond to the needs of an increasingly urban and constantly growing population?

The dilemma is even more complex as our economic model is based on a linear approach, particularly since the industrial revolution, in which resources are extracted, transformed, consumed and then thrown away. Our productive system has achieved such a degree of efficiency that it is now profitable to propose products characterised by rapid or even programmed obsolescence. But such profitability is only possible by relegating the ecological impact (contribution to the rarefaction of resources, climate change, etc.) to a collateral effect and is not quantified in the economic balance. With this production efficiency, we have

apparently forgotten a productive model that maximised the lifetime of products, attempted to repair them and retrieved the greatest quantity of components, in other words a circular economy! Then, these resources which were previously recycled as much as possible appeared to us, for nearly two centuries, to be endless.

It is now clear that the present, linear economy has reached its limits. According to numerous studies, our principal mining and energy resources will run out before the end of the 21st century if we continue to exploit them at the current rate¹. With a certain self-demotion, the economist Kenneth Boulding, president of the American Economic Association, stated: “*Anyone who believes that exponential growth can go on forever in a finite world is either a madman or an economist.*”

Considering the economic risks entailed by the precarity of resources, it is therefore in the private sector’s financial interest to urgently review this linear approach so that it can preserve them: resources that have not yet been exploited, but also those present in the goods we consume. Increasingly stringent environmental policies, but also the expectations of an increasing proportion of consumers, abound in this sense.

Faced with numerous current environmental issues, two economic responses have emerged: on the one hand a degrowth movement, motivated principally by a social dynamic, and relatively unpopular with the private sector; on the other hand a transition towards a circular economy, motivated by businesses' competitive interests, and which risks stepping up the pressure on our resources in order to go "green".

The degrowth movement has the merit of obliging us to reconsider how we live; to tend towards more frugal consumption, centred on our needs rather than our desires, too often boosted by effective marketing strategies. But by limiting the notion of degrowth to a reduction in our consumption, we risk finding ourselves confronted with a general outcry from the private sector, whose profitability is ensured by a certain volume of production and consumption.

In a recent interview for the newspaper *Libération*², the author of *l'Age des low tech, vers une civilisation technique soutenable* (published by Seuil), the engineer Philippe Bihoux proposed the following response to this dilemma: "Degrowth is not the caricature of the opposite of growth, but deliberate degrowth in terms of energy and raw materials consumption, and waste production." Wouldn't a more acceptable approach to degrowth therefore be to extend the concept to a reduction of the environmental impact of our economic activity?

If so, this is where design and degrowth can converge.

Fundamental to the production of any goods or services is their design. The objective of design is to propose solutions (the design of objects, services and even spaces) in response to three criteria: desirability (by the user), viability (economic) and feasibility (technical). By integrating environmental and social criteria, we reach the notion of ecodesign, a pillar of the circular economy.¹

Ecodesign underpins a so-called "lifecycle" approach, which aims to minimise environmental impact during the various phases of a product's life: extraction of resources, manufacture, transport, use and end of life. More fundamentally, ecodesign can also be seen as a means of questioning our relationship to objects; an approach aimed at changing users' behaviour and their relationship to the notion of ownership. More than the possession of an object, focus is placed on the function or service associated with it.

Lastly, ecodesign can be a tool for social innovation, which devises solutions, admittedly ecological, but above all responses to societal issues: employment, education, habitat, health, mobility, social inclusion, etc.

In its 2014 study *Circular Advantage*³, the research firm Accenture, more habitually associated with the dominant economy, sounded the alarm by announcing the end of "business as usual",

or the status quo of our linear economy. Considering the business risks represented by the exhaustion of our resources, this study proposed new circular economic models, within which ecodesign has a primordial role to play, and which can also assist us in a degrowth dynamic.

It is important to note here that degrowth and environmental responsibility are not the only priorities of these approaches, which remain principally led by a commercial logic. Nevertheless, if these new approaches make it possible to increase economic competitiveness whilst reducing environmental impact, we have here a pertinent, long-term response.

One of these proposed models is the functional economy. Rather than selling a product, the business remains the owner and places it at the disposal of the consumer by integrating within it a high value-added service. In this way, it is in the business's interest, in order to be profitable, to maximise the product's lifetime in order to be able to easily repair it and retrieve, reuse or recycle its components at the end of its lifetime. To guarantee its remuneration, it provides optimal maintenance and proposes various associated services.

Certain major businesses have already embarked upon this approach. Since 2013, Xerox has engaged in the functional economy, and is now earning most of its turnover from its Managed Print Services (54%), compared with 46% from the sale of office equipment.⁴

Xerox and other businesses in this sector offer service contracts that include the provision and maintenance of machines, as well as associated services such as digital document management.

According to a study by the research firm *Quocirca*⁵, the principal motivations of businesses which prefer renting to purchasing their office equipment are cost reduction in terms of equipment and consumables, improved monitoring of printing costs, optimised document management in digital format, administrative simplification and more efficient IT infrastructure. Among their motivations, the least cited is the reduction of its ecological footprint. For the company, the issue remains financial rather than environmental.

The fact remains that this approach implies a break with the economic model, leading to a positive impact on the environment, and a decrease in the consumption of resources: we shall move from the sale of a maximum number of appliances (often cheaper to replace than to repair), to the production of high-quality, easily maintained machines, whose lifetime will be maximised given that they will be guaranteed by the service provider. In the case of Xerox, the salvaging, recycling or reutilisation rate of leased equipment and their components is over 90%! By extending their lifetime, this model therefore enables the number of machines in circulation to be reduced, along with the consumption of the natural and energy resources required to manufacture

them, and the quantity of components that are sent to landfill.

In the road transport sector, Michelin has begun a similar arrangement, proposing its customers who own fleets of lorries to rent their tyres per kilometre. Michelin offers an end-to-end tyre maintenance service: repair, replacement and retreading, along with eco-driving training for heavy-goods vehicles. The customers win as they do not have to manage the state of the tyres of their vehicles, there is less risk of having a flat tyre and the associated financial costs, but also profitability is increased by over 30% through the retreading of tyres after 250,000km, rather than purchasing new tyres. Here also, the argument is economic. But from an environmental viewpoint, this optimisation makes it possible to extend the lifetime of tyres by 2.5 times, reduce fuel consumption and at the end of its lifetime, to recycle through the tyre manufacturer whatever can be salvaged, rather than wearing them down to the tyre body.

Another example is the Belgian company Econation⁶, designer of the *LightCatcher*, a light well incorporating a system of intelligent mirrors that diffuses light over nearly 60m² on the floorspace. By installing them for free for business clients (principally in large buildings such as shopping centres, warehouses, factories, etc.), this startup has developed a business model in which it is remunerated by the maintenance services and by sharing the consequent energy savings.

In these various examples, if the service company undertakes this approach for economic motives, it will be remunerated over the long term. It is therefore worthwhile calling into question the customer's obligation to maintain commercial relations in the long term with a single service provider. What freedom does the customer have to change supplier when this would imply for example entirely reviewing the document management system, or changing the tyres of an entire fleet of vehicles?

A study of the metabolism of the Brussels-Capital Region commissioned by Bruxelles Environnement in 2015⁷, made it possible to define the principal flows (of materials, water and energy) entering, stored in and leaving the Brussels-Capital Region. This study identified 12 flows based on their potential, their impact and benefit in adopting a circular value chain. They included the flows resulting from the events sector, where the floor coverings, stands and waste generated by communication and visitors accounted for an economic loss and significant environmental impacts. One response to this problem was provided by the MCB Atelier⁸, which designs assemblable modules, MODs, enabling the construction of wooden structures such as scenery, stands and furniture. This solution has proved particularly of interest for conferences, exhibitions, shows, pop-up stores, ephemeral installations and theatre arts. Easily adapted and dismantled, MODs are rented rather than sold. Their retrieval by MCB Atelier significantly reduces the

quantity of waste associated with this activity sector.

Numerous other examples in this sector attempt to reduce the volume of water through retrieval and reuse, but unfortunately for the majority of events organisers, the use of retrieved materials is not an option, not least because of the specific requirements of each event in terms of branding and image.

If the economy of functionality can be an effective alternative in commercial exchanges between businesses (B2B), the services aimed at private consumers only generate minimal revenue per client. Indeed, replacing the sale of an object by service provision is only profitable if each client generates sufficient revenue, and a significant number of clients is reached.

Furthermore, for the consumer there is the fundamental aspect of their relationship to the object: are we ready to no longer be the owners of our cars, our tools or even our clothes? Whilst the economic argument can be sufficient to convince the business client, for the consumer, the functional economy in certain sectors requires a significant paradigm shift.

The example of Tale Me⁹ clearly illustrates these two issues: this Brussels startup proposes the rental of maternity clothes (during pregnancy and breast-feeding) and for young children. In spite of the environmental and social interest of this business (local production

of high-quality clothing, repair by integrated businesses, optimisation of the use of clothing and extension of its lifetime), and from the consumer's viewpoint (hiring clothes that will only be required for a few months), the economic profitability of this model depends on several factors: competition from major distributors such as H&M, which sell lower quality clothes at ridiculously low prices, as well as the large volume of individual clients, along with a change in consumer behaviour, who are sometimes reticent to wear clothes that have been used by other people.

Less intimate than the shared use of clothes, shared services for bicycles, cars and electric scooters are thriving in urban centres. These alternatives require less effort on the part of the consumer to renounce exclusive ownership of the object and further offer the undeniable advantages of releasing them from responsibility for the vehicle's maintenance, and the ability to take and leave it anywhere according to one's needs. The high demand for these shared mobility services seems to indicate that they can be profitable.

But let's not be deluded by the ecological, modern image of businesses proposing these services. Clearly, shared vehicles can contribute to a reduction in the number of private cars on our roads and promote gentle mobility. But here also, it remains above all a question of money. By way of example, Vélib' in Paris is promoted by the advertising agency JC Decaux, which has made a

commitment to install and manage the Parisian system for 10 years in exchange for exclusive rights over 50% of the advertising hoardings in the French capital¹⁰, a lucrative advertising market which compensates for the less profitable management of shared bicycles. The case speaks for itself, as JC Decaux has also extended this service to 26 other cities throughout the world.

The question remains regarding the profitability of companies which adopt the functional economy aimed at private consumers. To what extent can we envisage these businesses only being financially viable with public support, particularly in sectors where the public service has responsibility, such as mobility? After all, such successful systems can be integrated with public transport to relieve congestion in our cities, reduce pollution and energy consumption, and therefore improve the quality of life for its citizens.

Ecodesign can also play a key role in encouraging businesses to produce with bio-based, renewable, recyclable or biodegradable materials. This circular sourcing offers a response to the financial insecurity posed by the rarefaction of raw materials. For business, it offers several attractive aspects: there is less risk of these resources running out, and they can furthermore be easily salvaged at the end of the product's lifetime through recycling, reuse or reselling to other sectors.

The American company Ecovative¹¹ has developed a bio-based, biodegradable product composed of mycelium and agricultural waste which, when cultivated in a mould or in a confined space, can be used for transport packaging, sound or thermal insulation and other everyday objects. In order to encourage the diversification of usages, Ecovative also proposes a service to its customers which enables them to design their own products, through its launch of GIY (*Grow It Yourself*) campaigns.

However, the market is a problem for this model also, as it is not always sufficiently mature to accommodate innovative products. Derbigum¹², a company specialising in waterproofing solutions for roofs, has developed a range of bio-based, 100% recyclable products (NT range), which are having difficulty finding their place in the market. Given that they are often aimed at buildings managed by public authorities (administrations, schools, etc.), it raises the question of the inclusion of environmental clauses in public contracts. Indeed, in spite of certain advances in this respect, public authorities only too rarely set the example by incorporating environmental criteria in their calls for tender, which could nevertheless reduce their environmental impact and encourage businesses to innovate in this sense.

Another approach in the circular economy consists of making use of components from existing products. Currently, recycling still remains complex and often

not very profitable, as our products have not been designed to be dismantled at the end of their lifetime. Given that 80% of a product's environmental impact is determined during its design, ecodesign offers a response through *design for disassembly*, which designs objects that can be easily dismantled by reducing the use of glues, welding, etc., thus making recovery or replacement of components more efficient.

In the mean time, the components of certain products are already being salvaged to be reincorporated elsewhere. The concept of upcycling often makes us think of objects whose rather artisanal, bohemian design certainly give them a unique identity, but this is not necessarily the case. Take the example of a London startup, Elvis & Kresse, which salvages decommissioned fire hoses that are difficult to recycle to make accessories¹³. These products are just as good as their leather equivalents, and are even sold in shops which often do not refer to their recycled origin. Given their success, Elvis & Kresse has extended its activity into the production of articles made from recycled coffee sacks and military parachutes.

Another example, the Walloon company RubberGreen¹⁴, reclaims production off-cuts from a neighbouring tyre factory to make anti-vibration matting which is fitted under urban tram rails. The tyre production off-cuts are thereby reclaimed rather than being sent to landfill. The construction sector is particularly concerned with recovery of materials

from existing buildings, given their quantity, diversity and financial value. There are already several initiatives exploring design for disassembly in this sector, notably a project supported by the European Union called *Buildings as Material Banks*¹⁵, which envisages the building as a materials bank in which each "invested" component has to be recovered to generate a "return on investment". Another example, the ASBL Rotor¹⁶, is a Brussels not-for-profit association aimed at social inclusion, whose activity involves recovering everything that can be reused in buildings prior to demolition.

But here again, the meticulous work required to salvage materials (such as tiles, parquet flooring or windows frames) means that until buildings are designed to be dismantled rather than demolished, this work will not really be profitable and will have to be subsidised. We shall also require more flexible legislation in terms of reclaiming and reusing waste.

With this in mind, European waste legislation has evolved significantly in this respect. In 2014, the European Commission launched an ambitious "zero waste" programme which redefines the notion of waste to make it easier to recycle, and by 2030 it will impose binding objectives for recycling: 65% of municipal waste and 75% of packaging waste has to be recycled, and no recyclable waste will be allowed to go to landfill¹⁷. This should encourage the private sector to make it easier to reclaim

and recycle this waste!

The degrowth movement can also be encouraged through the shared use of property, in a collaborative or sharing economy. Thus our vehicles, our DIY tools or our vacant bedrooms can be made profitable through more intensive use. Although ecodesign is not central to this model, it has its role to play in the design of collaborative services and platforms which offer a response to the needs of users, by proposing ergonomic solutions.

Although the notion of being collaborative may be questionable, given the commercial approach of certain businesses which are threatening the hotel (Airbnb) or transport (Uber) sectors, it is clear that the intensification of collective usage will lead to a reduction in consumption. It remains to be seen how transactions in the collaborative economy will be integrated (for example in fiscal terms), to recompense the losses of certain sectors which will be particularly affected.

The collaborative economy, like the functional economy, requires a significant behavioural change among consumers who are scarcely inclined to share their property, even if from an economic perspective, such sharing makes total sense (it should be noted that on average, a power drill is used for less than 10 minutes during its entire lifetime!). Given that one of the pillars of design is desirability by the user, to what extent can design influence consumers'

behaviour, rather than simply responding to their wishes? This is where *nudging* comes into play, a behavioural design approach aimed at altering consumers' attitudes. The application of ecodesign to behavioural design can encourage more sustainable behaviour and thereby become a major lever towards degrowth.

More often than not, our behaviour is guided by our habits, the things we do without thinking (for example taking the lift instead of the stairs, smoking one more cigarette, adding an extra lump of sugar to a cup of coffee or sounding our horn when we are stuck in a traffic jam). Awareness campaigns have their role to play, but it is not enough just to be aware of the problem in order to change one's behaviour. *Nudging* makes it possible to influence people subconsciously, at the right moment. The Danish behavioural sciences group *iNudgeyou*¹⁸ has conducted various studies in order to influence behaviour. For example in eating habits, *iNudgeyou* conducted an experiment during a conference at the Royal Library of Copenhagen¹⁹, reducing the portions of desserts on the 2nd day of the conference: the apples were quartered and the cake portions were halved. Comparing consumption per person over the two days, they found that the number of participants consuming fruit increased from 33% to 85%, and the quantity of fruit consumed per person increased from 12.7g to 20.4g, whereas the quantity of cake reduced from 93.9g to 61.2 g. Thus simply by changing the size of the portions and the convenience

of its provision, they were able to significantly influence the quality and quantity of food consumption.

A plethora of other examples demonstrate that behavioural design can be a powerful means of stimulating a deliberate growth dynamic, by inciting for instance more frugal consumption, gentler mobility or a reduction in energy consumption. These approaches can also influence such diverse fields as safer road-use behaviour and encouraging citizens to exercise their right to vote.

Another interesting model is frugal innovation, a design approach which arose in so-called "developing" countries. In these countries, where economic resources and social security are less accessible for everyone, less well-off populations have to use great inventiveness in order to meet their most pressing needs. The circular economy is also omnipresent here, as everything that can be retrieved is recycled. Furthermore, the emergence of FabLabs in these regions will probably accelerate innovation and decentralised production, focused on local needs.

*Jugaad*²⁰ innovation (a Hindu term meaning an intelligent solution borne out of adversity, or a "system D") is a form of frugal innovation involving simple, efficient solutions, in response to the needs of the poorest people. For example, *A Liter of Light*²¹ is an innovation designed by a Bengali student. He inserted retrieved plastic water bottles filled with chlorinated water into corrugated metal roofs in slums (which owing to reasons of security and proximity, do not often

have windows). The daylight is thus refracted to illuminate the interior. This installation, which costs the equivalent of 1\$, reduces energy consumption, the volume of plastic waste and offers employment to both waste salvagers and installers.

Here again, ecodesign and degrowth convergent.

In his introduction to the book *Frugal Innovation. How to do More with Less*²², the CEO of Unilever, Paul Poleman, points out that we are living in an increasingly volatile, uncertain, complex and ambiguous world. In response to this context, the book explains in detail why and how *Jugaad Innovation*, inspired by the poorest countries, has become an approach adopted by numerous global corporations (such as Renault, GSK, Unilever and others), which are seeking all possible means of accelerating their innovation and production whilst reducing their associated costs through frugal innovation. This interesting turnaround—a South-North skills transfer motivated by economic arguments—can have the collateral effect of reducing the impact of industrial activities on the planet.

In response to the urgent need for degrowth, ecodesign has brought us back to the notion of circularity, which has been omnipresent in all living systems for millennia, and which humanity seems to have overlooked particularly since the industrial revolution. If we want to avoid being obliged

to undertake degrowth owing to the disappearance of the resources we depend on, we must become aware of the limits of the planet and consequently adapt our production and consumption patterns.

Although big businesses have become aware of these risks, their motivation remains principally financial. In order to remain competitive, many of them have engaged in a transition towards the circular economy, which will also have the effect of reducing their ecological footprint. But their logic all too often remains linear: selling more to earn more. The transition to a functional economy will require a questioning of this logic, and should certainly be encouraged and supported by public authorities (for example by preferring circular products in public contracts and/or fiscal measures) in order for them to be profitable.

By operating simultaneously on the economic business models and user behaviour, ecodesign proposes viable, achievable and desirable environmental solutions, whilst responding to our needs. It remains to be seen whether these proposals will be sufficiently attractive for consumers, businesses and administrations to make a firm commitment to establishing conditions for truly determined degrowth.

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Manifest

#1

Mani- festo #1

Rikkert Paauw

The cabinet of the future has standard dimensions.
The cabinet of the future consists of standard components.
The cabinet of the future consists of home-made components.
The cabinet of the future is self contained.
The cabinet of the future is never finished.
The cabinet of the future is not yours to own.
The cabinet of the future is made your own.
The cabinet of the future is held precious.
The cabinet of the future is convertible.
The cabinet of the future is produced worldwide.
The cabinet of the future is manufactured locally.
The cabinet of the future is communally improved.
The cabinet of the future is yielding.
The cabinet of the future can be downloaded.
The cabinet of the future does not come from one firm.
The cabinet of the future isn't sold under one single brand.
The cabinet of the future stands in a barn.
The cabinet of the future stands in a flat.
The cabinet of the future stands in a student room.
The cabinet of the future stands in an office.
The cabinet of the future stands in a villa.
The cabinet of the future keeps developing.
The cabinet of the future grows along with.
The cabinet of the future is build from sheets of standard material.
The cabinet of the future is a system.
The cabinet of the future invites adjustment.

The cabinet of the future is bought as a kit.
The cabinet of the future is exclusive.
The cabinet of the future is affordable.
The cabinet of the future is a mass product.
The cabinet of the future is bespoke.
The cabinet of the future is not made from one substance.
The cabinet of the future is not made from substance.
The cabinet of the future consists of substance yet to be developed.
The cabinet of the future is made of local material.
The cabinet of the future is bought in solid wood.
The cabinet of the future is made out of reclaimed material.
The cabinet of the future is bought in a luxurious finish.
The cabinet of the future is mostly unglued.
The cabinet of the future is borrowed.
The cabinet of the future is rented.
The cabinet of the future is bought.
The cabinet of the future provides structure.
The cabinet of the future stores precious memories.
The cabinet of the future is what you make of it.
The cabinet of the future is home finished.
The cabinet of the future is made in your shed.
The cabinet of the future is made by the local cabinetmaker.
The cabinet of the future is made in a factory.
The shop of the future sells space.
The future is expandable.

Date: 11/2015
Project: What is the cabinet of the future?
Text editing and graphic design: Kommerz

Text



© Antoine Monnet, *Système A, Centrale*

Antoine Monnet

°1987, lives and works in Paris

Between an industrial creator and visual artist, Antoine Monnet is a multidisciplinary young designer who lives and works in Paris. After graduating from the Reims School of Art and Design

in 2013, he developed a critical perspective on our economy, its industry and the products it generates through a global reflection on the exponential obsolescence of our technical objects.

Système A, 2013 Technical Objects

This project originated from a critical analysis of our consumer society and the technical objects it generates. We have become increasingly dependent on these items which, paradoxically, we control less and less. These objects are deliberately closed, that is to say technically inaccessible, non-repairable and do not support any technological or aesthetic evolution. The obsolescence of these objects is fundamentally the same in our industry and our economy. *Système A* is a global reflection on the evolutive technical object, as illustrated by manifesto projects whose vocation is to be prototypes rather than truly industrial products, like a charter of good design.

Système A, 2013 Electric Oven, 2013

The electric oven is designed around a technical unit and a control panel (the blue elements), which are totally dissociable from the object's body to enable the systems to be repaired and evolve. Thus all the technical elements (thermostat, heating element, ventilator and lightbulb) are combined and assembled on a single sheet of steel.

Through this assembly layout, the elements are very easy to access and as the components are non-standard, it is possible to re-manufacture this single sheet of metal to replace or modernise the components.

Système A, 2013 The Motorised Work Station, 2013

The motorised power unit includes a kitchen work surface, a power socket supplied by an industrial, three-phase, asynchronous motor (the only standardised motors) and a varied range of kitchen appliances. This configuration takes up less space, operates at higher power and offers greater quality and longevity. But above all it enables the mechanical elements (machines) to evolve independently from the electrical and electronic devices. It is also possible to use other energy sources, such as the pneumatic (compressed air) motor or manual operation.

Système A, 2013 Mixer & Kettle, 2010

In the design of this mixer and kettle, the electrical and technical elements are dissociated from the object's body. Here the technical system, the heating element, the boiling sensor and the motorisation are isolated from the contents and integrated in the removable upper part. This technical section can be adapted in diameter to a standardised Pyrex container. These containers initially designed for the chemical industry come in a range of materials such as brushed or polished stainless steel. The handles can also be adapted to the standardised diameters of these containers. Opening up the object in this way offers great potential for both technical and aesthetic evolution.



Biceps cultivatus © Photo Serge Anton

Audrey Bigot

°1990, lives and works in Nantes

Audrey Bigot is a freelance designer. She focuses on collaborative projects which have a positive social and environmental impact, in order to encourage transition and engage with sustainable alternatives to transform the world locally: urban agriculture, zero waste, citizen participation, etc. She has notably developed

research into alternatives in relation to food: non-refrigerated storage, energy-efficient cooking, cultivation, etc. The objects, spaces, events and images she designs are guided by a concern for simplicity, an economy of means and an equitable use of materials.

Cooler Cover and Carafe, 2016 Earthenware

The *Cooler series* explores the moisture transfer capacities which make earthenware a key material in conservation without electricity. All of these objects are produced using a cord moulding technique which enables the production of hand-made or mass-produced circular items without a plaster mould. A cord is wrapped around a wooden form, the clay is stuck to the coil then smoothed with a shaper. The piece is released by dismantling the wooden structure and removing the cord, which leaves its imprint. This imprint is particularly useful as it enlarges the surface in contact with the exterior, thus increasing the evaporation and therefore the cooling capacity.

Cooler Tub, 2016 Earthenware

The *Cooler Tub* enables fruit and vegetables to be stored as if they were in a cellar. In a cool, dark, stable environment, winter vegetables (from cabbages to marrows and endives to turnips) can be stored for several weeks. This indoor cellar is also suitable for apples and pears. Two earthenware tubs, one fitted into the other, are separated by moist sand. As the moisture evaporates, it has a cooling effect. The higher the exterior temperature, the greater the evaporation, the greater the cooling effect. The system functions with no energy input, by enabling a natural evaporation reaction. The tubs are made using a cord moulding technique, with no plaster mould.

Audrey Bigot, Valentin Martineau, Antoine Pateau and Yoann Vandendriessche, *Biceps cultivatus*, 2015 Various materials

Biceps Cultivatus is an alternative kitchen developed during a 5-week residency at POC21, an open-source project innovation camp for sustainable development. The cultivation module enables plants to grow by recycling organic kitchen waste. Transformed into a lombricomposter, the waste is turned into traditional compost, and a liquid fertiliser to water the hydroponic system.

The storage module enables foodstuffs, more specifically fruit and vegetables, to be conserved according to their different characteristics and specific environmental needs: cool, with moisture, protected from insects or stored in sand.

The preparation module helps to mix, chop and combine or whisk foods together. It is a mechanical mixer operated solely by the energy of the cook. The efficient mechanism requires minimal effort. The entire kitchen is manufactured from items available in DIY stores, and is assembled using a simple, portable toolkit, so that it can be reproduced by anyone. Documentation is available through open source



Douglas, vase © CIAV. Photo : Fillieux & Fillieux

François Azambourg

°1963

François Azambourg explores the expressive potential of processes for shaping materials and manufacturing, be they industrial or handmade, innovative or traditional. François Azambourg's work is driven by research, the alliance of art and techniques, and a constant concern for an economy of means. François Azambourg is represented by Galerie kreO and works with Cappellini, Ligne Roset, Hermès and Petit h, Louis Vuitton, Poltrona Frau, Moustache, Toulemonde Bochart, Chevalier Édition, the CIAV (international glass art centre, Meisenthal) and the Atelier d'exercices, etc.

Douglas, 2007

Blown glass vase

and Douglas pine mould
Collection CIAV (centre international
d'art verrier) Meisenthal

In dialogue with the master glassblowers at the CIAV, François Azambourg invented a wooden mould to blow this vase whose sides reflect the grain. Bought in a sawmill some 15km from the centre, this resinous wood grows in the forests around Meisenthal. A saw, screws, two hinges, molten glass and the glassblower's breath: the Douglas vase emerged from practices that push back the limits of ancestral techniques.

The CIAV is a public structure whose economic model is on the borderline between public service and economic development. All of the income and eventual profits are ploughed back into the structure, to preserve, develop and transmit traditional know-how.

Cléa Di Fabio

°1994, lives and works in Saint-Étienne.

A design graduate from the Angers School of Fine Arts in 2016, she is currently a research student in the Design and Research Cycle at ESADSE (Saint-Etienne School of Art and Design). Her work focuses on amateur culture and its power to shape the environment with which it co-exists. Since March 2017,

she has been working with the collective Le Grand Écart, which questions contemporary issues surrounding citizen empowerment, and implements a range of strategies in order to reinvent meetings and bodies for political representation.

(no) more value

Copper, zinc, nickel, tin, aluminium

(no) more value is a series of euro coins whose value has been effaced. These coins lose their status as exchangeable money to become collectors' items that are preciously conserved. The pieces obtained through this procedure paradoxically acquire greater value as the marking attesting to it disappears. They thus demonstrate the absurd nature of our relationship to money and the abstraction represented by finance.





ECAL

(Ecole cantonale de Lausanne) /
Damien Ludi (°1991),
Colin Peillex (°1991)

Enjoying international renown and featuring regularly among the world's top ten universities of art and design (ranked number 5 in the latest Dezeen Hot List), ECAL is directed by Alexis Georgacopoulos. The school currently offers six Bachelor programmes (Fine Arts, Cinema, Graphic Design, Industrial Design, Media & Interaction Design, Photography), five Master programmes (Fine Arts, Film, Photography, Product Design, Type Design) and two Master of Advanced Studies (MAS) in Design for Luxury & Craftsmanship and in Design Research for Digital Innovation (with EPFL+ECAL Lab). ECAL also offers a one-year Foundation Course to prepare students for entrance to the different Bachelor's programmes.

Rocking-Knit
Low Tech Factory
Various materials

This project forms part of the "Low-Tech Factory" project at ECAL, the Lausanne Cantonal Art College. Under the supervision of the designers Chris Kabel and Tomás Král, students from the bachelor's degree in Industrial Design and Master's in Product Design designed six amusing machines that produce mirrors, bonnets, bags, toys, lamps and even pop-corn. Addressing the theme of DIY so dear to designers, "Rocking-Knit" is a new interpretation of the rocking-chair. By the to-and-fro impulse created by the chair, the user operates a mechanism that knits a bonnet, with no recourse to any other energy source.



Studio GGSV

Gaëlle Gabillet and Stéphane Villard, 2011-, based in Paris

The Studio GGSV was founded in 2011 by Gaëlle Gabillet and Stéphane Villard. Their association produces an atypical approach ranging from curatorship to research, together with objects, installations and interior design. Alongside this, Stéphane Villard directs the INFORME project workshops at the school for industrial creation ENSCI-Les Ateliers, in Paris. Gaëlle Gabillet and Stéphane Villard are

promoted by Galerie Catberro and Petite Friture and their work is exhibited regularly. They created the interior design for the theatre La Commune, the national drama centre in Aubervilliers. They won the Paris Shop & Design award in 2014 and in 2016 were given the contract to refurbish the City of Paris Museum of Modern Art, together with the architects H2O. They also curate exhibitions.

Objet Trou Noir, 2011, VIA

Studio GGSV was awarded the Carte Blanche VIA 2011 prize for this research project on how to use the black material resulting from final waste and the reinterpretation of a domestic appliance, reviving tableware and decorative arts around the notion of decluttering and reducing the production of objects

Objet Trou Noir

Final material, 2011, VIA
Cofalit, copper

The black hole of our society is probably the rubbish tip. Incineration of our household waste produces extremely toxic residues filled with heavy metals and dioxine. The vitrification of REFIOM (Residues from the purification of household waste incineration fumes) makes it possible to render them inert and produces a black stone with fascinating properties. This matter is also obtained from asbestos construction waste. Some 30kg of black material will have to be absorbed every year by a household in France. Studio GGSV proposes to work with this material in order to re-inject this waste into the home in the form of three semi-finished products for construction and furnishings: bricks and roof tiles, refractory tiles to build a wood-burning stove or floor tiles. Stove - Tiles - Radiator

Objet Trou Noir

Household tableware, 2013, VIA
Glass, Cupronickel, steel, induction

A theatre of hyper-specialisation resulting in excessive consumption, small domestic appliances are saturating living spaces with dedicated objects: yoghurt makers, raclette grills, pierrades, pancake makers, steamers, plate-warmers, toasters, etc., which are rarely used. To help reduce the number of these unused appliances, Studio GGSV has invented a system based on a single unit containing an induction coil that can heat a variety of specific elements, irrespective of their ferrous content, and which can be used as a heating element. This tableware is also suitable for other cooking methods (gas, open fire, etc.) It is therefore adaptable to whatever energy sources are available. By combining a series of basic elements, this tableware cuts down on a number of superfluous objects. Lamp/stand - Jug - Glass - Plate - Bowl - Tray

Objet Trou Noir

Hoover, 2011, VIA
Wood, steel, leather

The Hoover is a small black hole in the domestic space. It is emblematic of a specialised appliance which serves only for its primary purpose and is representative of technical objects which are more often stored than used. If we reconsider the Hoover as a series of accessories, we can break them down into a bucket, a broom, a stand and a turbine. Thus each of the constituent parts can be used autonomously, but also serve to create new objects, appliances and furniture. Lamp/stand - Bucket - Broom

L'Increvable SAS

Julien Phedyaeff and Christopher Santerre,
2015-

Julien Phedyaeff cultivates a passion for working with materials and an attachment for prototyping. Christopher Santerre is interested by the fringes of industrial production. Having both graduated from ENSCI-Les Ateliers in 2014, they shared a reflection which led them to reconsider the icons of modernity for their final-year projects: Christopher devised a more sobre refrigerator incorporating conservation solutions that do not require electricity; Julien designed a repairable, upgradeable washing machine based on modular architecture. They joined forces in 2015 to create L'Increvable SAS, a domestic appliance company that aims to hand back power to the user. The company designs, develops and sells its sustainable, repairable, upgradeable products.

L'Increvable, 2015 Washing Machine

Envisaged in response to the regressive step of planned obsolescence, The Inexhaustible is the first washing machine designed from the outset to be easily repairable and upgradeable over time. By proposing domestic appliances that can easily designed to be sustainable, repairable and upgradeable, the company L'Increvable aims to limit the production of waste whilst encouraging the creation of local jobs in the repair sector





© Photo Serge Anton

Mathilde Pellé

° 1987, lives and works in the countryside around Tours

After graduating in 2012 from ENSAD, the national school for decorative arts, Mathilde Pellé set up her freelance design activity in 2013. Developing projects (objects, places, experiences, etc.) is her way of expressing her intuitions about materials, whilst questioning forms and their capacity to provide solutions. She strives to do this meaningfully, respecting an initial idea that might be visual, functional or theoretical. After taking part in a research group at ENSADlab (SAIL - Science & Art of Interactions between Light, materials and colour) focusing on understanding perceptive phenomena that connect humans to their environment, she embarked on a research project into subtraction. Through this, she sought to define a specific language and methods required to undertake subtraction—which she applies to materials, functions and requirements.

Subtraction

Why is there something, rather than less?

Subtraction is a design research project that addresses subtractive practices applied to materials, functions and needs. From the materialisation of an object to an individual's way of life, it aims to experiment with subtraction (or laying bare) to reveal the potential of less and to recognise that subtraction, like addition, makes it possible to design and develop responses.

This work is not proposing a return to the past, but strives to question daily life which is unremittingly saturated with objects and materials and leads to exhaustion. As we shall certainly have to make do with less in the near future, let's ask ourselves how we can subtract.

In the creation of forms, a subtractive approach drives an economical use of materials; beyond this, can it profoundly modify the nature of the objects which surround us? Faced with the proliferation of functions fulfilled by objects and the saturation of our environments, how can we promote subtractive methods and models?

Subtraction produces emptiness. Is it a gap to be filled—and if so by what? Or is it a space to be preserved—and why?

Subtraction, allegories, 2017

Wooden tools for reflection, the volumes suggest various responses to the emptiness produced by subtraction.

Subtraction, reasons, 2018

Scenarios illustrating the effects and potential of subtraction.

Subtract to cause,
Subtract to form,
Subtract to reveal,
Subtract to balance,
Subtract to...

Subtraction, from material to needs, 2018

"I took the word subtraction as a subject, because at one point it seemed to me that my profession as a designer was driving me to add, when the reality confronting me was calling for removal. Since then, I have been observing the word and its meanings in order to identify emerging fields of action. I design subtractions to share and discuss my reflections.

I set up experiments to confront my habits and intuitions regarding everyday objects and physical environments. I design new types of objects in order to

introduce and promote products resulting from subtractive development."

Soustraire, Subtraction, the proof by 1/3, 2017

"7th April 2017 - Yesterday someone took my wooden spoon... it is slightly twisted, slightly split and irregular. After being shaped, the material had warped and deformed the object but without actually removing its function. Thanks to this tool: stirring, mixing food when it is cooking without scratching the pan, tasting a sample during cooking and removing the food from the pan to the plate. I am going to wear it down, making it erode, until I find its skeleton with 1/3 of the material. It will necessarily be more fragile, but should still be able to fulfil the same role. I will treat it more carefully so as not to break it."

Subtraction, a shortage, 2018

The designer Mathilde Pellé lives here comfortably, but a shortage of material is placing the society in which she lives in peril. Every day, she has to supply the state with 9 kilos of various materials taken from her home. She began her task of removing material from her domestic environment in response to this obligation. She removed ornaments, scraped away superfluity and filed down to the essential, whilst striving to preserve the objects surrounding her and maintain their functions. This new experimental project is a contemporary fable that designs a near future in which the currently acceptable notions of comfort and consumption have been completely shaken up by a reduction in material resources.



FOSSILE, 2017

Eco-Mobilier

Wood, recycled plastic, recycled mattress

Designed for Eco-Mobilier, the *FOSSILE* sofa is made solely from recycled or locally salvaged materials. This sofa is an unmitigated manifesto of what can be achieved in terms of furnishing based on salvaged or recycled materials. The wood is from old furniture salvaged and reworked by the Foyer Notre-Dame des Sans-Abri in Lyon. The foam in the cushions comes from discarded mattresses, recycled by Secondly in Flaviac in Ardèche and the threads of the textile covers are woven in Vosges by Garnier Thiebaut using fibres made from recycled plastic bottles and offcuts of wool. The finishing stitching and adjustment of the cushions was undertaken by Ligne Roset in Briord in Ain, France.

© Photo Serge Anton

Amaury Poudray

°1985, lives and works in Lyon

Amaury Poudray is a creative European entrepreneur who thrives on travel and discoveries. He created "Networks", a company based in Lyon specialising in design and strategy for businesses. He discusses design, models and develops various projects focusing on formal, discernible, technical innovation for

furniture designers and manufacturers, visionary small businesses, major groups, art galleries and schools. The studio's philosophy is globally oriented towards a spirit of collective evolutions.



© Photo Serge Anton

Laurent Tixador

°1965, lives and works around Nantes

Economic survival constraints, nostalgia and instinct gave rise to a practice similar to remembering journeys. In his far-reaching performances, Laurent Tixador brings things back for us that are the very material of his daily existence. They might be experiments he has conducted or objects he has made out of necessity. All of these actions result from a loss of bearings and are therefore never repeatable, so that they continue to be destabilising. Each time, he has to make his daily life evolve from scratch, in a new situation where everything is so different that he has to be constantly attentive to the way things are organised to gradually reestablish a kind of comfort. Habits change and with it ergonomics and finally also behaviour. By maintaining human experience as his central concern, Tixador makes fun of the notions of exoticism and exploits,

originality and radicality, which have long prevailed in western art. He embodies what Lewis Carroll called a "non-adventurer". His undefinable work consists of utilitarian objects, deprived of a status of a work of art, suggesting an alternative in the field of daily life and recasting the viewer as an experimenter, whilst telling him about his various activities and ecological issues.

Multiprise, 2017

This adapter was manufactured using only polluting materials gleaned from the beaches of the island of Ouessant: bullets found on a former 20th century shooting ground, copper wire insulated with red and blue plastic bottle tops for the live and neutral, yellow and green ones for the earth wire. The mechanical assemblies are achieved with rivets

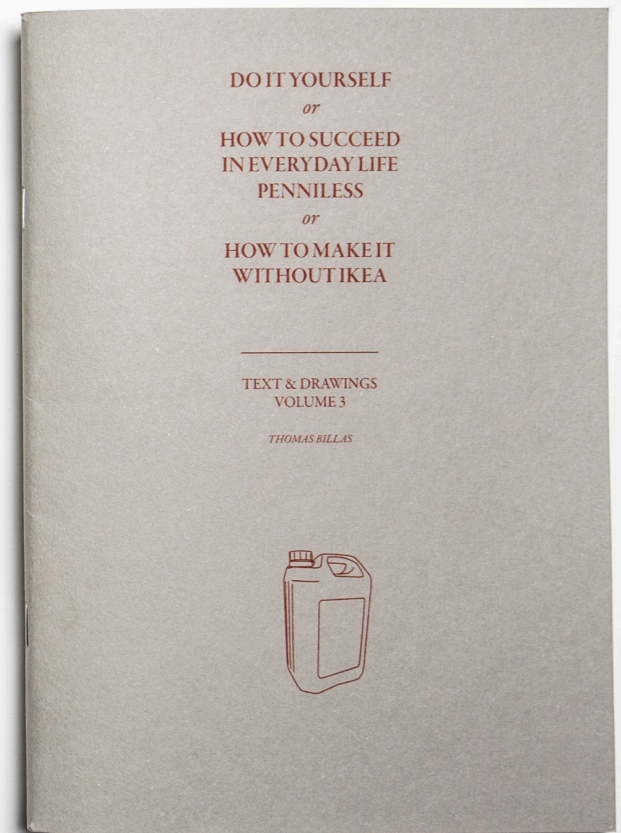
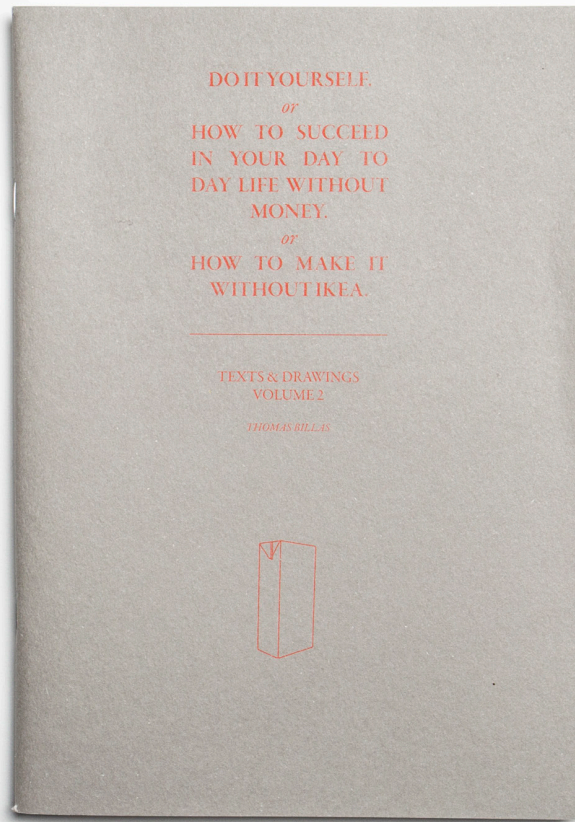
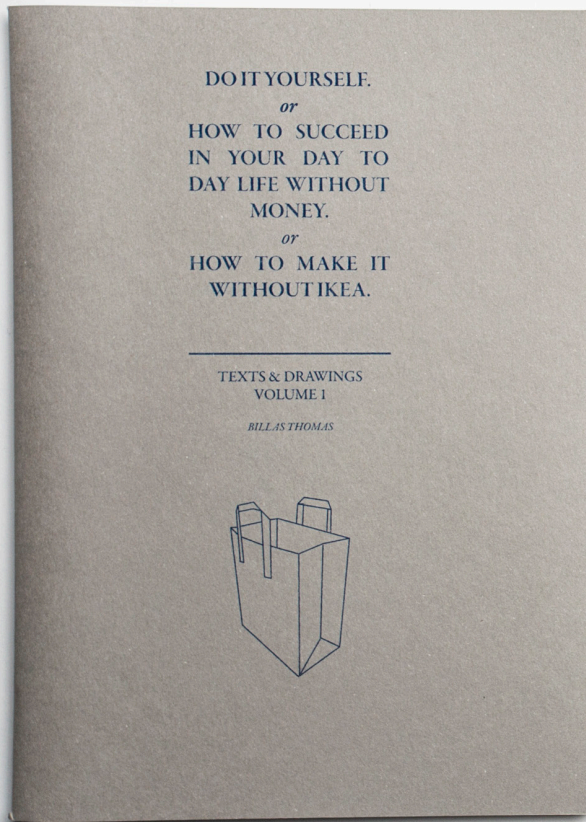
made from longline wire and the parts are glued together with tar scraped from the rocks. This adapter demonstrates that we are all capable of producing an object we need without having to buy it and at the same time, we can act as responsible citizens by cleaning up waste from globalisation. This stance which consists of obtaining goods by making them oneself is an interesting way of thwarting a consumerist attitude, as we can repair, find ingenious solutions and recycle objects that we chance upon. It is a flexible, simple way of transforming constraints into opportunities.

Pizzeria, 2018

Miscellaneous materials and ingredients

Temporary architecture has reproduced the form of an Italian restaurant. It was built in the middle of a lawn from salvaged materials that were only cut or drilled if it was absolutely necessary, so that they could potentially be recycled again. Its design does away with

any superfluous element as it is equipped with minimal kitchen equipment. The food preparation chains have also been shortened. Thus the spaghetti are plunged directly into boiling water after having been formed, with no intermediary handling. The pizzas are prepared with wild vegetables growing nearby and cooked in a wood oven built on site. The tables are dug in the ground. Built and organised in a participative manner with a team of locally-recruited volunteers, this restaurant seeks to find its place in a hostile area where nothing existed to facilitate its establishment. There is neither a water nor electricity supply and it is entirely at the mercy of the elements. This explains why, when building the restaurant, the choice was made to act responsibly and be minimally ethical, taking account of the current situation in which wastefulness is commonplace. In short, it is an act of piracy which asserts its entitlement to make the most of a frugal economy.



Thomas Billas

°1987, lives and works in Lille, Brussels and Beirut

After a chaotic academic experience, gleaning a few qualifications along the way, Thomas Billas specialised in large-scale, long-term architectural projects. He works as an integrated industrial designer in several countries, including France, Belgium, England, Hong Kong and Lebanon. But he also works freelance for various companies, such as Vivaqua,

Kewlox and the Brasserie de la Senne brewery. In his work he places importance on the physical design of his products, constantly questioning the healthiest way to produce them and orienting his work towards the "reversible" aspect of manufacturing.

How to make it without Ikea, 2010

Do it yourself or how to succeed in everyday life without money or how to make it without ikea is a rather long name for this project in progress since 2010. Why does our society doggedly continue to produce, sell and consume objects whose usefulness is highly questionable? What has Ikea got to do with it? According to Thomas Billas, Ikea is a major player in our domestic over-consumption. The series is a semi-serious, encyclopaedic DIY project. Each volume proposes a selection of 62 DIY projects

whose result resembles an object from the famous blue and yellow brand's catalogue. Everything is achieved simply, demonstrating the point to which a little imagination can provide us with whatever we need. Make a candlestick from a bottle, a clock with a stick or even a catapult from a balloon. Ranging from obvious solutions to certain somewhat extravagant options, the book is above all a fount of imaginativeness, glorifying ingenuity and condemning compulsive buying.

Credits and thanks



EVOLUTIONARY CATALOG
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