

# **A CONNECTED WORLD**

**DESIGNING NEW METHODS, TOOLS AND SOLUTIONS  
TO LINK PEOPLE TOGETHER AND SAVE THE PLANET**

EDITED BY

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Designing new methods, tools and solutions to link people together and save the planet.

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# A CONNECTED WORLD

## DESIGNING NEW METHODS, TOOLS AND SOLUTIONS TO LINK PEOPLE TOGETHER AND SAVE THE PLANET

This volume is the outcome of a discussion triggered by the 2022 World Information Architecture Day, the one-day a year event to encourage world-wide conversations about information architecture.

The 2022 topic was "A Connected World": *We connect with each other in digital, physical, and blended spaces. We connect with people, products, services, content, and the world in general. This connectedness can be wondrous and yet challenging.*

*Information architecture uncovers and creates new connections that we weren't aware of before. It can inspire us to make new discoveries*

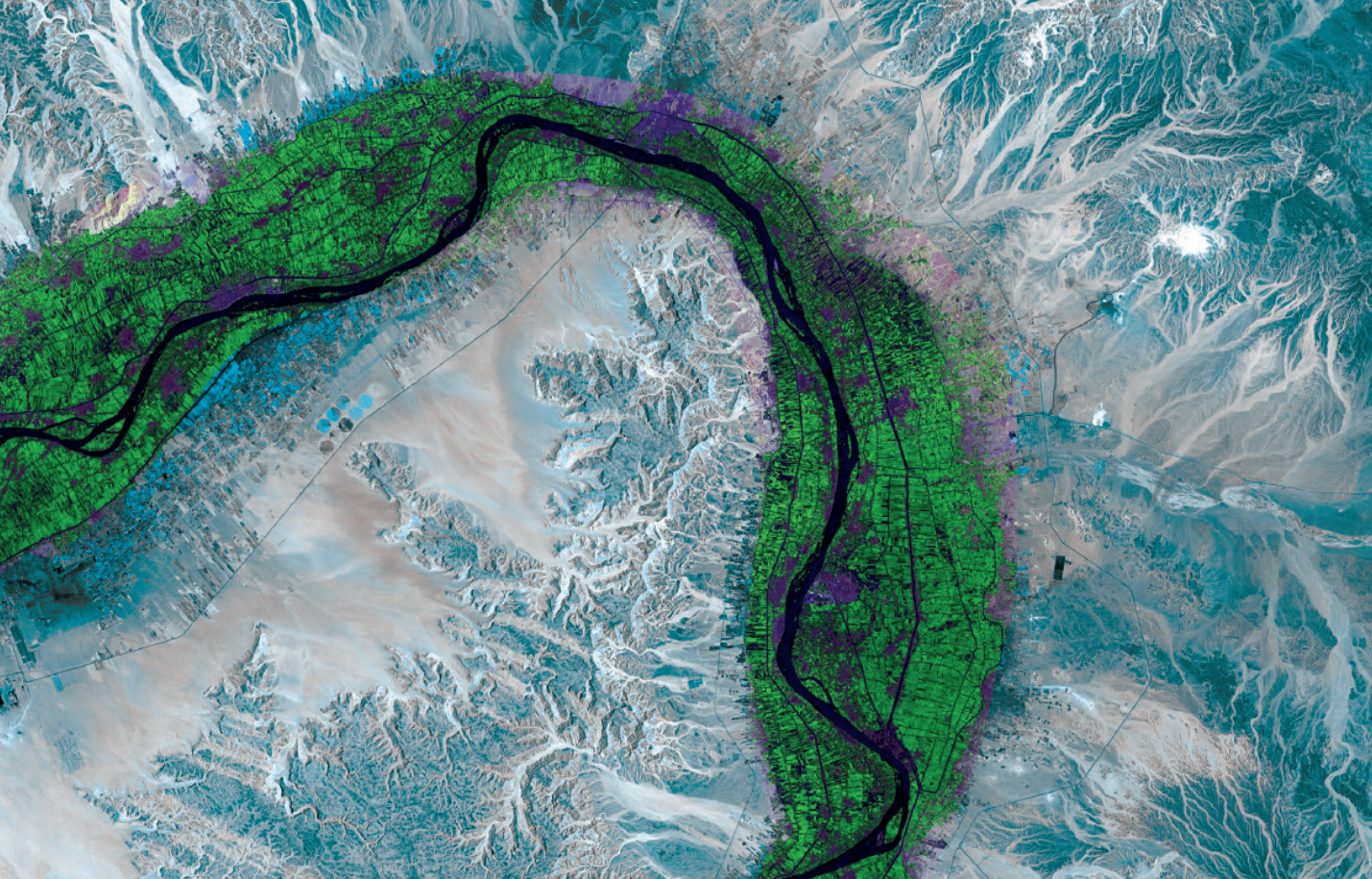
*or reveal new relationships that may urge us to take constructive action, e.g. climate change, the global health crisis, or the supply chain disruption we have experienced during the pandemic. Information architecture contributes to making connections more relevant. It helps us understand which information is important and trustworthy. It provides guidance in a mess of information and helps fight against the disinformation of fake news. It allows us to steer better who and what we are connecting with. It creates places we enjoy being in where people and information meet.*

*In a world where we're connected yet distanced,*

*how do you facilitate connectedness? How do you help make sense of connections? What new connections have you made recently? How did you support others to discover new connections? In what ways do you think information and information architecture can be used to support, define, or create environments (digital, physical, virtual, or blended) to improve the lives and experiences of people in a connected world?*

The hybrid event organized on March 4th 2022 in Palermo by the University of Palermo, PUSH design lab and Arca, had the support of an international scientific





committee (Marika Aakesson, Cristian Campagnaro, Salvatore Di Dio, Nicola Morelli, Chiara Lorenza Remondino, Dario Russo, Paolo Tamborin) which selected blindly abstracts of scholars and professionals willing to contribute to the discussion.

Through the open call the scientific committee have selected abstracts from Luigi Farrauto, Danilo Costa, Roberto Anelli, Federica Ditta, Cristina Marino, Leonardo Moiso, Eleonora Fiore, Enrica Amplo, Andrea Arboleda, Antonio De Pasquale, Irene Fiesoli, Claudia Mastrantoni, Florian Myter, Caterina Bonora, Isabella Patti, Valeria Valeriano and Caterina Bonora.

The following conversation triggered by the event was therefore the starting point of a deeper discussion in the next month, and, thanks to the interest of Palermo University Press, curators of this volume invited all contributors to condense all further reflections in a fix peer-reviewed paper (David Kaplan, 2005 "How to Fix Peer Review", *The Scientist*, 19).

All contributions discussed in this essay focus on the potential of design and innovation to address important challenges facing humanity and the importance of inclusive design and sustainability in the digital age. The common characteristics

of the texts are that they all discuss design in relation to technology and innovation. They explore how design principles can be applied to various fields, such as education, public services, and sustainability, to create new solutions and opportunities. Authors also discuss the potential of using technology, such as data analysis and digital platforms, to improve design processes and outcomes. Additionally, the papers highlight the importance of inclusive and holistic approaches to design, and the need for collaboration and dialogue between different stakeholders in the design process.

# THE DESIGN THAT CONNECTS. TELLING TO EDUCATE

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## ABSTRACT

Our socio-economic system – powered by fossil energy, non-renewable and polluting, and based on the exponential growth of consumption, with consequent exponential growth of waste (planned obsolescence) – is now collapsing. So what can design do to improve the society in which we live? The thesis of this discussion is that design can do a lot. Of course, we do not refer here to the projecting of niche products, technologically advanced, hedonistic and for the lucky few. If we want to change things, the designers of the future will have to direct industrial production towards sustainable solutions: reducing, repairing, reusing, recycling. These ethical actions should not be entrusted to individual common sense but should be seen as prerequisites for (sustainable) design. In addition, designers will increasingly have to consider the use of renewable and clean forms of energy (such as Sun and wind). Above all, they should be concerned with sustainable processes, from project to consumption. Only in this way, retracing the history of the product (from the extraction of raw materials to what will be at the end of its life cycle), will it be possible to attribute its true value to it. Designers, then, should have as their first objective social innovation: to really improve people's lives. But this cannot be possible if the sustainable products of the future do not take on meaning within new sustainable scenarios that must be wisely projected. And this is the critical point: the battle for sustainability can only be won by communicating sustainable scenarios, behaviors, relationships, services, products... within which people can recognize themselves by feeling a sense of gratification.

**SUSTAINABILITY, INNOVATION, SYSTEM, ENERGY, COMMUNICATION**

*This paper was reviewed by **Paolo Tamborrini**, Full Professor in Industrial Design at the University of Padova and **Antonio Labalestra**, Researcher in History of Architecture at the Politecnico di Bari.*



# 1. INTRODUCTION

Design, it is always said, is aimed at improving the world, daily life, to change the current situation into a preferable (projected) one. So, according to the inclusive definition of Herbert Simon (Nobel Prize for Economics), designer is anyone who generates innovation in any field<sup>1</sup>. And certainly we can only agree with Enzo Mari when he says that design has "meaning if it transmits knowledge"<sup>2</sup> (but we will return to this in the conclusions). Above all, we like to emphasize that design, the one with the capital "D", is historically affirmed by placing emphasis on the ethical approach and social responsibility of the designer. Already in the nineteenth century William Morris, an English artist-designer who always appears at the beginning of the stories of design, shines a spotlight on the disastrous effects of industrial production on both the social and environmental level, yearning, not without utopia, the construction of a better world – *News from Nowhere* (1890) – in which man would finally be free to express his innate creativity<sup>3</sup>. The problem, in the nineteenth century, is not so much the machine itself as the entire industrial system that reduces man to mechanical gear. And then the Bauhaus – aimed at making "art and technique a new unity"<sup>4</sup> – struggles

strenuously, in its 14 years (1919-1933), to spread beauty socially or, one might say, democratize art through industrial processes. In the same way, the School of Ulm – which critically relaunches the Bauhaus twenty years later (1953-1968) – pursues a clear objective: "The designer, while working for industry, must continue to fulfil his responsibilities towards society. In no occasion the engagement taken with the industry must be in conflict with the engagement taken with the society"<sup>5</sup>. Subsequently, Italian design – consecrated internationally on the occasion of the legendary exhibition "Italy. The New Domestic Landscape" at the MoMA in New York in 1972<sup>6</sup> – becomes an international reference point thanks to the work of designers and entrepreneurs with the ambition of rebuilding the country materially and culturally. Fortunately, today we still appreciate smart and environmentally friendly projects such as *Moscardino*, a fork spoon made of biodegradable plastic (Mater-bi) (Giulio Iacchetti and Matteo Ragni, Pandora Design 2000) or *Solar Bottle*, which purifies water using the energy of the sun (Solar Water Disinfection) (Alberto Meda, 2006). But that's not enough. These are niche projects, which sometimes do not exceed the prototype stage, such as the *Solar Bottle*, in fact. So, let's ask ourselves: is design, today, up to its history?

The ongoing Russia-Ukraine war, which exposes us to the risk of nuclear conflict and – best case scenario (!) – to consequences ranging from the murder of thousands of civilians to dramatic economic repercussions, to a global food crisis that will bring Africa to its knees... climate change, the overheating of the planet, the dissolution of the poles, the shortage of resources, the financial crises that destabilize governments, the social iniquities that are raging, indeed increasing dramatically... are unequivocal indications of how the world has become a restless and dangerous place. Our planet, our home, the environment that includes us and of which we are part (even if we sometimes forget it) shows more and more evident signs of structural failure. How far do we want to go? It does not take a futurist like Bruce Sterling to understand that "the ways of production currently used are no longer sustainable [...]. The status quo uses archaic, limited and toxic forms of energy and matter, damaging the climate, poisoning the population and fomenting resource wars. They have no future"<sup>7</sup>.

Now, the blame for this state of affairs should not be attributed primarily to design, because the complexity of the problem would require political solutions in the sense that Plato gives to politics, that is, the supreme art form, to which

all the other *téchnai*, all the other arts must conform<sup>8</sup>. Yet, already in the 1960s, Viktor Papanek attributed to the design serious faults towards society and consequently the environment: "Of all the professions, one of the most damaging is industrial design. Perhaps, no profession is more false. [...] With the project of criminally treacherous cars, which kill or cripple almost a million people a year around the world, with the creation of entire categories of indestructible waste that disfigure the landscape and with the choice of materials and processing processes that pollute the air we breathe, designers have become a dangerous weapon"<sup>9</sup>. Papanek's criticism, in essence, was that designers only projected for 10% of humanity, the so-called Happy Few who could afford it, and also in relation to this small percentage, they dedicated themselves to luxury items such as "electronic hair brushes, office files lined with rock crystal and bath mats in mink".<sup>10</sup> The designers, in short, according to Papanek, did not work with the intention of improving society; certainly: they did not design for the "real world" (*Design for the Real World* titles precisely Papanek's essay), or for 90% of the world population.

Is it possible today to conceive an elitist idea of design aimed at the aesthetic gratification

of the lucky few (which, moreover, no longer coincide with the "Golden Billion" of the West)? Does the design have to be solved in the design of luxury items for a few or of sustainable objects for many? Our idea is that design takes the second path, as it is already doing, if we really want to improve society while respecting the environment. But it is not just a matter of projecting sustainable objects but rather of foreshadowing sustainable scenarios and ultimately generating social innovation. That is why, as Ezio Manzini argues, today design must become "politics of everyday life", aiming at an impact on society that far exceeds the configuration of furniture and lamps, as we will see at the end of this discussion<sup>11</sup>. What we are facing, indeed in which we are already immersed, whether we like it or not, is a poly-systemic crisis that undermines the world as we know it. *The storm has come*, as the title of a very disturbing book says<sup>12</sup>. We designers, teachers, educators... we designers in the broadest sense should therefore try to turn this situation into something sustainable (*à la Simon*), mastering all our creativity.

## 2. SUSTAINABLE DESIGN

The statement sustainable design is tautological, because

all design is – or should be – sustainable. But let's take it by steps.

At the beginning of the Third Millennium, when the contradictions of our socio-economic system were now evident to anyone who had eyes, the movement of Decrease took hold. The basic idea was simple and immediately centered in the name: it was necessary to reduce global industrial production, contract consumption, decrease materially, and grow, consequently, spiritually. The movement, in fact, had an optimistic momentum, because it was believed that this would be concretely feasible through an organic series of actions within a "serene"<sup>13</sup> and even "happy" program<sup>14</sup>. It did not question our lifestyle *in its entirety*; above all, it challenged the principle of growth for growth, with an almost irrefutable argument: in a finite system of resources (Earth), infinite growth is impossible. This was reiterated in all the sauces, not without sarcasm: "Whoever believes that exponential growth can continue indefinitely in a finite world is a madman or an economist"<sup>15</sup>. Moreover, it was already clear in the 1970s that the *limits of development* had been greatly exceeded<sup>16</sup>. So much so that in the field of design an important concept began to assert itself, which today assumes a relevant position

and stimulates the formative tension of the most important educational and cultural institutions: environmental sustainability. Since then, in fact, the attention of many designers and of design scholars relevant to the world scene, has shifted to the environmental issue and how to design in an ecological key. This becomes almost an obsession and certainly also a "fashion" when simplistic or ecological solutions are put in place only superficially, when the designer does not take on the complexity that each project implies by focusing everything on a superficial image of sustainability. A new term even emerges, a strange phrase that would come to circumscribe the sustainable project: eco-design, literally "ecological design". But it really makes sense to talk about ecological design when the design – the real one – is by its very nature ecological (and not just ecological). Distinguishing ecological design from tout court design would then be like distinguishing functional design or ethical, social, poetic design etc.; which would mean cutting through the complexity that the design itself includes, as if the design could also be non-ecological, non-functional, non-ethical etc.<sup>17</sup>. That said, today, since designers have introduced the importance – and urgency – of the environmental issue, it is no longer possible to conceive of a design that is not, among

other things, sustainable.

Well, what are the characteristics of sustainable design in particular; or rather: considering that design should be sustainable, how can it be well framed within the environmental issue? What is the current situation in which design comes to be part of? Let's make a premise. If, as stated in the report of the International Commission on Environment and Development (WCED) on *Our Common Future* (1987), sustainable development is based on the idea that 'the present use of resources must be such as not to jeopardize the future use by the new generations'<sup>18</sup>, there is no doubt that, today, we are a long way from having focused on our objectives or those that should be. On the contrary: let us say that, by continuing to manage resources, the production of energy and industrially manufactured goods as we have done over the last two centuries, it will in no way be possible to achieve a sustainable society (which also means a fairer and more just society). If this is the case, design, as a "total social phenomenon [with] the task of mediating dialectically between needs and objects, between production and consumption"<sup>19</sup>, is called to play its significant part through the configuration of more sustainable techno-productive processes (clean energy, recycling, km 0 etc.) such

as reducing the ecological footprint and therefore the emission of CO<sub>2</sub> on the environment, as well as the prefiguration of scenarios where sustainable behaviors assume meaning.

So, what are the concrete actions to be put in place for sustainability? Essentially four: reduce, repair, reuse, recycle will increasingly be the verbs of the future or, better, of a "different present", to use the words of Maurizio Carta, or the present "that we project thinking about the future"<sup>20</sup>. Projecting in a sustainable way means thinking about the future: for example, simplifying the process of assembling and disassembling products (for the future recovery of materials), possibly folding and compactable (so that we will occupy less space during transport) and even better if flexible, customizable and multifunctional (so that they will last longer), etc. Above all, projecting thinking about the future means thinking about renewable (for obvious reasons of quantity) and clean (for obvious reasons of quality) forms of energy, first and foremost taking advantage in primis of the incessant and profitable action of the sun (for example solar panel) and wind (for example wind shovel).

But let's see point by point. First, we have to reduce. On the one hand, it is necessary to design products that are



less and less full-bodied (matter) and bulky (space). That is to say: should be used less material as possible, also to avoid increasing transport costs with heavier products that take up a lot of space in the containers. On the other hand, above all, we must reduce industrial production tout court; decrease materially and grow spiritually. To what extent can we continue to squeeze our planet like a lemon by continuing to consume exponentially every resource. Heidegger already said this more than sixty years ago: "The world appears as an object to which calculating thought makes its assaults, to which, it is believed, nothing is more able to oppose, while nature is transformed into a single gigantic reservoir of energy at the service of industry and technology"<sup>21</sup>. This, evidently, corresponds to a predatory attitude that sees in Consumerism its commercial reason: the (un)reason why the obsolescence of products must necessarily be programmed: a phenomenon to which the design of the twentieth century has become very accustomed<sup>22</sup>.

Another fundamental point is then to repair things that break instead of throwing them away lightly to buy others. This would be a very easy and normal thing if the mass media system did not hammer us incessantly instilling in our minds the

need to constantly display new or better fashionable products and most of the time, designed precisely to suggest. Consequently, it is considered preferable to get rid of things even before they break, because their usefulness is above all symbolic. Those who consume, after all, always want to show themselves as flamboyant and polished as a brand-new product: a product entrusted with the task of representing those who own it. So, if this is going to start working badly, why would anyone bother to fix it? Might as well throw it away, also because repairing it, paradoxically, would cost more than buying it back. Here again is the diabolical mechanism of planned obsolescence, made possible by the aesthetic appeal of the goods and the symbols that are embodied in them: you must feel the "moral" obligation, the aesthetic diktat of buying something, even before feeling the practical need. Bucking, designers could envisage a simple disassembly of the products, not only to facilitate the recycling of materials; also to make it advantageous to replace a damaged part. But that's not all. Designing a product for assembled parts would make it possible to upgrade the product itself, perhaps replacing a part with the technological evolution of the same (the technique produces aesthetics) or with custom accessories. But that's

not all. Designing a product for assembled parts would make it possible to upgrade the product itself, perhaps replacing a part with the technological evolution of the same (the technique produces aesthetics) or with custom accessories. For example, it is possible to build a 3D printer at home whose parts are 3D printed by another printer (3D RepRap 2004); which greatly shortens the production and distribution chain. Or – even better – you can update the products (*upgrading*), implement them you could say, with more performing parts that are added later or come to replace others that are now obsolete.

When it is not possible to repair the object, before delivering it to the landfill (which is always polluting), we must ask ourselves if it is still possible to use the object in another way, that is, to give it a new function, different from the one for which it was produced. The basic principle on which this need is based is that throwing away an object means generating a waste, something that pollutes and does not exist in nature. Nevertheless, with the advent of industrial civilization, we human beings have become serial accumulators of products and waste. And we have so radically changed our environment – with "entire categories of indestructible waste", to use Papanek's

words – to the point of creating, without realizing it, a new continent (!), the Great Pacific Garbage Patch, “the great garbage machine of the Pacific Ocean”: an exorbitant accumulation of waste, mostly plastic, that the Pacific hourly currents hold together, a gigantic, monstrous, anti-ecological island made up of hastily discarded objects, which perhaps could have been repaired or used again to perform new functions. This “continent” was discovered in the eighties, and it struck public opinion so much that someone hoped for the advent of “a new aesthetic [...] capable of dealing not only with the golden proportions and with the beautiful ideal [...], but also with the garbage”<sup>23</sup>.

If it is not possible to repair or reuse, instead of throwing away, we must seek to recycle, just as nature does. Recycling, therefore, is the *last ratio*, after which we shipwreck in the landfill, but not at all costs. In fact, it is not always worth recycling. If recycling involves the consumption of a greater amount of energy (CO<sub>2</sub> that is dispersed in the environment) than is needed to make the same object using raw material (not recycled), this is obviously inconvenient, and not at all sustainable. Just to give an example: is it preferable to use a plastic or glass bottle? A glass bottle (!), everyone would say, without bothering to measure the energy needed

to move a huge amount of tons of glass around the world. So, what is the most sustainable material? In absolute terms it does not exist, it depends on a series of variables that must be evaluated from time to time.

The question of materials has always been central in the practice and theory of design. In the eighties, in fact, we began to talk about “design of materials”: new materials, projected to perform specific functions (for example, to create very light but resistant chairs); materials, therefore, innovative and technologically advanced<sup>24</sup>. More recently, in the direction of sustainability, a crucial frontier is undoubtedly that of biomaterials. They, in fact, may seem the most sustainable materials in absolute because, deriving from plant or animal organisms, they are renewable, do not pollute and can be dispersed in the environment in a few months of composting, with the useful function of fertilizing (like everything that is organic). In a sense, they are the exact opposite of plastic, whose production depends on oil, a non-renewable energy resource (fossil), which is dispersed in the environment, polluting over the centuries. As we have said, however, there is no absolute sustainable material, the perfect solution always and in any case: biomaterials are, yes, environmentally friendly but, precisely because of

plant or animal origin, if used massively, they could reduce the food of a world population already partly hungry and malnourished. This explains why research is under way to replace agricultural products used for starch extraction with organic solid waste. Thus, by forcing the hand a little, it is possible to contradict the previous statement: the most sustainable material in absolute is waste (exactly as it happens in nature). Fabrizio De Andrè was right: nothing is born from diamonds, flowers are born from manure.

If the perfect material is waste or, better, the one that is recycled, the perfect energy is the one that is renewed. On the contrary, our complex industrial system today is mainly powered by dirty energy, that is, based on polluting and non-renewable resources (oil), which are, moreover, destined to run out within a few decades and which we will therefore have to give up even if we could, by magic, stem the disastrous effects they produce on the environment (which at the moment is scientifically impossible). Obviously, we must look elsewhere and get energy by focusing on other resources, renewable and clean; which, in fact, we are already doing, but not significantly enough and not quickly enough. Above all, Sun could provide us with all the energy we need. It has

taken us centuries to develop an oil technology; how long will it take to develop a Sun technology? Did the ancient Egyptians, whose works are still the subject of mystery (pyramids), who worshipped Ra, that is, the Sun, know more than we do? Yet, design has made its first steps here. An example is the revolutionary Solar Tree designed by Ross Lovegrove for Artemide (in collaboration with Solar Sharp) in 2008: a "solar tree" made of steel tubes that support light bubbles substantiated by solar cells connected to a system of batteries and electronic devices under the base. Another source of clean energy is the wind.

This is well known to Norman Foster, author of a wind turbine for Enercon (1993-95) whose high technical efficiency corresponds to a low visual impact on the landscape. Still, a viable solution is to use hydrogen. This is the case of the *Fuel Cell* hybrid bicycle, conceived by No Picnic for Aprilia in 2001 (prototype), with fuel cells powered by hydrogen introduced into the tank under the barrel. Another example is the *Scoot* scooter, designed by Johan Liden (Fuseproject) in 2001 (prototype), agile and foldable, with a mono-material steel structure, therefore easy to recycle. Let's not forget, moreover, that pursuing environmental sustainability thanks to design also means

experimenting, trying to optimize what already exists: from the ingenious automation system (home automation) *My Home* (BTicino 2001) that allows reducing the electricity used; or venturing prototypes such as the futuristic LuxCorp light system that exploits the bioluminescence of bacteria during the oxidation or combustion process (John Nicholson and Kathy Takayama, University of New South Wales, 2004).

### 3. SYSTEMIC DESIGN

The first point of sustainable design, that is, reducing, could suggest the design of services, the integration of the service into the product, the product-service or, even better, the transformation of the product into a tout court service. In this case, in fact, the function without form is realized or, at least, the production of physical goods is greatly reduced. For example, if you do not have something but share it (sharing economy), it is evident that the same function determines an ecological footprint that is abundantly reduced compared to the individualistic possession of everything. In this sense, Flaviano Celaschi's warning is addressed: "Use and do not possess"<sup>25</sup>.

However, we cannot deny that the coming decades will be

characterized by a pressing request for physical objects, especially from countries with strong economic development, such as China today and tomorrow who knows...

Moreover – if still in the nineties of the last century Ettore Sottsass could afford to declare: «Those who build warships and use tons of steel must be concerned about the ecology. Do not tell me that I make a handle every five years»<sup>26</sup> –, to think that the designer has a completely negligible quantitative impact is equivalent to a "creative license" of design that results in products for a few connoisseurs with a lot of taste and a lot of money, which goes beyond the environmental issue and today, frankly, we can no longer afford. Our position, on the contrary, is that design has a significant quantitative impact and therefore a great social responsibility, which is reflected in a great environmental responsibility. This – we reiterate – is the fundamental premise of the School of Ulm; and it is today a firm point that marks the culture of the project whatever form and whatever function it may take in physical and virtual space.

If this is the case and that is, in the near future it will still be necessary to project-realize a large quantity of physical products, the most sensible thing seems to be the systemic design. Systematically designing, in fact, means relating each



atom of the project (from A to Z), so that the waste of one process (output) coincides with the resource (input) of another process<sup>27</sup>. In this way it is possible to obtain a product – indeed a system-product – with “zero emissions”<sup>28</sup> (maximum sustainability); which represents for a company an innovative business model (the green economy today offers excellent opportunities), without externalities (social and environmental costs) and an appreciable position in terms of image (positioning). This, moreover, is the *modus operandi* of nature, prolific beyond all imagination: everything that dies (waste) makes possible a new creation, within a perfectly ecological system. From the cradle to the cradle, you could say, endlessly. All the production of nature is organized according to cyclical processes, not at all linear, which (self-)regulate themselves systematically. This implies, by applying this system to the business world, a rapid and not risky innovation, an articulated production (richness and variety of species) and the use of minimal resources. There is impersonal genius, a colorful and unstoppable creative lymph, in the strict functionalism of nature; the motto of Mies van der Rohe *less is more* – maximum result minimum effort – is the most iron rule that permeates every atom of creation.

## NOTES

- 1 “Everyone designs who devises courses of action aimed: at changing existing situations into preferred ones. The intellectual activity that produced material artefacts is no different fundamentally from the one that prescribes remedies for a sick patient or the one that devises a new sales plan for a company or a social welfare policy for a state”, Herbert A. Simon (1969), **The Sciences of the Artificial**, MIT Press, Cambridge (MA) 1996, p. 111.
- 2 Enzo Mari, **25 modi per piantare un chiodo. Sessant'anni di idee e progetti per difendere un sogno**, Mondadori, Milan 2011, p. 88.
- 3 William Morris, **News from Nowhere** (1892). **News from nowhere**, Garzanti, Milan 1984.
- 4 Walter Gropius (1924), **Breviary for the members of the Bauhaus (sketch)**, in H. M. Wingler (ed.), **The Bauhaus. Weimar Dessau Berlin 1919-1933**, Feltrinelli, Milan 1972, p. 137.
- 5 Tomás Maldonado (1955), **Ulm**, in Id., **Bauhaus**, Feltrinelli, Milan 2019, p. 39.
- 6 Emilio Ambasz, **Italy. The New Domestic Landscape. Achievements and Problems of Italian Design**, MoMA, New York 1972.
- 7 Bruce Sterling, **La forma del futuro**, Apogeo, Milano 2008, p. 1.
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- 10 Ibidem.
- 11 Ezio Manzini, **Politiche del quotidiano**, Edizioni di Comunità, Rome 2018.
- 12 Giulietto Chiesa, **È arrivata la bufera**, Piemme, Milan 2013.
- 13 Serge Latouche, **Petit traité de la décroissance sereine** (2007). **Breve trattato della decrescita serena**, Bollati Boringhieri, Turin 2008.
- 14 Maurizio Pallante, **La decrescita felice**, Editori Riuniti, Rome 2005.
- 15 Kenneth Boulding, dalla homepage della decrescita.it.
- 16 Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, **The Limits to Growth** trad. it. **I limiti dello sviluppo**, Mondadori, Milan 1972. This text describes a very important study, conducted by a group of world-renowned scientists within a circle known as the Club of Rome, “on the dilemmas of humanity” (as the subtitle says), that is, on how life on Earth will evolve starting from the status quo and on the basis of the available knowledge. Scientists at the Club of Rome formulated a mathematical model, superimposing demographic, food, energy, industrial and economic trends. Conclusion: the possible alternative scenarios developed were all more or less catastrophic. “The problem of food production, that of the consumption of raw materials, that of the growth of pollution and its neutralization, involve a series of very difficult and demanding choices: however, it should now be clear that all these difficulties arise from a single simple circumstance: the Earth has finite dimensions. The more any human activity approaches the natural limits beyond which the Earth is no longer able to sustain it, the more manifest and serious such difficulties become. [...] It seems that the world system currently tends to increase both the number of inhabitants and the availability of food, material goods, air and this trend will eventually lead to reaching one of the many natural limits of the Earth” (p. 74). The scientists of the Club of Rome warned the world about the limits of development, with predictions that were dramatic at the time but which, with the benefit of hindsight (i.e. today), we can even consider rosy. In fact, they hypothesized that the planetary disaster would occur by the middle of the 21st century, but did not take into account the climate changes due to the overheating of the Planet or the melting of the Glaciers; not to mention the wars that rage everywhere with the series

So, who is the systemic thinker ante litteram? According to Fritjof Capra, none other than Leonardo Da Vinci, the great artist-scientist of the Renaissance, absolute genius, daily immersed in the observation-reproduction of the "miraculous things" of nature<sup>29</sup>. And just like Leonardo Da Vinci, the systemic designer operates not only with lucid rationality but also with "imaginative fantasy, in a lasting and collective commitment that involves all the actors in the life cycle of a product"<sup>30</sup>. Above all: the systemic designer puts in place a polycentric approach, developing not a product, but a process whose phases are circularly connected as calibrated parts of a perfect organism (system-product). And also those who work in this direction do not only pursue economic objectives (zero-cost resources, quality control at every stage of the process, certifications...); as has been said, they assume a considerable competitive advantage in social and environmental terms. And what could be better for a company, today as tomorrow, than to make a profit by improving the world?

#### 4. THE VALUE OF THINGS

An interesting – indeed crucial – issue related to sustainability is how it must

be communicated so that virtuous behaviors can consolidate to become social habits. It is widely believed that people would be more likely to embrace a sustainable lifestyle through a rewarding and fully conscious choice, rather than going along with a diktat based on vague moral reasons. In other words, sustainability should be ridden as an opportunity and not suffered as a constraint. It is therefore clear that informing and communicating, in the sense of sustainability, is a fundamental prerequisite for its implementation. This concerns, for example, the purchase of commercial products, at the moment based only on the pleasure of the thing itself and on economic convenience, that is to say on individualistic incentives. What would happen, however, if people stopped to reflect on how much (dirty) energy is consumed to make a product that goes around the world, consuming other (dirty) energy, to be sold, consumed and then discharged who knows where, to deface the environment for centuries? What would happen if people stopped to reflect on the real costs that this trivial operation – repeated on a planetary scale, billions and billions of times – inexorably entails? Would something happen? Perhaps not. People don't seem to have much trouble buying compulsively. But this is what the mass media

system does with its firepower: it induces the compulsive purchase. Or yes: something would happen, telling the contradictions and the intrinsic follies of this system. Only in this way is it possible to trigger a cultural revolution or even trivially for people to stop and reflect on the consequences of what they do. Because the fascination of compulsive buying is based on ignorance of consequences; and ignorance of consequences is a necessary ingredient of the pseudo-happiness that unbridled Consumerism magnificently unlocks.

So, what is a sustainable product? It should be born from the reuse or recycling of another product, designed to be easily assembled and disassembled, implemented, repaired, durable... in short, a sustainable product should have more or less the characteristics we described above. An organic food product, we assume at zero km, within a circular process, which intensifies relationships between people and generates social innovation... it is a great good; but how do you tell this great good? And again: if this great good is not staged, why should anyone buy a sustainable product instead of an unsustainable product (but who knows?) whose price is lower and whose function is identical? Indeed: why should anyone buy a sustainable

"silent" product instead of an unsustainable product that tells a beautiful story? In fact, it happens that those who make a sustainable product, precisely because they focus on the substance of things, have the presumption of thinking that communication does not serve a great deal or, worse, that it is a kind of black magic that advertisers use to deceive buyers. So let us reiterate one obvious thing: to communicate does not mean to lie. You can very well tell the true nature of a sustainable object by highlighting its value convincing. And this is, in my opinion, the most important battle for sustainability: communicating the value of things.

On the contrary, what does a commercial-type product tell whether it is a food or an item of clothing? It tells some of its appealing characteristics (for example nutritional values or tissue quality), gives a sense of belonging within a certain social class, but above all incorporates the history of a brand with the values or pseudo-values that this brand recalls to itself. And here a slice of the universe opens up. It is a pity, however, that, most of the time or almost always, we fail to provide information on the process of construction of the product and the path that led it to us: where the raw materials come from, where it was manufactured, who manufactured it, under

of chained disasters that they carry. In any case, the scientists of the Club of Rome have updated their forecasts, making the point 30 years later: Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, **Limits to Growth: The 30-Year Update**, 2004, trans. it. **I nuovi limiti dello sviluppo**, Mondadori, Milan 2006. According to their calculations, the implosion of the planet will begin around 2030. Humanity, they believe, is faced with 10 possible scenarios, one worse than the other, in the sense that, moving forward as we have always done and that is by transforming the few remaining resources into pollution, we cannot avoid the last scenario, the worst: the extinction of the human species. That is why it is important to decide immediately – as a species – to review the way we exploit the Planet, that is our current socio-economic system. But we've already wasted precious time. And since the point of no return has been exceeded, it is now a question of limiting the damage.

- 17 Cfr. Paolo Tamborini, **Design sostenibile. Oggetti, sistemi e comportamenti**, Electa, Milan 2009, p. 7: "The classification that for a long time differentiated design from ecodesign no longer has any meaning; the project must go in the unique direction of sustainability of the production process, the product and the behaviours that the latter will be able to trigger. Environmental needs have become prerequisites for contemporary design and future projects will increasingly arise from the study of the functional, semantic and environmental demands that arise from the relationship between man and the land on which he lives".
- 18 Cfr. WCED, **Our Common Future**, trad. it. **Il futuro di noi tutti. Rapporto della Commissione Mondiale per l'Ambiente e lo Sviluppo**, Bompiani, Milan 1987. This report, in English **Our Common Future** is also known as the Brundtland Report (named after the chairman of the committee, Norwegian Prime Minister Gro Harlem Brundtland). For further information and a current reading, see Aurelio Angelini, Piergiorgio Pizzuto, **La società sostenibile. Manuale di Ecologia Umana**, Franco Angeli, Milan 2021, p. 141.
- 19 Tomás Maldonado, **Disegno industriale: un riesame**, Feltrinelli, Milan 2008 (1976), pp. 14-15.
- 20 Maurizio Carta, **Futuro. Politiche per un diverso presente**, Rubbettino, Soveria Mannelli 2019, p. 18.
- 21 Martin Hedegger, **Gelassenheit** (1959), tr. it. **L'abbandono**, Il melangolo, Genova 1983, p. 34.
- 22 Cfr. Dario Russo, **Vanità e socialità nel design. Icone e paradossi**, Mimesis, Milan 2021.
- 23 Cristina Morozzi, **Oggetti risorti. Quando i rifiuti prendono forma**, Costa & Nolan, Milan 1998, p. 20.
- 24 Cfr. Ezio Manzini, **Nuovi materiali e ricerca progettuale**, in Andrea Branzi, **Il design italiano 1964-2000**, Electa, Milan 2008, pp. 326-337.
- 25 Flaviano Celaschi, **Design mediatore di saperi**, in Claudio Germak (ed.), **L'uomo al centro del progetto**, Allemandi, Turin 2008, p. 20.
- 26 Ettore Sottsass, **La vita, un grande progetto**, intervista di Juli Capella, in "Domus", 796, September 1997, p. XXX. This is also the position of Renato De Fusco, **Il design che prima non c'era**, Franco Angeli, Milan 2008, p. 77: "In the accumulation of waste, the part occupied by objects born from industrial design is radically modest and largely recyclable".
- 27 It is worth noting that the teaching program of the Hochschule für Gestaltung (School of Ulm) included the teaching of Systems Theory, an absolute novelty in the 1950s.
- 28 Luigi Bistagnino, **Innovare: in quale modo?**, in Claudio Germak, **L'uomo al centro del progetto**, Allemandi, Turin 2008, p. 32.
- 29 Cfr. Fritjof Capra, **La scienza universale. Arte e natura nel genio di Leonardo**, Rizzoli, Milan 2006.
- 30 Paolo Tamborini, **Design sostenibile. Oggetti, sistemi e comportamenti**,



what working conditions, how much CO<sub>2</sub> was released into the environment, where it was assembled, packaged, transported and so on. Yet this is precisely the information that would allow us to retrace the history of the product, and therefore to attribute its true value to it.

Let's take an example. Consider a pear juice whose raw material was grown in Argentina, packaged in China and sold €1.50 in Italy and in who knows how many other places. What value does this product have if it has had to travel around the world to get to us while costing 1.50 €? But are we really sure that "costs" only 1.50 €? Or better: if it costs only 1.5 € (selling price), who pays the (real) cost of the product? Who pays the social and environmental (external) cost of the product? Question: Why are some production costs reflected in the sales price and others not? Answer: The market logic within our socio-economic system does not take into account the social and environmental cost<sup>31</sup>. Corollary: although pear juice is presented as "organic" (pears have been grown without pesticides), if it has to go around the world to get to us (Argentina, China, Italy), it certainly has very little organic. The same can be said for many products that we find on supermarket shelves, clothing, furniture, furnishings, home accessories and more, within

a commercial system that operates according to obsolete logics, certainly harmful and not at all eco-logical. And here the paradox is revealed: the value we attach to these things is based on a systematic distortion of the evaluation process.

Now, if we all, as consumers, have responsibilities that concern the choice of what we buy, the designer, who is asked to project the configuration of the products and therefore the integrated communication (self-advertising value), should, for cultural training, carefully consider the social and environmental repercussions of what he designs. He should, in other words, operate with an ethical approach, balancing the complexity that each project – true – entails. Let's take an example: *Risacca* (2021) the sustainable project of a team operating in Sicily consisting of two designers, Federica Ditta and Cristiano Pesca, and the social entrepreneur Carlo Roccaforita. It is a (re)made bag (Re-bag) with abandoned fishing nets recovered from fishermen's warehouses and abandoned along the coast of Mazara del Vallo, home to an important port and place where the three operate. *Risacca*, however, is not only a sustainable product; it is a circular economy model that promotes innovative solutions

for territorial development through the reuse and recycling of waste. The value of the product, in fact, does not lie so much in its function of use, in its being useful as a bag, as in that Ri-, bearer of connections. What are the actors in this process? The fishermen and ship-owners of Mazara who provide the nets (waste), the tailors and upholsterers of Mazara who sew the nets together with other waste from a local company, the craftsmen who make natural dyes and recover organic waste from restaurants to make them into dyeing herbs, the shopkeepers in the Historic Centre of Mazara who give up the boxes they would throw away and which will be turned into packaging. This is therefore an entirely traceable and circular process, which creates connections (re)generating value from the waste. But what does this circularity depend on? Certainly, the sharing of information makes the actors aware of the possibility of giving value to processes and products, differentiating their activity on the market giving you new impetus or creating new activities; but the fundamental point, from which the whole process moves, is the connection-sharing of resources. A fact for everyone: in the last century the weight of all the Earth's commercial

products has increased exponentially, doubling every 20 years until reaching, in 2020, the weight of all biomass, that is, of all living beings. Well, if we could reuse-optimize what already exists and that would otherwise become waste, we would not be forced to produce ever new products in a world with ever fewer raw materials available.

## 5. CONCLUSIONS

Our thesis is that sustainability cannot be achieved simply by relying on the sacrosanct assertion that we must pollute less by reducing consumption in an increasingly devastated world. But above all, *the turning point* can only be reached with a real eco-literacy campaign<sup>33</sup>. Every technical revolution (solar, wind, hydrogen locomotion...) must be preceded by a mental, intellectual, cultural revolution... such as to deeply affect generating awareness (environmental). For this reason too, more than in the field of technological innovation, the battle for sustainability will take place in the field of social innovation. The designer of the future, therefore, will not only be involved in projecting sustainable products, but also and above all in foreshadowing scenarios in which sustainable products become more important and

Electa, Milan 2009, p. 17. For further details on systemic design, see. Luigi Bistagnino, **Systemic Design, Designing the Productive and Environmental Sustainability**, Slow Food, bra 2011.

- 31 Cfr. Raj Patel, **Il valore delle cose e le illusioni del capitalismo**, Feltrinelli, Milan 2018 (2009), pp. 52-53: "The goods and services produced in a sustainable way seem more expensive, because their cheaper equivalents lead to savings in the short term but in the long term generate costs that must be borne by all. The systematic distortion of the valuation process is a direct consequence of profit-driven markets. Driven to lower costs, corporations are intrinsically driven to avoid paying social and environmental costs as often as they can. [...] In order for the economic mechanism of the markets to function properly, the external costs and benefits of production and consumption must be reflected in prices."
- 32 Cfr. Emily Elhacham, Liad Ben-Uri, Jonathan Grozovski, Yinon M. Bar-On, Ron Milo, **Global Human-Made Mass Exceeds All Living Biomass**, nature.com. [9 December 2020]
- 33 Fritjof Capra, **Il punto di svolta. Scienza, società e cultura emergente**, Feltrinelli, Milan 2003.
- 34 Ezio Manzini, **Design, When Everybody Designs. An Introduction to Design for Social Innovation**, The mit Press, Cambridge (MA) 2015.
- 35 Ezio Manzini, **Politiche del quotidiano**, Edizioni di Comunità, Rome 2018. As Vanni Pasca says, **Dopo i discorsi sulla fine**, in Umberto Eco, Vittorio Gregotti, **Sulla fine del design**, Editoriale Lotus, Milano, 2018, p. 39: today's design has expanded and it is necessary to include "the attention of young designers to Social design", as well as "that tendency of design to become political, evident in the appeal to the designers of Victor Margolin and Ezio Manzini: 'Stand up for democracy'. And those tendencies to abandon the area of artifacts in favor of that of processes, such as Service Design".
- 36 Ezio Manzini, **Abitare la prossimità. Idee per la città dei 15 minuti**, Egea, Milano 2021. His metaphor of the sailboat was evocative: "If we imagine the project as a navigation, we should think about doing it with a sailboat, rather than with a motorboat. The motorboat has an engine that we think we can drive on ourselves, following a course that points straight to where we decided to go (or, at least, so we delude ourselves that we can do, until the engine breaks down, or we run out of oil, or a too high wave sends us down). Sailing, on the other hand, is clearly the result of a co-generation: it is made by us, by the boat, by the wind and by the currents; we must know the boat well, listen to the wind and the currents, adapt the route to them, change it as necessary. Sailing is an exercise in continuous recognition of complexity. Which doesn't mean we're overwhelmed. Sailing does not at all mean being adrift: rather it means having a destination, having imagined a route taking into account the currents and the foreseeable winds, and then knowing how to adapt it from moment to moment according to what actually, locally, happens. Every project, at every scale, today is like this. But that for proximity and in proximity, for communities and in communities, is more so than any other", p. 146..
- 37 Carlos Moreno, **Droit de cité, de la "ville-monde" à la "ville du quart d'heure"**, Éditions de l'Observatoire, Paris 2020.
- 38 Bruno Munari, **Fantasia. Invenzione, creatività e immaginazione nelle comunicazioni visive**, Laterza, Rome-Bari 2017 (1977), p. 22.
- 39 Stefan Sagmeister, cit. in Peter Hall, **Sagmeister**, Booth-Clibborn, London 2004 (2001), p. 275.
- 40 Giorgio De Ferrari, **Produzione industriale ed etica progettuale**, "M&A-Meccanica & Automazione", 37, April 1998, p. 186.
- 41 Paolo Tamborini, **Design sostenibile. Oggetti, sistemi e comportamenti**, Electa, Milan 2009, p. 31.

people's sustainable behaviors correspond to a collective feeling. The designer of the future, in short, will deal more with relationships than functions.

This is the focus of the research of one of the most authoritative scholars around design: Ezio Manzini. The design of our time is for him *Design. When everybody designs* that is the condition in which not only experienced designers but a bit of everyone is projecting: design made for and with people, local communities and collaborative networks<sup>34</sup>. The design of our time, therefore, arises from below - Manzini defines it as 'emergent' - and tends to produce social innovation by fostering collaborative and sustainable behavior. In doing so, he prefigures the *Policies of everyday life* with "actions on the world, relevant to everyday life, made by operating where one is. That is, from one's point of view and action. In other words: a daily policy is the systemic effect of a life project"<sup>35</sup>. Here and now, together and very concretely. *Living in the proximity*, as Manzini titles his latest essay (2022), corresponds then to a sustainable lifestyle in a truly sustainable city: a city characterized by diverse collaborative services, rich in intangible relational assets such as trust and care for others<sup>36</sup>. This is also the city of 15 minutes, where everything

you need can be easily reached in 15 minutes, such as the Paris described by Carlos Moreno<sup>37</sup>. This is therefore an ideal framework for social innovation, the first objective of design and a precondition for sustainability.

But how is this achieved? Design can not only do the right thing; it must also do the beautiful thing: it is imagination, dream, poetry, creativity, poised between imagination and invention<sup>38</sup>. In short, it must excite: "touch the heart"<sup>39</sup>, as Stefan Sagmeister affirms. Thus, to educate to sustainability, we must not make the mistake of neglecting the opportunity that a sustainable product is also beautiful; indeed, precisely as sustainable, it should also be beautiful, according to the ancient integration between the cognitive dimension, the ethical dimension and the aesthetic dimension of the experience. In configuring sustainable products, therefore, the designer will have to prefigure meaningful scenarios, as we have said, working on attractive characters and personal gratification that lead to the following conclusion: "I buy what protects the environment and this is part of the beauty"<sup>40</sup>. Hence, the need to build new values, as well as to measure well-being with parameters that are not so much quantitative (GDP) as "qualitative, such as the quality

of life, of the environment, of the level of education, of services, that is, the indices that show the degree of not material but moral well-being of people"<sup>41</sup>.

So, we return to the beginning of our discussion: the ethical premise of design - its social value (social innovation) - is not simply the starting point but also the point of arrival, which must always be, wisely, pursued. The most common pitfall, in fact, is that attention to the environment, to social costs - and therefore a sustainable choice - ends up degenerating into a fashionable trend or, worse, in a trick to raise the perceived value of the product. This is the case, for example, of Frank Ghery's pressed cardboard furniture, initially produced at low cost with fully recyclable cellulose fibers as mono-materials, designed to replace wood, steel or plastic. Conclusion: despite the general enthusiasm, low-cost industrial production was quickly replaced by a chic collection of very expensive pieces.

On the contrary, the most intriguing project to talk about sustainability, in my opinion, is the flower pot designed by Enzo Mari for Alessi: *Ecolo* (1995). The idea is very simple, brilliant: reuse discarded plastic containers with few cutting operations. These, however, are not sold, since the user buys the instruction booklet to make the vase

himself. *Ecolo*, therefore, is a case of sustainable design ideal for several reasons: it is a waste that assumes a new function (from output to input, systemic design and circular process), it is a reuse project (km 0), it is a durable object. But it also has a didactic, educational value: it works a bit like a "project-manifesto. To put a brake on the perverse cycle of the continuous production of useless gadgets ... is a lesson in applied ecology"<sup>42</sup>. But you don't just live on ecology; you also need a pinch of poetry, as we said. And *Ecolo* excels on all fronts: both the practical (reuse, environmental protection, durability...) and the cultural (communication, symbol, poetry...). For this reason, too, Mari's object disorients and produces aesthetic shock, like an oxymoronic work of art: it is a waste (rubbish) but also a flower vase (poetry); it is an industrial product (discarded) but also a unique piece (made ad hoc by the user); it is an object of practical use but also a declaration of love towards the environment. In short, it is a materialized intelligence, a *Proposal for a self-design, like the one* Mari delivered to the history of design in 1974<sup>43</sup>, but above all it is something that contributes to forming critical thinking because, as we said at the beginning, design has "meaning if it transmits knowledge"<sup>44</sup>, and as we well know, knowledge is a game of connections.

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