DESIGN SCENARIOS AND ECOTOPIAS. NOTES FOR THE DEVELOPMENT OF A SOCIO-ENVIRONMENTAL DESIGN LABORATORY

CENÁRIOS PROJETUAIS E ECOTOPIAS. NOTAS PARA O DESENVOLVIMENTO DE UM LABORATÓRIO DE DESIGN SOCIOAMBIENTAL

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ABSTRACT

This paper presents the conceptual underpinnings organized by a group of designers and design researchers for the creation of the Ecotopias Socioenvironmental Design Laboratory at PUC-Rio University. It begins by discussing the anthropogenic crisis, which the planet is currently facing, and the consequent design crisis. It also presents the field of design for sustainability, its transversality and eco-logic possibilities. It situates the process of constructing scenarios in this field as a methodological option for opening the imaginative and anticipatory potential of art and design to confront the planetary environmental crises and regenerate ecologies of the mind, social relations, and the environment. It describes the methodological steps of the scenario-building process derived from the project Sustainable Everyday, and, finally, it distinguishes the concepts of utopia and ecotopia.

KEYWORDS

Crisis; Design for sustainability; Ecology; Scenarios; Ecotopias.

RESUMEN

Este artículo tiene como objetivo presentar las bases proyectuales organizadas por un grupo de diseñadores e investigadores en diseño, para la constitución del laboratorio de diseño socioambiental Ecotopías, alojado en la PUC-Rio. Como punto de partida, se aborda la crisis planetaria de origen antrópico y la consiguiente crisis proyectual. Se introduce el campo del diseño para la sostenibilidad, su transversalidad y las posibles eco-lógicas. Se ubica el proceso de construcción de escenarios en este campo como opción metodológica para poner a disposición el potencial imaginativo y anticipatorio del diseño y las artes, frente a la crisis planetaria y la regeneración de las ecologías de la mente, las relaciones sociales y el medio ambiente. Se describen los movimientos metodológicos del proceso de construcción de escenarios, basándose en la experiencia de investigación y proyecto Sustainable Everyday, llegando a distinguir los conceptos de utopía y ecotopía.

PALABRAS CLAVE

Crise; Diseño para la sostenibilidad; Ecología; Escenarios; Ecotopías

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RESUMO

Este artigo tem o objetivo de apresentar as bases projetuais organizadas por um grupo de *designers* e pesquisadores em design, para a constituição do laboratório de *design* socioambiental Ecotopias, hospedado na PUC-Rio. Como ponto de partida, discute a crise planetária, de origem antrópica, e a consequente crise projetual. Apresenta o campo do *design* para a sustentabilidade, sua transversalidade e eco-lógicas possíveis. Situa o processo de construção de cenários nesse campo, como opção metodológica para disponibilizar o potencial imaginativo e antecipatório do *design* e das artes, no enfrentamento da crise planetária e na regeneração das ecologias da mente, das relações sociais e do meio ambiente. Descreve os movimentos metodológicos do processo de construção de cenários, a partir da experiência de pesquisa e projeto *Sustainable Everyday*, chegando a distinguir os conceitos de utopia e ecotopia.

PALAVRAS-CHAVE

Educação, pesquisa e extensão, Amazônia, educação universitária.

1. PLANETARY CRISIS

Climate change and various ecological imbalances are transforming the Earth's geography and threatening its vitality. July 3rd, 2023, was the hottest day in the hottest month in the hottest year in recorded history, and the Copernicus Climate Change Service forecast that the next years will inevitably be worse (Copernicus, 2023). Among the most violent effects of this growing heat, there is a disturbing succession of extreme and exceptional meteorological phenomena, such as El Niño, which originates in the South Pacific and extend its impacts to Brazil. The tropical cyclone Catarina in the southern Atlantic was the first recorded hurricane-force storm in this region (Brazilian Meteorological Society, SBMET, 2005), and inaugurated a rapid succession of similar events, besides the related floods. The year 2023 was marked by several such events that tragically caused the deaths of many dozens of people, here remembered with profound sorrow. While this was happening in the south and southeast of Brazil, the country´s north and even the Amazon rainforest were affected, though in this case with an ongoing catastrophic drought.

Considering other recent emergencies, such as the pandemic or the wars that are multiplying across the planet and revealing the illusory promise of the United Nations, humanity is suffering a crisis that is probably unique in its complexity, severity, global extent, and possibly duration.

. Societies and communities can offer little relief. On the contrary, job insecurity, poverty, and inequality are growing. Driven by social networks, the many ideological, ethnic-racial, and religious conflicts are increasing, and include even rifts between genders and generations.

Stress and exhaustion, anxiety and anguish, depression and other disorders are on the rise, and include younger and younger populations (World Health Organization, WHO, 2021). Family members and educators face these new challenges without the proper preparation.

. These developments are a sign of the crisis affecting the three ecologies identified by Félix Guattari (2011), not only the environmental and social ones, with which design has experience, but also the ecology of the mind (see also Bateson, 1980), that is, the ecology of human subjectivity.

Spirituality comes to assist by reestablishing the connection between the ecologies. As a way of understanding the world and our existential yearning, spirituality can aid in the production of individual and collective subjectivities, fostering awareness of their interexistence and their ecological relationship with the cosmos (Gebara, 1997; Boff, 1999; Hanh, 2009). Even in the West, where secularization advanced together with industrialization, today the call for ecological conversion resonates (Francisco, 2015).

2. DESIGN CRISIS AND INPUTS FOR A REGENERATION OF DESIGN

For some time now, design has been searching for new paradigms of thought and action in confronting the most harmful effects of industrialization, that is, effects that design itself has contributed to causing. Designers have long recognized the need to reevaluate their responsibilities and true potential, and to develop alternative ways of operating (Maldonado, 1970; Papanek, 1971; Buckminster Fuller; Applewhite, 1975; 1979; Manzini, 1990; Manzini; Jégou, 2003; Thackara, 2005; Bistagnino, 2009; Fry, 2009; 2020; Fletcher, 2010; Mang, Reed, 2012; Fuad-Luke, 2013; Ellen McArthur Foundation, 2013; Irwin, 2015; Escobar, 2018; Fry, Nocek, 2020; Wahl, 2020).

Faced with the crisis described above, however, fear seems to be prevailing. As predicted (Heidegger, 2007), The Promethean myth faltered (Anders, 2002; Galimberti, 1999; Latour, 2014) and the optimism normally associated with technical progress (Simondon, 1989) is giving way to pessimism, skepticism, and cynicism (Jonas, 2006; Engelhardt, 1996). How to design today?

The distrust is such that part of the design community discredits its methods and results, as well as its potential, so that concepts such as design and even future can become taboo. There is a perceived need to seek knowledge and creative practices in other fields of knowledge, which, in this way, hybridize with design and may eventually become integrated into the faltering myth.

The XXII Triennale di Milano was a response to design and planetary crises. For this 2019 edition of the event, Paola Antonelli organized the exhibition Broken Nature, unique for its sensitivity and the design intelligence of the displayed works (http://www.brokennature.org/). Among these were Wheatfield – A confrontation, by Agnes Denes, honored with the imagistic epigraph (figure 1).

Figure 01: Agnes Denes, Wheatfield - A Confrontation, Battery Park Landfill, New York, 1982. **Source:** http://www.agnesdenesstudio.com/works7-WFStatue.html

Antonelli and the other exhibition's co-curators identified and articulated five thematic sections (Antonelli; Tannir, 2019, p. 5-9, authors' translation):

- A Change Climate, which provided scientific demonstrations of the phenomenon, expressed with a graphic language of high aesthetic value;
- Complex Environments, which explored the complexity of socioenvironmental ecosystems;
- Made and Unmade, which presented practices and experiments based on the principle of circularity that characterizes ecosystems in dynamic balance;
- Mores of the Times, which illustrated the transformative potential that resides in the daily lives of individuals and communities;
- Bridges, which explained the necessary relationships of mutuality between humans and all beings that inhabit the biosphere, highlighting their interdependence.

The first two sections, A Change Climate and Complex Environments, explored the visual and non-visual sensitivities elaborated by design and art to explore, perceive, and understand socioenvironmental phenomena and their ecosystemic complexity. The potential of these are increasingly valued by design culture, whether in terms of quantity, as with many infographics, or in terms of quality, as with many conceptual and speculative design projects (figure 2).

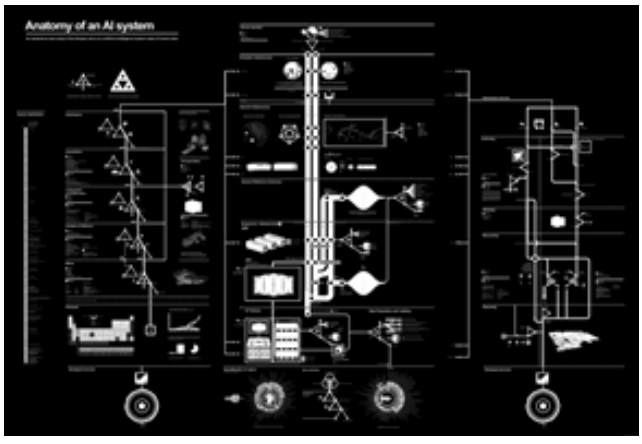

Figure 02: Kate Crawford and Vladan Joler Anatomy of an AI System, 2018. The infographics depicts the Amazon Echo as an anatomical map of human labor, data and planetary resources. **Source:** https://anatomyof.ai/

The remaining three sections present some of the paths that design culture is taking to develop alternatives, with projects that are developed from perspectives and rationalities alternative to those practiced by industrial design, and that result in alternative propositions to existing solutions (figure 3).

Figure 03: Sanjeev Shankar, Living root bridges, 2020. Living root bridges are Ficus-based ecosystems within dense subtropical moist broad-leaf forest ecoregion of Meghalaya in North--Eastern Indian Himalayas. **Source:** http://www.sanjeevshankar.com/living-root-bridges.html and http://www.livingrootbridges.org/

The proposals collected in Made and Unmade explore circularity in opposition to the linearity that characterizes the industrial chains of production, distribution, consumption, and disposal. Furthermore, the proposals collected in Mores of the Times explore alternatives inspired by people's daily lives, frequently prepared without the involvement of design professionals. Finally, the proposals collected in Bridges explore the importance of the relational dimension in design projects, valuing solidarity between people in a time of strong intra- and inter-cultural divisions, and the necessary mutuality between all living beings.

This way, according to Paola Antonelli, the XXII Triennale di Milano:

> describes the concept of restorative design and studies the state of the threads that connect humans to their environments (economic, social, cultural, political) and to those of other species

> (animals, plants, microbes – the whole tree of life, as well as species yet unknown), at all scales and in all systems (Antonelli, 2019, p. 21, authors' translation).

The concept of restoration can be associated with that of regeneration, which is gaining space in design discourse (Mang, Reed, 2012; Wahl, 2020; Gárcia, Freire, Franzato, 2024), and which affirms in an even more decisive way that design culture can retrospectively examine ecologies and then strive forward by restoring lost ecological relationships and caring for them.

The exhibition offered messages of warning and hope for society, which profoundly resonated with visitors thanks to the intelligence and beauty of the works on display. Specifically for the field of design, the exhibition offered relevant input for a productive regeneration of design for sustainability, if not design as a whole.

3. THE FIELD OF DESIGN FOR SUSTAINABILITY

The design field is traditionally subdivided into disciplines identified by the specific aspects of their results or by their productive sectors, such as product, fashion, interior and graphic design, just to mention the main designations identified by the Brazilian Education Ministry (Brasil, 2023), and we can continue with service design, digital design, etc.

The turn of the millennium corresponds to a methodological turn in the design field. Particularly since the 1990s, transversal design approaches have begun to appear which are characterized by the processes that support, articulate, and drive the most diverse design projects, and which contribute to qualifying them.

Among these approaches, design for sustainability has undergone a particularly relevant evolution, presented in figure 4 by Fabrizio Ceschin and Idil Gaziulusoy (2016. See also Franzato, 2022). In this diagram, the technology-people vertical axis proceeds from a design aimed at developing technological innovation, towards one aimed at socio-technical innovations. The insular-systemic horizontal axis proceeds from a design aimed at addressing specific innovations, towards

a design aimed at changes in broader systems, becoming increasingly strategic (Ceschin, Gaziulusoy, 2016, p. 141). Below the diagram is the timeline of this design evolution.

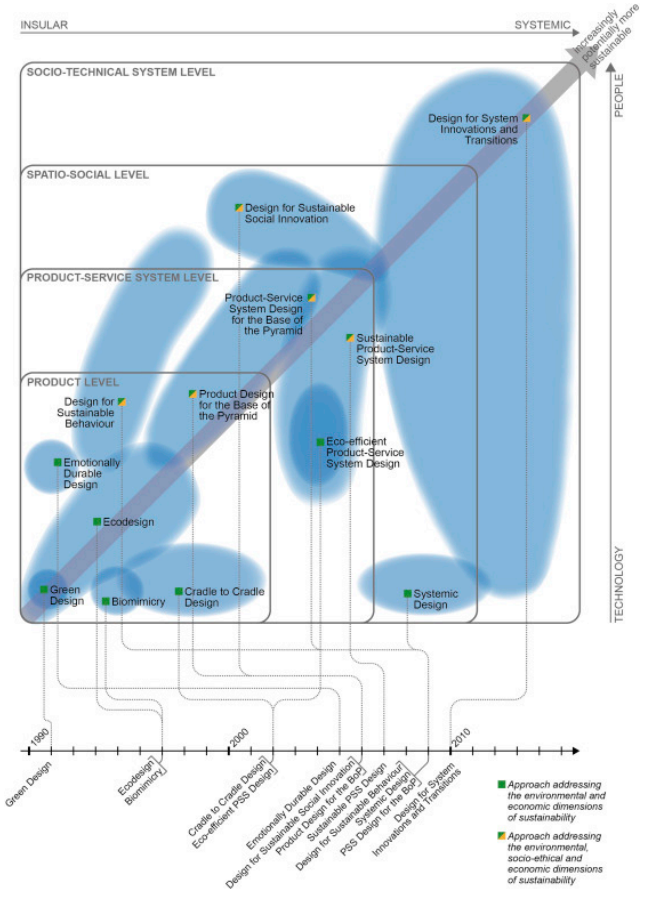

Figure 04: Diagram of the evolution of design for sustainability and its relative timeline. Source: Ceschin; Gaziulusoy, 2016, p. 144. Please, find a link to a higher resolution image here: https://ars.els-cdn.com/content/image/1-s2.0-S0142694X16300631-gr2.jpg

At the starting point of this trajectory, design was concentrated on technical product development, where the authors identify the approaches of Green Design, Ecodesign, Biomimicry, Cradle-to-Cradle Design, Emotionally Durable Design, Design for Sustainable Behavior, and the Product Design for the Base of the Pyramid. Gradually, design moved to a second level of Product-Service Systems development, with the approaches for designing Eco-Efficient, Sustainable, or Base of the Pyramid Product-Service Systems. Then, it moved to a third spatio-social design level, with the approaches of Systemic Design and Design for Sustainable Social Innovation. Finally, design reached a fourth level focusing on socio-technical systems, with Design Systemic Innovation and Transitions.

The diagram´s trajectory also describes the transition from an understanding of sustainability linked to the impact of human development on the environment, to an increasingly conscious understanding of the integrated nature of sustainability. Today, it has become erroneous to consider only one or a few dimensions of the impact of development, and the biggest mistake would be to ignore the environmental impact in particular.

The trajectory also denotes a maturation of the design discourse for sustainability from an ecological perspective. In this direction, the diagram could consider the ecological complexity addressed by Guattari (2011), giving space, not only to environmental ecology and social ecology, with which design has clear experience, but also to the ecology of the mind. This is a point of attention for the design for sustainability community, as it opens the possibility of a new chapter in the evolving discourse. It opens up to a fully ecological design, for which sustainability is not merely a technical challenge, not even a socio-technical one, but originally an ecosophical challenge to be faced "under the ethico-aesthetic aegis of an ecosophy: social ecology, mental ecology and environmental ecology" (Guattari, 2000, p. 41).

The community noted above is broad and diverse and, in Brazil, is connected through the Mix Sustentável journal and various events, such as the Project Sustainability Meeting (Encontro de Sustentabilidade em Projeto, ENSUS), the Bionics and Biomimetics Forum (Fórum de Biônica e Biomimética), and the Symposium on Sustainable Design (Simpósio de Design Sustentável, SDS). Important international research networks also operate across the country, such as the Learning Network on Sustainability (LeNS) and the Design for Social Innovation and Sustainability (DESIS) network.

Due to its transversality, design for sustainability crosses disciplines and can extrapolate from the design field while interacting with others, such as administration or communication. Given design's origins, design for sustainability can also interact with arts and crafts. Clearly, it interacts with artisanal craft, with which it has always maintained a very lively dialogue. Furthermore, many believe that it should interact much more with the arts as well as with the humanities, especially if sustainability is considered as a socio-technical, ethico-aesthetic, and ecosophical challenge.

The importance of the ecological issue and the urgency of the many crises we face demand the convergence and collaboration of all disciplines, as well as other contributions, without epistemological prejudice. There is a need to structure a field of ecological articulation of different types of knowledge and practices (Santos, 2006; Stengers, 1997), and to leverage them to achieve a true sustainability. Design for sustainability participates in the structuring of this transdisciplinary assembly of the various ecological discourses.

It is understood that ecology is an area of life sciences that provides a methodological perspective on other areas. The artist Agnes Denes, pioneer of environmental art and creator of the work exhibited at Broken Nature titled Wheatfield – A confrontation (figure 1), uses the term "eco--logic" to allude to this perspective and to an "eco-logical thinking" that brings together "philosophical concepts and ecological concerns" (Denes, 1993, p. 388, authors' translation).

An ecological path would allow to rethink design and elaborate an ecodesign thinking in contrast to the available design approaches which have proved to be insufficient for the creation of effectively sustainable development models, if not the cause of their unsustainability. Given this, there is an understanding of the opportunity to conduct a metadesign review of the field, emphasizing bio and ecomimetic, as well as bio and ecophilic approaches. Such a review could begin by situating design within the ecologies of living systems (Capra, 1996), as well as knowledge and practices (Santos, 2006; Stengers, 1997), and proceed by enhancing its imaginative, co-creative, and prospective competencies to better serve the necessary regeneration of the ecologies of the mind, social relations, and the environment.

4. SCENARIOS OF SUSTAINABILITY

Scenarios are examples of the opportunity for convergence and transversal collaboration between formal disciplines and other practices and knowledge. With their roots in theater, scenarios can be associated with narrative processes practiced in different cultures for the transmission of intangible culture, the sharing of daily or exceptional events, collective discernment, divination, and the evaluation of paths to be undertaken.

In the middle of the last century, the concept was adopted by the interdisciplinary studies of futurology (Celaschi; Formia; Franzato, 2018) and taken as a future configuration of reality in which certain actors could take action. The scenario-building process is the speculative work of simulating possible futures through acts observation, prediction, anticipation, and representation to allow these actors to rehearse their eventual functions.

Throughout its evolution, the discourse on sustainability has become increasingly scenistic, especially with the improvement of the mathematical and statistical modeling of climatology, which has made it possible to accurately prospect the evolution of phenomena related to global warming. In this sense, the most famous example is the creation of the United Nations 2030 Agenda and the establishment of the 17 Sustainable Development Goals (UN, 2015).

Design also participates in futurology and the elaboration of the processes for scenario-building (Celaschi; Formia; Franzato, 2018; Franzato, 2023a). Among its specific contributions are works of imagination, representation, and socialization that contemplate new ethics and aesthetics, or rather, other ethics and aesthetics (Manzini; Jégou, 2003; Meroni, 2007; Silva; Bentz; Franzato, 2019; Franzato, 2020; 2022; 2003b).

Unlike the disciplines that interpret the scenario-building as a process of predicting futures and exploring the field of the probable, design can interpret it as a process of imagination and exploration of the field of the possible and even the impossible (Celi, 2010; Dunne; Raby, 2013; Celaschi, 2016; Franzato, 2023c). In design, traveling along the arrow of time often results in a creative strategy for achieving space-time deviations and locating a design project, not exactly in that same space, but in the future, in another space-time. Thus, design can move from this reality to another in search of effective otherness.

In the history of architecture and design, there are several examples of scenistic projects, such as Antonio Sant'Elia's futuristic visions for a New City (Città Nuova, Almeida, 2023), the Richard Buckminster Fuller's eco-science fictions of (1970), the technical fables of Archigram (Cabral, 2004), or the provocative experiments of Archizoom and other radical Italian design groups (Didero, 2017). Only at the end of the last century, however, did design begin to organize coherent methodological proposals. From the start, design for sustainability has made among the largest contributions to these developments (Manzini, 1990; Bergonzi, 1996), and the proposal made by the DESIS network can serve as an example (Manzini; Jégou, 2003; Meroni, 2007; Franzato, 2020).

Necessarily simplified, the DESIS network starts from the observation that the current development model is structurally unsustainable. To achieve sustainability, specific or incremental improvements, even if commendable, cannot be sufficient, and thus a systemic discontinuity of socio-technical organization is required. There is, however, an ideological element preventing proposals of this type from succeeding, namely, the view of well-being as a continuous increase in production and consumption. Confidence in technical progress interferes as well, which leads society in general and especially the design fields to undertake initiatives that allegedly strive towards sustainability, but which, in the end, reinforce the current structurally unsustainable model. Given this, design for sustainability comprehends the need to introduce a process of systemic social innovation that updates the understanding of well-being and socio-technical organization in order to ultimately achieve the objective of true sustainability.

Recalling Guattari's three ecologies, the proposal envisions the articulation of social innovation, sustainability, and well-being or better buen vivir (Acosta, 2016), taking into account that the term well-being is normally associated with consumption and comfort.

This way, the DESIS network seeks to create the conditions for the proposed change which can result "from a positive choice, instead of disastrous events or authoritarian impositions" that would arise "from a transformation perceived as an improvement in the living conditions of the people who live in them" (Manzini; Jégou, 2003, p. 45). Change should not be imposed or weigh on individuals or society but should rather be sought by them because it is within a view to a desirable future. Therefore, it is a proposal that works especially within the scope of symbolic production and with a potential for innovation that could be considered cultural even prior to being social.

5.PROCESS OF SCENARIO-BUILDING AND DESIGN NETWORKS

Twenty years ago, Ezio Manzini and François Jégou (2003) organized the exhibition Sustainable everyday. Scenarios of urban life at the Triennale di Milano to present the results of an archetypal process of scenario-building. In the catalog of the same name, which is still available online, the authors collected several methodological inputs for the building of scenarios, in addition to the results from the research and design experience (figure 5).

With some updates, this experience illustrates the four methodological movements articulating the scenario-building process. The first involves collecting, studying, and sharing inspiring cases, which originate from different contexts and can constitute a creative reference for developing scenarios (Manzini; Jégou, 2003; Meroni, 2007). These are sustainable projects and practices already consolidated in a given context, or else they are just prototypes often developed without the contribution of professional designers and which address issues related to the development of society in original ways, that is, without following pre-established standards. One of the exemplary cases in Sustainable everyday regarded urban gardens.

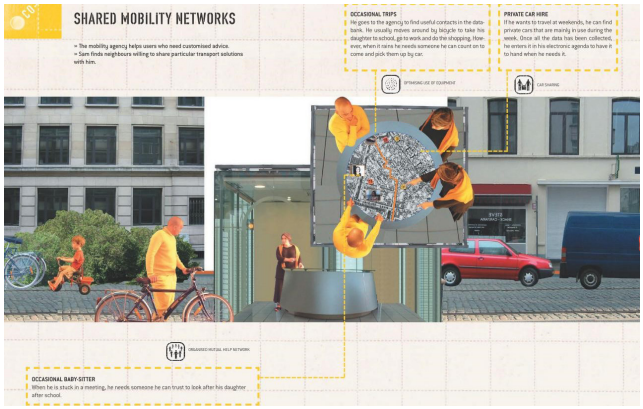

Figure 5: Shared Mobility Networks envisions a set of scenarios to offer solutions for mobility that enable residents to carry out their daily activities without resorting to private cars, or at least by using them collectively. It is an extension of the concept of Mobility Management. Specifically, Shared Mobility Networks envisions a mobility agency that helps users who need customized advice. **Source:** Manzini; Jégou; 2003, p. 196-197. Please, find a link to a higher resolution image here: https://prnt.sc/JlbwTceqsVOW

Then, the cases are organized to feed the second movement, that is, the elaboration of "co-creative workshops" (Manzini; Jégou, 2003) in which designers and other professionals, social innovation and sustainability actors, together with the general public all participate. In these workshops, scenarios are imagined, represented, and discussed collectively, and a series of design proposals derived from them, such as product-service systems (Vezzoli; Kothala; Srinivasa, 2018).

Therefore, social innovation and its effects on the search for sustainability can be expressed either where workshop participants take ownership of design proposals and implement them personally or when they manage to influence other people to implement them. Precisely for this reason, a third movement follows that is aimed at socializing and "amplifying" the cultural resonance of these proposals (Penin; Kobori; Forlano, 2012), for example, through the organization of events, the curation of exhibitions and catalogs (Manzini; Jégou, 2003; Meroni, 2007), the distribution of materials online and via open access, and the maintenance of social networks, etc.

The fourth movement is the "seeding" (Freire et al., 2020) of collected inspirations, constructed scenarios, and product-service systems derived from of existing relationships and by following unpredictable trajectories. This is a participatory process of innovation, not only open, but which foresees autonomous appropriations by the people to whom it opens. Examining the previous example now, twenty years later, urban gardens have sprung up around the world, and with a variety of scopes such as the efficient production of vegetables, food and agricultural education, and the collective occupation of interstitial urban spaces. Their spread is certainly not due to Sustainable everyday, but it cannot be denied that this may have contributed in some way considering that urban gardens still host educational and research projects from several design schools around the world. So that these four movements can provoke sustainability actions, note the importance given to the weaving of design networks, i.e., complex systems "of interwoven design processes, involving individual people, enterprises, non-profit organizations, local and global institutions who imagine and put into practice solutions to a variety of individual and social problems" (Jégou; Manzini; 2008, p. 40, authors' translation). Networking allows for connections among people with a variety of skills and is located in various organizational contexts, in order to bring their organizations into the design process and carry out a project (Franzato, 2017). Moreover, the design process structures the community and social relationships needed to implement the project (Hillgren; Seravalli; Emilson, 2011). Finally, networking makes it possible to expand the scope of design projects and connect with diverse geographic contexts thus allowing for cross-fertilization between the different ongoing processes and the distributed impact of their results.

Sustainable everyday suggested a path for other research and design experiences elaborated through scenistic practices. Many of the DESIS network activities employ similar methodological processes, such as Creative communities. People inventing sustainable ways of living, which is documented in a catalog organized by Anna Meroni (2007).

Putting these movements into practice allows them to spread beyond the DESIS network and eventually throughout the design field. A recent and quite relevant example is the project CreaTures. Creative Practices for Transformational Futures (CreaTures, 2020; Dolejšová, 2023). Its objectives are similar to those of Sustainable everyday or Creative communities experiences, and it proceeds by practicing four methodological movements with similar scopes. Creatures, however, differs from the previous ones in that it is more artistic, experimental, and performative in nature.

These processes often draw on the potential of fiction and expand into open-ended fantasies, as in the case of The Treaty of Finsbury Park 2025 (figure 6), though they maintain a commitment to ecological and transformative action. In fact, this commitment is maintained precisely through the work of images and symbolic production

that both design and art function within. Design research, then, can and should exercise this potential in daily practice and in the creation of communication artifacts and various initiatives to popularize science, such as through visual essays.

Figures 5 and 6 demonstrate the scenistic nature of this type of design project. The scope of the proposed scenario-building processes is primarily exploring, imagining, socializing and experiencing alternative ways of existing, of being with others, and of being in the world, i.e., "scenarios of sustainable well-being" (Manzini, 2003) scenarios of buen vivir (Acosta, 2016), scenarios of sumak kawsay, (Ecuador, 2008), scenarios of conviviality and sustainability (Illich, 1975; Franzato, 2022; 2023b; 2024) or, finally, ecotopias.

Figure 6: The Treaty of Finsbury Park 2025 is an immersive fiction that looks at what it would be like if other species were to rise up and demand equal rights with humans. It is part of an ambitious multi-year project by Furtherfield to promote biodiversity by reimagining the role of urban humans in greater collaboration with all the species of the London-based Finsbury Park. **Source:** https://creatures-eu.org/productions/treaty/

6. ECOTOPIAS SOCIOENVIRONMENTAL DESIGN LABORATORY

The conceptual bases related in this paper led to the review of the Socioenvironmental Design Laboratory at the Department of Arts & Design (dAD) at Pontifical Catholic University of Rio de Janeiro (PUC-Rio), now named Ecotopias (please, find the social networks profiles of the laboratory through the username @ecotopiaslab).

The department is one of the most prominent in the Latin American design field. Since its beginning in 1972, the department has been oriented towards design approaches related to the socioenvironmental responsibility of the designer and the participation of citizens both of which were emerging and considered alternatives and even antagonistic at the time. Notably, dAD hosted the Design for the Real World course by Professor Victor Papanek in May of 1980.

In 1994, dAD introduced the first Design Graduate Program in Latin America, marking the beginning of its research tradition. The Program was structured around various research laboratories, such as the EcoDesign Laboratory (Laboratório de EcoDesign, LED), founded by Professor Alfredo J. Oliveira in 2000. Driven by the three Rs of sustainability, the aim of the LED was to elaborate ecodesign methods and tools, integrating the scope of services into its field of operation and developing product-service systems.

In the early 2010s, LED underwent a process of review and updating, collaborating with researchers from architecture and urbanism at PUC-Rio and the Federal University of Minas Gerais (UFMG), and expanding its research on sustainability into the various field of the design culture. Thus, the Place Studies Group (Grupo de Estudos do Lugar, GEL) emerged, recognizing the city as a significant research theme and focusing on the development of Visions of Sustainability, which was the name of its seminars.

As a result of this process, which drove LED to increasingly focus on territorial design and social innovation, entering the spatio-social level of Ceschin and Gaziulusoy's diagram of the evolution of design for sustainability (figure 4). This way, in 2012, LED changed its name to Socioenvironmental Design Laboratory (Laboratório de Design Socioambiental, LDS). Notably, LDS contributed to and helped organize various editions of the Symposium on Sustainable Design.

At the end of 2021, Professor Carlo Franzato succeed the retired Professor Alfredo J. de Oliveira. He reinvigorated the work of LDS with the collaboration of Professors Augusto Seibel Machado, Bárbara de Oliveira e Cruz, Carlos Delano Rodrigues, Daniel Malaguti Campos, and Maria Eloisa de Jesus Conceição, along with students Adriana Basto Aquim, Clara Peixoto Acioli, Lia Moreira Astudillo Poblete, Natali Abreu Garcia, and Sofia Frant Pereira e Alvim.

During this process, the laboratory was renamed "Ecotopias", while retaining "Socioenvironmental Design Laboratory" in its description. The laboratory

was affiliated to the LeNS and DESIS networks, and registered in the Brazilian Directory of Research Groups, (http://dgp.cnpq.br/dgp/espelhogrupo/791990), with thefollowing summary:

> The Ecotopias Socioenvironmental Design Laboratory studies, develops, and practices design processes for social innovation and sustainability, inspired by ecology and oriented towards futures of conviviality and regenerative sustainability. From the perspective of complexity, Ecotopias contributes to the organization of networks of actors involved in the productive dynamics of society and their convergence in addressing the systemic crises that weaken the vitality of the planet. To do so, its processes favor collective discussions about current development models and possible alternatives, the imagination, anticipation and experimentation of different ways of being with others and being in the world, as well as the careful qualification of the ethos of the proposals developed. The core of its practices are the co-creation of eco-logical scenarios for action, that is, ecotopias (Ecotopias, 2023).

Within the scope of the laboratory, ecotopias are not necessarily ecological utopias, in other words, ideal and desirable visions that certainly challenge our actions but ultimately remain unattainable. Ecotopias are primarily eco-logical scenarios for action, meaning scenarios that are designed based on ecological principles and suggest actions for regenerating the ecologies of human subjectivity, social relationships, and the environment. For Ecotopias, ecology is both the starting point and the goal of design.

It is understood that ecology is an area of life sciences that provides a methodological perspective for other fields, including design. In fact, the available design approaches, both the more established ones and those proposing to surpass them, have proven to be insufficient for the development of genuinely sustainable models if they do not address the root causes of the unsustainability of current models. In this direction, the laboratory sees the opportunity to develop a bio and eco-inspired metadesign review of design which starts by repositioning design within the ecologies of knowledge and practices and proceeds to enhance its imaginative, co-creative, and prospective competencies to better serve the necessary reconfiguration of society.

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