
Designing the Future: A Manifesto for Design Education

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ABSTRACT

The design discipline, traditionally rooted in capitalist consumerism, faces pressing socio-environmental challenges, necessitating a redefined approach. This paper presents the very first step toward a “Manifesto for the Future of Design Education”, emphasizing sustainability, inclusivity and ethical responsibility. Drawing from global economic shifts, technological advancements and evolving social conditions, the Manifesto advocates for a transdisciplinary approach, mission-driven learning and community empowerment. While recognizing the potential of technology, it underscores ethical considerations. The Manifesto, a living document, invites global discourse for continuous refinement, aiming to shape a generation of designers adept at addressing 21st-century challenges.

Keywords: Design education, Sustainability, Transdisciplinary approach, Ethical responsibility, Community empowerment

INTRODUCTION

The design discipline, once a beacon of innovation and creativity, has over time become ensnared within the confines of capitalist consumerism. Historically, its primary objective has been to fuel consumer desires, often leading to the promotion and sale of products that, in hindsight, may seem superfluous (Papanek, 1970). Not coincidentally, the renowned historian and design critic Vanni Pasca dedicates a book to the English designer “Christopher Dresser 1834-1904” mainly because he «proves to be the first designer who understands the initial mechanisms of the industrial system and the different markets» (Pasca, Pietroni, 2001). This trajectory, while profitable for industries, has raised pertinent questions about the ethical and environmental implications of design practices. The traditional pedagogical approach in design education has further exacerbated this issue, often producing graduates who, while skilled in design techniques, lack a holistic understanding of the socio-environmental challenges of our era (Monteiro, 2019).

As the world grapples with unprecedented challenges – from climate change to socio-economic disparities – the role of design has never been more critical (Tonkinwise, 2015).

In the age of artificial intelligence, indeed, where design decisions are increasingly influenced by algorithms, the ethical implications are profound

and some practitioners (Cacal, 2023) are calling for a Hippocratic Oath for Designers for the need for a moral compass that prioritizes humanity over mere technological prowess. The need for a paradigm shift in design education is evident. This paper delves into the historical context of design, its evolution in response to global transitions, and the pressing need for a renewed epistemological approach to design education.

Drawing from seminal works and contemporary thought leaders in the field, we propose a Manifesto for the Future of Design Education. This Manifesto, while serving as a guiding framework, is envisioned as a dynamic document, open to global discourse and continuous refinement.

A WORLD IN TRANSITION

The world, as we know it, is undergoing a profound transformation. The challenges of the 21st century are multifaceted, encompassing environmental, socio-economic, and technological dimensions. These challenges, while daunting, also present an opportunity for the design discipline to re-evaluate its role and impact in shaping a sustainable and equitable future.

Economic Paradigms: The latter half of the 20th Century was dominated by capitalist consumerism, where economic success was often measured by production output and consumer consumption. However, this model has shown its limitations, especially in terms of sustainability and equitable distribution of resources. Schumacher's seminal work, "Small is Beautiful", challenged the prevailing economic orthodoxy by advocating for a more localized, human-centric approach to economics (Schumacher, 1973). More recently, Raworth's "Donut Economy" model has gained traction, proposing an economic system that seeks a balance between human needs and ecological limits (Raworth, 2017). Such models underscore the need for economic systems that prioritize sustainability and social well-being (Thackara, 2015; Sarkar et al., 2023) over mere capitalistic exploitation of resources (Di Dio et al., 2022a) and labour (Fuchs, 2020).

Relationship with Natural Resources: The industrial age, marked by rapid urbanization and technological advancements, led to an unprecedented consumption of natural resources. However, as Meadows et al. highlighted in their groundbreaking report, "The Limits to Growth", there are finite boundaries to such consumption (Meadows et al., 1972). The report emphasized the impending resource constraints and the environmental repercussions of unchecked growth. An obvious fact confirmed by the very authors who reviewed it thirty years later (Meadows et al., 2012). This has led to a growing recognition of the need for sustainable practices, resource optimization, and a circular economy approach, as championed by thinkers like Federico Butera (2021; 2023).

The design discipline, which has historically been a significant contributor to consumerism and waste, is now confronted with the urgent need to transition from a linear "take-make-dispose" model to a more circular and regenerative approach. This shift is not just about creating eco-friendly products but reimagining entire systems and infrastructures. Thackara (2006) in his seminal work underscores the importance of designing with, not just for,

the environment. He advocates for a systems-thinking approach, emphasizing the interconnectedness of natural, social, and economic systems.

Evolving Social Conditions: The social fabric of societies has undergone significant changes over the past few decades. Globalization, technological advancements, and socio-political shifts have redefined community structures, values, and aspirations. While these changes offer avenues for greater connectivity and collaboration, they also present challenges related to identity, cultural preservation, and social equity. Design, in this context, has a dual responsibility. First, to ensure that innovations are inclusive and accessible to all, and second, to leverage design as a tool for social justice and empowerment. Costanza-Chock (2020) introduces the concept of “Design Justice”, which emphasizes community-led practices that challenge the dominant power structures. Design Justice goes beyond mere participation, advocating for a radical shift where marginalized communities are at the forefront of the design process, shaping the solutions that impact their lives.

Technological Disruptions: The digital revolution has redefined the boundaries of design. From physical products, design has expanded to encompass digital interfaces, experiences, and even algorithms. Hill (2012), in “Dark Matter and Trojan Horses: A Strategic Design Vocabulary”, delves into the complexities of designing in a world dominated by invisible forces, be it institutional structures or digital algorithms. He argues for a strategic design approach, one that navigates the intricate web of “dark matter” to bring about transformative change. Furthermore, the rise of artificial intelligence and machine learning has added another layer of complexity. Design decisions, traditionally the domain of human intuition and creativity, are now increasingly influenced by algorithms. This transition raises pertinent questions about the ethics of digital capitalism (Fuchs, 2020), design accountability, and the very essence of human-centered design. A recent study titled “From human-centred to life-centred design” (Borthwick, 2022) delves into this paradigm shift, advocating for a broader, life-centered perspective that encompasses both human and non-human stakeholders.

Similarly, other scholars are investigating the complexity within which individuals and communities are increasingly interconnected and interdependent with each other and with the environment. A technical-productive, social and cultural environment, natural and artificial, which is configured as a real hybrid digital ecosystem (Iaconesi & Persico, 2016, 2021; Manzini, 2021), populated by new artifacts, products, hybrid environments and digital services that constitute our new “informational” habitats - our Infosphere (Floridi, 2020) - silently enveloped by ubiquitous digital technologies (supercomputers, memories, sensors, actuators, satellites, networks, IoT, data and artificial intelligences, etc.) that change daily and incessantly our actions (work, play, move, educate, meet, etc.) and interact in and with our world. Humans and “non-humans” (biological and/or “informational” agents such as networks, platforms, artificial artifacts, algorithms, artificial intelligence, robots, etc.) must coexist and interact - in reticular, inclusive and peer-to-peer form (Floridi, 2020) - a world of mixing in chaotic evolution.

More-than-human approach: Bruno Latour (2019, 2020), who in recent years has developed a clear and articulated vision of the so-called “Cosmocollusus” Gaia, stressed the urgency of definitively abandoning anthropocentrism inviting us to see nature not as a “background” inert, but as a complex system in which humanity is only a small part. According to this new paradigm, glaciers and forests, climate, soil and microorganisms can be recognized as key players, like humans. Exactly as Eduardo Kohn (2013) states, exploring the concept of “anthropology beyond the human”, to understand the dense relationships between humans, animals and the natural environment. A perspective that, breaking with the traditional anthropocentric vision of anthropology, invites to a more inclusive and holistic conception of the relations between living beings, suggesting equal dignity for all forms of life within the complex fabric of culture and the ecosystem. Donna Haraway (2016) goes even further, coining the term “Chthulucene”. Haraway uses this term in a provocative way to allude to a complex and interconnected world where humans coexist with a wide range of other forms of life and geological and ecological forces. These reflections certainly also intercept the studies on the theory of systems and ecology of Gregory Bateson (1979) who, with the idea of “ecology of the mind”, introduces us to the understanding of deep relationships and connections between human beings, animals, plants and the natural environment, suggesting the importance of developing a broader and interconnected perspective.

Pluriversal design approach: the “Pluriversal design” (Escobar & Mafei, 2022 - Noel, 2022) represents a different paradigm than the “universal design”. While universal design seeks to adapt everyone to a single world, often dominated by western culture, multifaceted design recognizes the existence of multiple worlds, cultures, and alternative narratives.

For instance, the “Southern Thought” (Cassano, 2012) is increasingly recognized for its ties to decolonial and post-development theories, particularly concepts like degrowth and stands against dogmatism, resisting fanaticism and narrow viewpoints based on politics, culture, or ethnicity. It challenges the doctrines of development, market, speed, and productivity propagated by the (neo)colonial ‘Norths’, advocating for diversity and reciprocal understanding. (Ferretti, 2023).

The pluriversal paradigm is therefore focused on divergence, focusing on social transformation, self-determination of local communities and new ways of building the world. Multi-faceted approaches promote interdependence between all cultures and narratives. This dialogue includes speculative design (Dunne & Raby, 2013), which reflects on the present, explores possible futures and challenges conventional thinking.

As the world undergoes these significant transitions, the design discipline finds itself at an inflection point. The choices made today will shape the future of design and, by extension, the world we inhabit. The path forward demands a holistic perspective, one that integrates environmental stewardship, social justice, and technological responsibility. As designers, the onus is on us to navigate this complex terrain, crafting solutions that are not just innovative but also ethical, sustainable and just.

METHODS

The methodology employed in this research is rooted in a multi-disciplinary approach, drawing from diverse fields such as economics, environmental science, sociology and design theory. This holistic approach ensures a comprehensive understanding of the complex interplay between design practices and the broader global transitions. The methods adopted are both qualitative and quantitative, encompassing literature reviews, case studies and stakeholder interviews.

Literature review: Epistemology and Teaching Approaches. An extensive literature review was undertaken to understand the historical trajectory of design practices and their alignment (or misalignment) with global socio-economic and environmental challenges. Not only the most recent attempts to rethink the foundation of design role for society have been studied (Smith, 2007; Holm, 2010; Irwin, 2015; Forlano, 2019; Meyer, 2020; Redstrom, 2020; Short, 2021; Brosens, 2023), but also key texts about teaching methodologies (Dym, 2005; Kokotsaki, 2016) provided insights into the traditional design paradigms and their implications.

Stakeholder Interviews. Engaging with a diverse range of stakeholders – from design practitioners and educators to community leaders and policy-makers – provided a multi-faceted perspective on the role of design in today's world. These interviews, conducted both in-person and virtually, were structured yet open-ended, allowing for in-depth discussions on the challenges and opportunities in redefining design education and practice.

Niches against Regimes. Several organizations and initiatives at the forefront of sustainable and socially responsible design were analyzed as case studies. Beside bottom-up protest movements, such as 350.org, Fridays For Future, Extinction Rebellions, design-driven activists' forces are emerging. For instance, Transition Makers (www.transitionmakers.nl), with their emphasis on co-creation and community-driven design solutions, offered valuable insights into participatory design practices and their impact on community empowerment. And the ARNA - Archive of rituals of the Nuovo Abitare of Iaconesi and Persico that collects about 10 years of original and innovative international experiences, at the intersection of design, art, technology, sociology, philosophy and activism, concerning data and computation design practices (Iaconesi and Persico, 2021b). Or the design experiments suggested by Floridi (2022) on data and artificial intelligence to support the social good ("ethical AI" or AI4SG - Artificial Intelligence for Social Good). An innovative field of reflection and research, still little explored, that tries to give concrete design answers in sensitive sectors such as health, education or environmental.

Feedback and Iteration: The draft Manifesto, informed by the above methodologies, was presented to various stakeholders, including design educators, practitioners, community leaders, and students. Their feedback, critiques, and suggestions were instrumental in refining the Manifesto, ensuring that it is both visionary and grounded in real-world contexts.

A MANIFESTO FOR THE FUTURE OF DESIGN EDUCATION

In a world marked by rapid technological advancements, socio-economic disparities, and environmental challenges, the design discipline stands at a pivotal juncture. This Manifesto seeks to chart a path forward, envisioning a future where design is a force for positive change, sustainability and social justice. In crafting this Manifesto, the aim is to ignite a global conversation, challenging the status quo and envisioning a new paradigm for design education.

1. Preamble

The design discipline, once a beacon of innovation and creativity, finds itself at a crossroads. Historically rooted in capitalist consumerism, traditional design education has often been misaligned with the pressing socio-environmental challenges of our times. As we stand on the precipice of unprecedented global challenges, there is an urgent need to re-envision the role and purpose of design. This Manifesto seeks to establish a new ethical and philosophical foundation for design education, one that is equipped to the complexities of the 21st Century and beyond.

2. Principles of Sustainable Design

- **Social and Environmental Justice.** Design is not a neutral act. Every design decision has socio-environmental implications. We advocate for a design ethos that prioritizes the well-being of marginalized communities and the planet.
- **Holistic, Systemic, Regenerative Approach.** Beyond aesthetics and functionality, design must embrace a systems-thinking approach, recognizing the interconnectedness of all things and advocating for solutions that are regenerative and regenerative by nature.

3. Transdisciplinary Approach

- **Collaboration Across Disciplines.** The challenges of today cannot be addressed in silos. Designers must collaborate with experts from diverse fields, from ecology to sociology, to craft holistic solutions.
- **Interconnectedness of Global Challenges.** Whether it's climate change or social inequality, global challenges are deeply interconnected. Design education must equip students to navigate this intricate web of interdependencies.

4. Mission-Driven Learning

- **Alignment with Global Sustainability Goals.** Design objectives must align with broader global goals, such as the “United Nations’ Sustainable Development Goals”, European “Fit for 55”, and all the global challenging goals, ensuring that design interventions contribute to a sustainable and equitable future.

- **Real-world Problem Solving.** Beyond theoretical knowledge, students must be equipped with the skills and mindset to address real-world challenges, fostering a culture of action and impact.

5. Ethical Foundation

- **Code of Ethics for Designers.** Drawing inspiration from the medical profession's "Hippocratic Oath", a code of ethics for designers must be established, emphasizing the principles of "do no harm" and advocating for the greater good.
- **Responsibility, Integrity, Accountability.** Designers wield immense power and influence. With this power comes the responsibility to act with integrity and be accountable for one's design decisions.

6. Community Empowerment and Co-Design

- **Participatory Design Practices.** Design is not a top-down process. Communities must be active participants in the design process, co-creating solutions that reflect their needs and aspirations.
- **Empowerment.** Beyond participation, design education must empower communities, equipping them with the tools and knowledge to shape their own destinies.

7. Technological Integration

- **Democratizing Design.** Technological advancements, from CAD tools to AI-driven platforms, have the potential to democratize design, making it accessible to all.
- **Ethical Use of Technology.** While technology offers immense possibilities, it also raises ethical dilemmas. Designers must be trained to navigate these complexities, ensuring that technology is used responsibly and ethically.

8. Open Forum for International and Pluriversal Discourse

- **Global Perspectives.** Design challenges are global in nature. An open forum must be established, inviting insights and perspectives from designers across the world with the attempt to decolonising the discipline.
- **Iterative Refinement.** The Manifesto is a living document. Regular reviews and updates, informed by collective wisdom, will ensure its continued relevance and impact.

9. Call to Immediate Actions

- **Adoption and Adaptation.** Institutions, educators, and practitioners are called upon to adopt and adapt the principles of this Manifesto, integrating them into curricula and practice.
- **Collaborative Efforts.** The vision of this Manifesto can only be realized through collective action. We call upon the global design community to collaborate, developing a novel design master's program that embodies the principles and vision articulated in this Manifesto.

DISCUSSION

The traditional design paradigm, rooted in capitalist consumerism, has shown its limitations, especially in the face of global socio-environmental challenges. The Manifesto's emphasis on sustainability, inclusivity, and ethical responsibility is not just timely but essential. As Papanek (1971) pointed out, design has the potential to either exacerbate or alleviate societal challenges. The Manifesto leans towards the latter, advocating for a design approach that is responsive to contemporary realities.

Challenges in Implementation. While the principles of the Manifesto are visionary, their implementation is not without challenges. Beside the intrinsic socio-cultural pivot needed to reframe the design education model (Di Dio, 2022b), for instance, the transdisciplinary approach, though promising, requires breaking down traditional academic silos, which can be institutionally challenging.

Similarly, the emphasis on community empowerment and co-design necessitates a shift from designer-as-expert to designer-as-facilitator, a role many designer educators might be unfamiliar with.

Technological Integration vs. Ethical Considerations. The Manifesto's stance on technology is balanced, recognizing its potential while also emphasizing ethical considerations. As Manzini (2015) highlighted, while technology has democratized design, it also poses challenges related to data privacy, algorithmic biases, and the potential devaluation of human creativity. The Manifesto's call for the responsible use of technology is a recognition of these challenges. Clearly, it must be ethics that guide technology, and not technology altering social conditions through automation aimed at improving productive performance – a danger, increasingly insidious, which the philosopher Umberto Galimberti (2019) warns us against.

Goals, Pluriverse and Urgency. The Manifesto, while having a global outlook, also emphasizes localized solutions. This dual approach is reflective of the “glocal” nature of contemporary challenges – global in their scope but requiring localized solutions and approaches. The urgency to address environmental issues requires rapid change, yet the complexity of adopting an inclusive and intersectional approach in design education presents a significant challenge. This intricate balance between speed and inclusivity is critical for the effective and ethical evolution of design paradigms.

CONCLUSION

The journey through the evolving landscape of design underscores the profound shifts in how we perceive, practice, and teach design in the 21st Century.

The traditional paradigms of design, while foundational, are increasingly seen as inadequate in addressing the multifaceted challenges of our times. From dwindling natural resources to socio-economic disparities and the rapid pace of technological advancements, the world today presents challenges that are complex and interconnected. The Manifesto, with its emphasis on holistic, systemic approaches, recognizes this complexity and offers a roadmap for navigating it.

However, as highlighted in the discussion, the path forward is challenging. Institutional inertia, technological ethical dilemmas, and the balance between global perspectives and local realities are just a few of the hurdles to overcome.

In essence, this Manifesto wants to be a clarion call for change, urging designers, educators, and institutions to come together to redefine the role and responsibilities of design to be a positive driving force for the future of our species on planet earth.

The Manifesto, as a living document, is open to evolution. It is essential to recognize that the challenges and opportunities of today might not be the same as those of tomorrow. Regular reviews, updates, and an open forum for international discourse ensure that the Manifesto remains relevant and responsive to changing contexts.

REFERENCES

- Barroca, J., Di Dio, S., Marsh, J., Schillaci, D. (2023). Multiple Theories of Change for innovation governance. In *Strategic Thinking, Design and the Theory of Change: a Framework for Designing Impactful and Transformational Social Interventions* (pp. 205–217). Elgar.
- Borthwick, M., Tomitsch, M., & Gaughwin, M. (2022). From human-centred to life-centred design: Considering environmental and ethical concerns in the design of interactive products. *Journal of Responsible Technology*, 10, 100032.
- Butera, F. (2021). *Affrontare la complessità*. Edizioni Ambiente.
- Butera, F. (2023). *Sole vento acqua*. Italia a emissioni zero nel 2050. Manifestolibri.
- Brosens, L., Raes, A., Octavia, J. R., & Emmanouil, M. (2023). How future proof is design education? A systematic review. *International Journal of Technology and Design Education*, 33(2), 663–683.
- Cacal, N. C. (2023). The Hippocratic Oath for Designers in the Age of AI: A Concept. Retrieved from <https://tinyurl.com/ytdt722f>.
- Cassano, F., Bouchard, N., & Ferme, V. (2012). *Southern thought and other essays on the Mediterranean*. *Southern Thought and Other Essays on the Mediterranean* (pp. 1–212). Fordham University Press.
- Costanza-Chock, S. (2020). *Design justice: Community-led practices to build the worlds we need*. MIT Press.
- Di Dio, S., Inzerillo, B., Monterosso, F., Russo, D. (2022a). Design and digital Transition: new design-driven challenges for techno-social innovation. *AGATHÓN* (12), 212–225.
- Di Dio, S., Filippi, M., Schillaci, D. (2022b). “Fake it ‘til you make it”’: The designer playground for crafting prototypes, orchestrating frauds and pushing the ecological transition. In: *Information Disorder Learning to Recognize Fake News*. Peter Lang.
- Dunne, A., & Raby, F. (2013). *Speculative Everything: Design, Fiction, and Social Dreaming*. The MIT Press.
- Dym, C. L., Agogino, A. M., Eris, O., Frey, D. D., & Leifer, L. J. (2005). Engineering design thinking, teaching, and learning. In *Journal of Engineering Education* (Vol. 94, pp. 103–120). Wiley-Blackwell Publishing Ltd.
- Escobar, A., Maffei, S. (2022). What Are Pluriversal Politics and Ontological Designing? Interview with Arturo Escobar. *Diid*, (75), 12.
- Ferretti, F. (2023). Geography, pluriverse and ‘Southern Thought’: Engaging with decoloniality from the Mediterranean. *Political Geography*, 107.

- Floridi, L. (2020). *Pensare l'infosfera. La filosofia come design concettuale*, Milano, Raffaello Cortina.
- Floridi, L. (2022). *Etica dell'intelligenza artificiale. Sviluppi, opportunità, sfide*. Raffaello Cortina.
- Forlano, L., Steenson, M. W., Ananny, M. (Eds.). (2019). *Bauhaus futures*. MIT Press.
- Fuchs, C. (2018). Capitalism, Patriarchy, Slavery, and Racism in the Age of Digital Capitalism and Digital Labour. *Critical Sociology*, 44(4–5), 677–702.
- Galimberti, U. (2019). *Psiche e techne. L'uomo nell'età della tecnica*. Feltrinelli.
- Iaconesi, S., Persico, O. (2016). *Digital Urban Acupuncture. Human Ecosystems and the Life of Cities in the Age of Communication, Information and Knowledge*. Springer, Berlin. <https://tinyurl.com/ymsxvk8k>, last accessed 29/10/2023.
- Iaconesi, S., Persico, O. (2021a). The Principles of Nuovo Abitare, in “Medium.com”, 06/06/2021. <https://tinyurl.com/yr32ckp8>, last accessed 29/10/2023.
- Iaconesi, S., Persico, O. (2021b). *Incuria. Una lettera d'amore per Roma*. Luca Sossella, Bologna.
- Irwin, T. (2015). Transition Design: A Proposal for a New Area of Design Practice, Study, and Research. *Design and Culture*, 7, 229 - 246.
- Haraway, D. (2016). *Staying With the Trouble: Making Kin in the Chthulucene*. Duke University Press, Durham.
- Hill, D. (2012). *Dark Matter and Trojan Horses*. Strelka Press.
- Holm, J., Søndergård, B., & Hansen, O. E. (2010). Design and sustainable transition. In *Design Research: Synergies from Interdisciplinary Perspectives* (pp. 123–137). Routledge Taylor & Francis Group.
- Latour, B. (2019). *Essere di questa terra. Guerra e pace al tempo dei conflitti ecologici*. Rosenberg & Sellier, Torino.
- Latour, B. (2020). *La sfida di Gaia. Il nuovo regime climatico*. Meltemi, Milano.
- Kohn, E. (2013). *How Forests Think: Toward an Anthropology Beyond the Human*. University of California Press, Berkeley.
- Kokotsaki, D., Menzies, V., & Wiggins, A. (2016). Project-based learning: A review of the literature. *Improving Schools*, 19(3), 267–277.
- Manzini, E. (2015). *Design, when everybody designs*. MIT Press.
- Manzini, E. (2021). *Abitare la prossimità*. Egea, Milano.
- Meadows, D. H., Meadows, D. L., Randers, J., & Behrens III, W. W. (1972). *The limits to growth*. Club of Rome.
- Meadows, D., & Randers, J. (2012). *The limits to growth: 30-year update*. Routledge.
- Meyer, M. W., & Norman, D. (2020). Changing design education for the 21st century. *She Ji: The Journal of Design, Economics, and Innovation*, 6(1), 13–49.
- Monteiro, M. (2019). *Ruined by Design: how designers destroyed the world, and what we can do to fix it*. Mule Design Studio.
- Noel, L.-A. (2022). Designing New Futures for Design Education. *Design and Culture*, 14(3), 277–291.
- Papanek, V. (1971). *Design for the Real World*. Pantheon.
- Pasca, V., Pietroni L. (2001). *Christopher Dresser 1834–1904*. Lupetti.
- Raworth, K. (2017). *Doughnut economics: seven ways to think like a 21st-century economist*. Chelsea Green Publishing.
- Redström, J. (2020). Certain uncertainties and the design of design education. *She Ji: The Journal of Design, Economics, and Innovation*, 6(1), 83–100.
- Sarkar C., Kotler P., Foglia E. (2023). *Regeneration: The Future of Community in a Permacrisis World*. Idea Bite Press.

-
- Schumacher, E. F. (1973). *Small is beautiful: Economics as if people mattered*. London: Blond & Briggs.
- Short, C. (2021). The Ulm School of Design Discourse: A Foundation for Sustainable Design. *The Design Journal*, 24, 343–361.
- Smith, A. (2007). Translating sustainabilities between green niches and socio-technical regimes. *Technology Analysis and Strategic Management*, 19(4), 427–450.
- Tonkinwise, C. (2015). Design for Transitions – from and to what? *Design Philosophy Papers*, 13(1), 85–92.
- Thackara, J. (2006). *In the bubble: Designing in a complex world*. MIT press.
- Thackara, J. (2015). *How to thrive in the next economy (Vol. 1)*. London: Thames & Hudson.