Balancing Globalization with Environmental Responsibility. The Challenges of Homogenization and Landscape Simplification

Irene Curulli
Virginia Tech, School of Design - LA Program, VA, USA.
igcurulli@vt.edu

02
2024
SECONDA SERIE

Abstract

The contemporary world is grappling with tensions between globalization and environmental responsibility, where economic and cultural unification often conflict with the preservation of local ecosystems and identities. Processes like "biotic homogenization" and the spread of universal design aesthetics contribute to landscape simplification, diminishing ecological resilience and cultural distinctiveness. Urban and peri-urban landscapes, particularly in industrialized countries, exemplify these challenges. This paper examines the role of landscape architects in addressing these tensions, drawing on an interview with David Hill, president of Hill Studio. Hill highlights strategies such as promoting diversity, fostering multidisciplinary collaboration, and engaging communities to preserve ecological and cultural uniqueness. By analyzing Hill's insights alongside global trends, the paper reflects on how landscape architecture can navigate the pressures of globalization while safeguarding biodiversity and cultural identity.

Il mondo contemporaneo affronta le tensioni tra la globalizzazione e la responsabilità ambientale, in cui l'unificazione economica e culturale spesso si contrappone alla salvaguardia degli ecosistemi e delle identità locali. Processi come "omogeneizzazione biotica" e diffusione di estetiche progettuali universali favoriscono la semplificazione dei paesaggi, riducendo la resilienza ecologica e la diversità culturale. Queste sfide emergono in modo particolare nei paesaggi urbani e peri-urbani dei paesi industrializzati. In un'intervista con David Hill, presidente di Hill Studio, l'autore esplora il ruolo dei paesaggisti nell'affrontare tali tensioni. Hill sottolinea l'importanza della diversità, della collaborazione multidisciplinare e del coinvolgimento delle comunità alfine di preservare specificità ecologiche e culturali. Esaminando la visione di David Hill, l'autore riflette su come l'architettura del paesaggio possa promuovere biodiversità e identità culturale di fronte alle sfide della globalizzazione.

Keywords

Landscape simplification, Cultural identity, Environmental responsibility, Globalization.
Semplificazione paesaggistica, Identità culturale, Responsibilità ambientale, Globalizzazione.

Received: *July 2024* / Accepted: *March 2025* DOI: 10.36253/rv-16402 - https://oaj.fupress.net/index.php/ri-vista/index

The contemporary world faces a complex interplay between globalization and environmental responsibility, where the forces that unify economies, cultures, and ecological systems often conflict with the preservation of local identities, ecosystems, and biodiversity. Scholars such as McKinney and Lockwood (1999) highlight how these dynamics lead to "biotic homogenization," the process through which unique ecosystems and cultural landscapes begin to resemble each other due to the widespread movement of species and cultural practices. In the context of landscape architecture, these dynamics pose unique challenges, as landscapes serve as living reflections of both biological diversity and cultural identity.

This tension is particularly evident in urban and peri-urban landscapes in industrialized countries, especially North America, where neoliberal economic policies, such as the deregulation of financial markets, contribute to a 'flattening' effect. These policies, as Sassen (2016) notes, "grab more and more terrain", shifting the global order from one organized around national territories to one defined by global connectivity and jurisdiction.

Globalization has led to the spread of universal design aesthetics, the conversion of wilderness into agricultural and urban environments, and accelerated the diffusion of non-native plant species, and standardized materials, which, while efficient, contribute to landscape homogenization and simplification (Miller, 2005; Gamez-Virues, 2015). These processes, occurring at an unprecedent scale and speed, erode both the natural resilience of ecosystems and the distinctiveness of local cultural identities, leading to a diminished sense of place and heightened ecological vulnerability (Elmqvist et al., 2003). However, landscapes are in constant flux, reflecting the dynamic interaction between natural and cultural forces in the environment. Historically, cultural landscapes evolved gradually, aligned with existing structures, to meet societal needs and spatial demands (Antrop, 2005). In contrast, contemporary landscape changes are often perceived as threatening, characterized by abrupt, unpredictable, and highly dynamic transformations with minimal connection with local contexts (Antrop, 2005). This shift underscores the need to defend landscapes as identifiable spaces (Tilley, 2016). Such spaces encompass both the physical characteristics of the landscape, and the relationships individuals form with it, shaped by beliefs, preferences and values (Manzo et al, 2021). These interrelations develop further through actions and engagement, linking landscape changes with the practices undertaken, and their social legitimation (Butler et al., 2021).

What role landscape architects play in balancing the tensions between globalization and environmental responsibility while preserving ecological diversity and cultural identity in urban and peri-urban land-

scapes? This paper explores this delicate balance, beginning with an examination of homogenization and landscape simplification. It then delves into an interview with David Hill, a landscape architect and president of Hill Studio in Virginia, USA, who provides insights into how environmental responsibility can help counterbalance the effects of globalization in landscape architecture practice. Hill emphasizes the importance of diversity, multidisciplinary collaboration, and community engagement as strategies for preserving both ecological and cultural distinctiveness in landscapes. Finally, the paper analyzes Hill's perspectives in light of broader trends and concludes by reflecting on how landscape architects can promote biodiversity and cultural identity amid the pressures of a globalized world.

Homogenization and Landscape Simplification in a Globalized World

Homogenization and landscape simplification are two phenomena that have gained attention in recent decades as globalization accelerates the spread of similar cultural, economic, and environmental practices worldwide. These processes degrade ecosystems and erode cultural identity. While homogenization refers to the process by which landscapes across different regions begin to resemble each other, landscape simplification involves the reduction of ecological and structural complexity, often favoring monocultures or standardized design elements (McKinney & Lockwood, 1999). Climate change amplifies these challenges, weakening ecological resilience and disrupting culturally rooted practices. Clear criteria based on ecological compatibility, functional necessity, long-term sustainability and cultural significance are essential to support adaptation and balance diversification with controlled homogenization (Elmqvist et al., 2013).

Together, these trends challenge landscape architects, ecologists, and planners to balance the demands of globalization's demands with preserving local ecological and cultural diversity amid climate change.

In landscape architecture, homogenization often oc-

Fig. 1 - Roanoke, Virginia. Elmwood Park Renovation Through a series of personal-contact citizen meetings, we re-programmed Roanoke's Downtown Flagship Park in 2013. The new amphitheater fosters a new sense of local identity, providing an identifiable place for all to congregate and celebrate.

curs through the spread of non-native plant species, uniform design aesthetics, and standardized materials. This trend is frequently driven by global trade, urbanization, agriculture production and the desire for landscapes that require minimal maintenance or align with popular aesthetic preferences (McKinney, 2006). While plants movement across continents is not new, globalization accelerates them through advanced transportation and trade networks. For example, Japanese cherry blossom, associated with East Asian landscapes, are now common in North America and Europe, altering native plant diversity and reducing locally adapted flora (McKinney, 2006). Similarly, ornamental grasses like pampas grass have become global landscaping trends, creating visually similar spaces across different cultural and ecological contexts (Miller, 2005). Non-native species often outcompete native plants, reducing biodiversity and disrupting local ecosystems (Meyerson & Mooney, 2007). This affects native wildlife and ecosystem resilience to pests, diseases, and climate change (Elmqvist et al., 2003). According to Simberloff, the opposition to biological invasions centers mainly on their ecological, economic, and public health consequences, contrasting the aesthetic concerns of the late 1800s and early 1900s. Aldo Leopold's "land aesthetic," rejected introduced species on aesthetic grounds, (Simberloff, 2013).

Landscape Simplification: Reducing Complexity for Standardization

Landscape simplification is closely related to homogenization but specifically focuses on the reduction of ecological and structural diversity within a landscape. Within urban and managed landscapes, such as peri-urban areas, urban parks, residential lawns, commercial grounds, simplified landscapes are often characterized by monocultures and repetitive design elements driven by the desire for uniformity, ease of management, and alignment with modern urban aesthetics (Kowarik, 2011).

A common example is the widespread use of turf grass lawns maintained as monocultures with one or two grass species biodiverse alternatives like wildflower meadows or native plant gardens. Lawns require regular mowing, fertilization, and pesticide application, contributing to environmental degradation through increased water usage, pollution, and soil depletion (Robbins, 2007). These ecological costs exemplify how landscape simplification offers little habitat or ecosystem function.

Impacts on Biodiversity

Both homogenization and simplification significantly affect biodiversity. Homogenized landscapes create ecological environments where native species are outcompeted or displaced. Known as "biotic homog-

Fig. 2 -Lynchburg, Virginia. Jefferson Park Revitalization. Community planning shaped this inner-city park ensuring culturally meaningful spaces for residents. reclaiming a former landfill and restoring ecological diversity. Proposed affordable houses, especially programmed for young families, ensures "eyes on the park" and culturally meaningful spaces.

Fig. 3 - Charlotteville, Virginia. University of Virginia (UVA) Wise Top View Through over a dozen individual projects with a variety of architects, we have assisted the University of Virginia to transform an abandoned coal mine and county poor farm into a respectable campus. This collaborative effort highlights the importance of teamwork in addressing complex challenges and creating meaningful spaces in Virginia's coal country.

enization," this process diminishes and replaces the variety of species within a region with a few resilient or invasive ones thriving in disturbed environments (McKinney & Lockwood, 1999). Examples include the spread of the American bullfrog and common reed, which dominate multiple continents and disrupt native ecosystems. (Olden et al., 2004). In urban landscapes, reduced native biodiversity impacts pollinators, such as bees and butterflies and other wildlife reliant on native plants for food and habitat (Baldock et al., 2015). Simplified landscapes lack diverse plant structures and habitat, reducing the capacity of urban areas to support wildlife (Goddard et al., 2010).

Cultural Homogenization and the Loss of Local Identity

Global influences permeate local landscapes, traditional landscape practices, plant species, and design styles with standardized and globally recognized aesthetics eroding cultural landscapes, rooted in the unique environmental conditions, practices, and identities of places (Low & Altman, 1992). In many urban developments, local design styles and practices are often replaced with Western-inspired designs, erasing the cultural heritage and unique landscape elements that once reflected the identity and values of the local population (Rapoport, 1982). For example, traditional Japanese gardens are increasingly replaced by generic urban green spaces threatening cultural distinctiveness (Nakamura, 2006).

This trend toward cultural homogenization can disconnect people from their cultural heritage and reduce the sense of place that culturally distinctive landscapes provide (Relph, 1976). To counteract these trends, landscape architects and planners are increasingly advocating for design approaches that prioritize biodiversity and cultural specificity. One such approach is the concept of "ecological urbanism," which integrates ecological principles into urban design to create spaces that support diverse plant and animal life (Mostafavi & Doherty, 2010). The promotion of biodiversity-friendly practices not only enhances ecological complexity but also reduce water consumption, pesticide use, and other environmental costs associated with traditional landscaping (Francis & Lorimer, 2011). Furthermore, culturally sensitive design approaches help preserve local identity amidst globalization. By integrating cultural references, traditional materials, and local plant species, landscape architects can create spaces that honor the unique heritage of a place (Corner, 1999). In areas with indigenous heritage, collaborating with communities allows landscape architects to incorporate traditional knowledge and practices, ensuring functional and culturally meaningful designs (Low & Altman, 1992).

This paper will further explore these themes through

02
2024
SECONDA SERIE

an interview with David Hill. David Hill, the president of Hill Studio in Virginia, USA, is a renowned landscape architect whose career reflects a deep commitment to preserving ecological integrity while addressing the social needs of communities. As an advocate for responsible, adaptive landscape architecture, Hill's approach emphasizes a balance between human development and ecological sustainability. The interview explored several key themes: diversity and differences, the ecological impacts of globalization, and the importance of multidisciplinary collaboration. Through this discussion, the author will analyze the themes of homogenization and landscape simplification and will reflects on the broader implications for the practice of landscape architecture.

In search of a Balance Between Human Development and Ecological Sustainability: a view from the professional practice.

Irene Curulli: Globalization, in the general definition, has led to cultural and biological homogenization, reducing diversity and impoverishing ecosystems. Despite this, daily experiences are marked by intercultural and interspecific interactions, creating new eco-cultural niches and diverse forms of social interaction. Could you describe a significant experience or place that you associate with your definition, highlighting the diversity and differences you encountered?

David Hill: It seems to me that the human race has been fascinated with the concept of globalization for all of history. The Romans wanted to expand as far as possible, the Islanders in the Pacific expanded all over the globe; there is something about the human spirit that drives us to go farther and farther. And as a species we seem really good at it. One recent example is the Spanish during the Renaissance. Based on the successes of the Reconquista, by 1492 the Spanish were prepared to launch the most successful globalization effort in history. The built forms of their siege city and land apportionment system in those centuries turned out to be a perfect model to bring a culture across the world and have it thrived. Other European countries followed.

One of the tragedies of the 15th-20th century globalization is that ecological environments, which have adapted gradually over millennia, were not ready to absorb the things that humans cast across the planet. Even though the human race seems to be able to adapt and embrace changes, the rest of nature has a bit more trouble adapting.

IC: Does the acceleration of time influence adaptability, as you mentioned?

DH: Perhaps it can have a strong negative impact on adaptability. So, there's an interesting tension between enjoying the differences in cultures or in individuals and the secondary impacts that come along

with those individuals and cultures, especially to the existing natural systems in-place.

IC: What 'differences and 'diversity' mean to you? These terms are often used interchangeably and to highlight the complexity and richness of social and ecological systems. In practice, how do you incorporate these terms in your landscape designs to create inclusive and adaptable environments?

DH: We need to distinguish between diversity and difference. You mentioned that a lot of people use those interchangeably. Difference means that one thing is distinct from another, and there can be celebration in that. Diversity, to me, means a healthy variety of many different things in one place.

For example, in our design school education, we were discussing the recent history of modern design, modern architecture, and modern landscape architecture. It was like one very simple paradigm that might work worldwide. It was fascinating to me that many folks thought that was a great idea. However, in the past 50 years, we've seen a bit of a reaction. Even though there might be an interesting idea to study, time- and place-based design solutions might often offer more thoughtful and appropriate interventions than a simple global paradigm.

There is still a lot we don't know about these things. We enjoy new processes until we realize some of their aftereffects. In all scientific efforts, but particularly in the design field, we must be super-careful about cross-cultural and environmental changes. Bringing something from one place to another can have unforeseen impacts, and sometimes, it may be too late to reverse the damage. Therefore, we must be cautious and develop a better process for testing things before introducing them to new environments.

IC: Does this carefulness in your projects limit your use of certain plant species or make your choices more site-specific?

DH: Certainly, it does. Plants and animals are the ones we see impacted the most when brought from one place to another. Even design techniques need careful consideration. For example, when we practiced in China, we had clients who wanted American-style suburbs, but we knew from experience that it wouldn't work well there. Even though certain designs might have evolved over 100 years in the US, taking that model to a new place can cause environmental problems. Diversity is fascinating, but we must apply filters and careful consideration to avoid negative impacts.

So, in our field, although we area sked to do it more every day, we must be very careful about quickly implementing design solutions from one part of the world to another. I believe it is the responsibility of design schools to develop better processes for testing and adapting these ideas to ensure they are suitable for their new environments.

Fig. 4 - Appalachian Power Company (APCo) Cane River, NC. Nagel Powerline Siting and Guidelines Carefully integrated into the agrarian landscape, the powerline minimizes environmental impacts while meeting global energy demands, preserving the character of the site.

IC: You worked in different environments and carried out a lot of community work. In all these cases, collaborative design across disciplines is a core aspect of your work. How do you integrate insights from multidisciplinary studies into your designs or community planning to promote diversity and address differences?

DH: One of our specialties is designing for small towns, wherever they might be. Part of the work in small towns is utilizing differences and diversity in a beneficial way. For the observant, small towns are a remarkably healthy model for democracy, for design, for people to care. To effect beneficial change, and as an attempt to deal with this problem that one mind cannot consider everything that must be considered to make a sensitive and responsive design, we engage a variety of minds with a variety of educational backgrounds - collaborating to make reasonable design changes in small towns. To draw a parallel with a medical model - when you have a very sick patient, you get a dozen different specialists around the table to decide how to take care of that patient. You have doctors, nurses, respiratory specialists, heart specialists, etc. all around the table discussing the case. We bring this methodology to towns. Towns are the patient; We involve the economist, the branding and marketing expert, the landscape architect, the architect, the traffic engineer, the city planner, and the historian–all working in the same room at the same time, discussing different techniques, critiquing each other's work, and contributing to the discussion.

The design workshop is the closest design process metaphor to music's jazz. You get different musicians, some of whom may have never played together before, and you don't know exactly what the song will be until it's played. There's no time to write a score; you just get everybody in the room, with the general tradition, and figure it out. This is an extraordinarily productive way to come up with concepts to revitalize a town. It's not just the professionals I mentioned; you need plenty of citizens in the room as well. Ideally, you have citizens who have lived there their entire lives or for a long time, so they can bring valuable insights to the conversation–what parts of the town are important to preserve, what parts are not working well, and what needs to change. We call it fingerprints. We want as many fingerprints on the plans as possible.

IC: You are open to experiments, but as you said, they require carefulness and the application of proper filters. Do your experiments in landscape architecture aim to improve its role as mediator between humankind and Nature, in line with your work philosophy?

DH: I think we have a unique responsibility, and I see it being practiced at various levels of efficacy. Sometimes it's done very well, and sometimes maybe not. It's fascinating to me that the whole idea of land-

scape architecture is an experiment to see if this can be done. There aren't many other professions bold enough to say, "Well, you know what? We're just going to change this area." Some engineers and architects may have that nerve, but in our profession, that's what we do.

IC: How do you manage experimental elements in projects and how does the site context support or challenge these innovations?

DH: We've all been taught different site analysis techniques that can be adapted over time. I tend to work on larger project sizes, like county or municipal scales. For me, the kind of Philip H. Lewis or Ian McHarg overlay process is very helpful. We build different overlays of natural and cultural elements, which are very effective methods. What's great about the overlay method (or x-ray method) is that once clients see it, they understand it and can replicate it easily.

However, I'm not sure the overlay method is sophisticated enough to be a reasonable model for large-scale design. It gets us to a certain level of professional practice and current standards. There are more sophisticated techniques depending on what we're trying to solve. All landscape architects should try to understand and use these techniques. In the last decade, we've seen some people move beyond traditional techniques. My expertise is in adapting landscape architectural methodologies to particular places. We've brought our practice back to Virginia and the southeastern United States, focusing on deeper knowledge about these areas. This approach feels more important to me now than trying to cover a broader area.

IC: The digital revolution has significantly transformed how people interact with landscapes, creating opportunities for more informative and interactive experiences and understanding of landscapes. How do you balance physical and digital interactions within your landscape designs to enhance diverse user experiences?

DH: I believe the digital capabilities have expanded so much just in the 40 years I've been practicing,

Fig. 5 - Design Workshop Photo. We spend a lot of time engaging with citizens, programming their ideas into new park or green infrastructure facilities. We call it "fingerprints." The more fingerprints on the plan, the better.

and if used correctly as a tool, they can solve some of these issues I've been wrestling with. For example, we can build a much clearer, easier-to-understand, and more comprehensive database for site analysis using digital means. It's amazing how much we can now analyze to better understand the environment. Also, we are now able to use digital tools for to better understand three-dimensional interventions before they're built.

Forty years ago, we drew plans and sections and then went out to look at them built, often finding unexpected results. But now, with digital tools, we don't have that excuse. We should understand every corner of our designs, and while there are still some surprises, we have a much better chance now to understand the impact of our work before it gets built. This helps a lot.

To me, AI will exponentially increase our capabilities. If we can train AI to do some of the research for us, we can spend more time making better decisions. We're not there yet, but this could be helpful in supporting diversity and differences among people and species.

Potentially, right. But just like anything else, AI could be used to make everything the same, or it could be used to better explain diversity and differences. We're on the cutting edge and need to figure out how to use this to our advantage so that we can better enjoy and appreciate differences and diversity. It's all about realizing that others might have better ideas and figuring out how to use them. Developing that kind of attitude is crucial, and we could train AI to help us do that if we wanted to. I hope we can achieve that.

Navigating Globalization with Local Sensitivity: a discussion

The complexity of modern environmental challenges, from climate change to urban sprawl, demands input from a variety of fields. Landscape architects increasingly recognize that collaboration with ecologists, urban planners, engineers, sociologists, and community developers is vital to creating functional and resilient landscapes. Studies in the field support this approach, emphasizing the need for interdisciplinary work to address the interwoven environmental, social, and economic aspects of landscapes (Thompson & Steiner, 1997). For Hill, this interdisciplinary approach enables landscape architecture to comprehensively tackle environmental and social issues, which lie at the core of the profession. Collaboration not only enriches the design process but also fosters more holistic outcomes that balance ecological and social concerns. Nassauer and Opdam (2008) stress the importance of ecological input for designing landscapes that enhance local biodiversity and build resilience to climate change. Similarly, collaboration with urban planners ensures that projects align with city planning goals, integrating projects with existing

infrastructure for sustainable growth (Steiner, 2011). Hill emphasizes site-specific, adaptive interventions over speed and efficiency, urging designers to mediate change rather than react to it. He also highlights how collaboration with sociologists and community developers creates designs that address the needs of marginalized communities, fostering diversity and countering landscape homogenization.

Hill also stresses the importance of testing before transferring elements across environments, aligning with ecological principles that warn against introducing non-native species or practices. He extends this caution with a "medical model," applying diagnostic, prescriptive, and treatment-oriented processes from medicine to landscape architecture. This model promotes rigorous, context-specific design interventions tailored to each site's unique needs, supporting ecological sustainability and cultural identity under global pressures. By positioning designers as cautious and methodical stewards, Hill balances specialized expertise with community input, integrating technical knowledge and local engagement. This approach aligns with McHarg's "design with nature" (1969), offering a nuanced strategy to preserve ecological diversity and cultural heritage while addressing globalization.

A holistic approach to ecological and social design

Hill's commitment to community design collaboration and his interest in artificial intelligence (AI) reflect his belief that landscape architecture should serve both ecological and social needs while embracing technological advances responsibly. As Sanoff (2000), highlights, community collaboration enhances designs by aligning outcomes with local needs, countering the homogenizing forces of globalization, and creating landscapes that reflect diverse cultural values. Hill employs a variety of engagement techniques, from public meetings to participatory mapping, to ensure community voices shape final designs, supporting landscape justice principles (Low and Lawrence-Zúñiga,2003).

Landscape architects play a pivotal role in advancing inclusive and innovative methods and practic-

es. How can participatory design methods be reimagined to ensure that all voices are heard and adapted to evolving needs in a globalized world? AI could be a powerful tool for landscape architects to design with precision and sensitivity to local conditions as it can assist in mapping ecological patterns, predicting environmental changes, and facilitating data-driven community engagement by analyzing large datasets to capture both ecological and social diversity. However, Hill emphasizes that AI should enhance human expertise, not replace it, recognizing the importance of ethical considerations in its application. This view aligns with scholars like Del Campo (2020), who caution against over-reliance on technology. For Hill, AI is a complementary tool in the design process, supporting nuanced decision-making essential to the profession. The application of technology raises an intriguing question: how can it assist in addressing concerns about introduced species? Simberloff (2013) notes that technology, combined with prevention strategies and effective management, can offer new perspectives on combating biocultural homogenization
Landscape architects, urban planners, and ecologists play a vital role in promoting site-specific, biodiverse, and culturally sensitive design. Hill's advocacy for tailored, multidisciplinary collaboration challenges the one-size-fits-all approach for and community engagement, demonstrating how landscape architecture can reflect the unique characteristics of each site. Considering that community collaboration is more than just a tool for gathering input but is a way to ensure that landscapes reflect the cultural identity and aspirations of the people who inhabit them, what tools can be developed to intentionally activate changes in the landscape that generate distinctive and identifiable places? Moreover, what role can technology – such as AI, GIS mapping and virtual reality – play in supporting diversity in landscape design without reducing complex systems to simple data points? If used responsibly, technology (as AI) can serve as a tool to analyze and predict place-making dynamics, aiding in the creation of designs that preserve ecological and cultural diversity, countering the forces of globalization that drive simplification.

(All photos by the Author or Hill Studio).

References

Antrop, M. 2005, *Why landscapes of the past are important for the future*, «Landscape and Urban Planning» n. 70, pp. 21–34

Baldock, K. C., Goddard, M. A., Hicks, D. M., Kunin, W. E., Mitschunas, N., Osgathorpe, L. M., Potts S. G., Robertson K. M., Scott A. V., Stone G. N., Vaughan I. P. and Memmott, J. 2015, *Where is the UK's pollinator biodiversity? The importance of urban areas for flower-visiting insects*. https://royalsocietypublishing.org/doi/10.1098/rspb.2014.2849 (05/24)

Corner, J. (ed) 1999, Recovering Landscape: *Essays in Contemporary Landscape Architecture*. Princeton Architectural Press, NY

Del Campo, S. 2020, T*he ethical implications of AI in design: Balancing technology and human judgment*. «Journal of Design Studies» n. 62, pp.123-134.

Elmqvist, T., Folke, C., Nyström, M., Peterson, G., Bengtsson, J., Walker, B., & Norberg, J. 2003, *Response diversity, ecosystem change, and resilience*, «Frontiers Ecology and the Environment» vol. 1, n. 9, pp. 488-494

Francis, M., & Lorimer, H. 2011, *Urban open space: Designing for biodiversity.* «Landscape Journal», vol.30, n.2, pp. 259-275.

Gamez-Virues S. 2015, *Landscape simplification filters species traits and drives biotic homogenization,* «Nature communications», n.6:8568, pp.1-8

Goddard, M., A., Dougill, A., J. Benton, T., G. 2010, *Scaling up from gardens: biodiversity conservation in urban environment*s, «Trends in Ecology & Evolution», vol.25, n. 2, pp.90-98.

Kowarik, I. 2011, *Novel urban ecosystems, biodiversity, and conservation*. «Environmental Pollution», vol. 159, n. 8–9, pp. 1974-1983.

Lawrence-Zúñiga, D., Low, S. M. 2003, T*he anthropology of space and place: Locating culture.* Blackwell Publishing, Oxford

Low, S., & Altman, I. 1992, Place Attachment, in Id. (eds) *Place Attachment*, Plenum, New York, pp.1-12.

Manzo, L.C., Devine-Wright, P. (eds.), 2021, P*lace Attachment,* Routledge, Abingdon

McHarg, I.1969, *Design with nature*, Wiley, Hoboken

McKinney, M. L., & Lockwood, J. L., 1999, *Biotic homogenization: A few winners replacing many losers in the next mass extinction*, «Trends in Ecology & Evolution», vol. 14, n. 11, pp. 450-453

McKinney, M.L. 2006, *Urbanization as a major cause of biotic homogenization*, «Biological Conservation», n.127, pp. 247–60

Meyerson, L. A., & Mooney, H. A. 2007, I*nvasive alien species in an era of globalization,* «Frontiers in Ecology and the Environment», vol.5, n.4, pp.199-208.

Miller, J.R. 2005, *Biodiversity conservation and the extinction of experience*, «Trends in Ecology & Evolution», n. 20, pp. 450-453

Mostafavi, M., & Doherty, G., 2010, *Ecological Urbanism,* Lars Müller Publishers, Zurich

Nakamura, Y. 2006, T*he changing face of Japanese gardens*, «Landscape Review», vol.12, n.1, pp. 45-62.

Nassauer, J. I., Opdam, P. 2008, *Design in science: extending the landscape ecology paradigm*, «Landscape Ecology», n.23, pp.633–644

Olden, J. D., Poff, N. L., Douglas, M. R., Douglas, M. E., & Fausch, K. D. 2004, *Ecological and evolutionary consequences of biotic homogenization*. «Trends in Ecology & Evolution», vol. 19, n. 1, pp. 18-24

Rapoport, A. 1982, *The Meaning of the Built Environment: A Nonverbal Communication Approach.* Sage Publications, Los Angeles

Relph, E. 2022, P*lace and Placelessness*, Sage Publications, Los Angeles

Robbins, P. 2007, L*awn People: How Grasses, Weeds, and Chemicals Make Us Who We Are*. Temple University Press, Philadelphia

Sanoff, H. 2000, *Community participation methods in design and planning*, Wiley, Hoboken

Sassen, S., 2017, *Land as infrastructure for living*, in C. Girot, D. Imhof (eds.), Thinking the Contemporary Landscape, Princeton Architectural Press, New York, p.30-37

Simberloff, D. 2013, I*ntroduced species, homogenizing biotas and cultures,* in R. Rozzi, S. T. A. Pickett, C. Palmer, J. Armesto, J. Baird Callicott (eds.), Linking ecology and ethics for a changing world: values, philosophy, and action, Springer, NY, pp.33-47.

Steiner, F. 2011, *Landscape ecological urbanism: Origins and trajectories*. «Landscape and Urban Planning», n 100, pp. 333–337

Thompson, G., Steiner, F. R.1997, *Ecological Design and Planning,* Wiley, Hoboken

Tilley, C. 2016, *Introduction: Identity, place, landscape and heritage*, « Journal of Material Culture», vol.11, n.1-2, pp.7–32.

Thwaites, K. 2007, *The role of ecology in landscape architecture: A review of participatory practices* «Landscape Research», vol.32, n.4, pp.433-455.