



Article

From Utopia to Futurescapes: Futures Literacy for Next Generations of Architects and Designers

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Abstract

The future is the first fundamental projection for architecture. Architecture has a duration in time, which often goes beyond the very life of its designer, so it is in itself a time machine, which must inexorably come to terms with projections of the future. Through a review of utopias in the field of architectural design over the last few centuries, this paper intends to explore utopian aspirations for the future spatial ideal of architectural education and the dialectic of its need to be 'realized'. The findings indicate that the futurescapes of architectural education requires cross-fertilization through interdisciplinarity, which emerges from the bottom up, generating contributing scenarios from the community; the adaptability of scenarios that are dynamic and in turn can generate variables in constant transformation; the temporal stratigraphy of the built environment, involving the co-existence of artifacts from different eras within the same space, and the need for reconciliation and sustainability; as well as the need for interdisciplinarity and "out of the box" thinking that contributes to a greater awareness of non-traditional approaches. From the perspective of design education, the futurescapes, through experimentation in literature research and educational practice, it is evident that in the educational practice of fostering the next generation of architects and designers, they need to be capable of more than assessing issues from the perspective of design and community, not only to face current challenges but also to design the future they desire for themselves and the communities in which people live.

Keywords

Futurescapes, utopia, architectural design, education, literacy

Introduction

The future is the first fundamental projection for architecture. Because architecture has a duration in time, which often goes beyond the very life of its designer, so it is in itself a time machine, which must inexorably come to terms with projections of the future.

Whoever designs a space, a building, must primarily learn to create future landscapes, scenarios in which the building can continue to exist. These futurescapes can either validate the project or produce its inexorable decline that may entail its demolition or instead its crystallization as a monument.

In generic terms, utopia as a mode of imaginatively shaping the vision of an ideal society or form of life is a "spatial practice" (De Certeau, 1984) specifically designed to serve a universal purpose: it depicts future or alternative societies and imaginary landscapes or invented worlds that construct, sustain and circulate the idea of a culturally and politically unified - or, for that matter, fragmented - community of individuals (Pordzik, 2009). One of the most significant ways in the past in which architecture has taught itself to elaborate the future has been through utopias borrowed from philosophy, religion, science, politics, art, and even invented its own to experiment with. Hence, the relationship between architecture and the future has been mediated by utopias, so there has been no utopia without a location, without a place, a city, or a building that could host it.

Contemporary architecture has made use of interactive disciplines linked to gaming for the production of simulations, interactive scenarios and digital twin generation. But today, the need to build the future requires a

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systematic literacy of those who have to construct such important artefacts as buildings with the future.

Until the advent of futures literacy, which will need to be in the hands of higher education institutions, research, and knowledge, as well as impartial individuals who are able to forge alliances, engage in training, and pursue, as described by anthropologist Marc Augé "The utopia of education is an ideal of investigation and learning to regain courage and face the crippling present we have arrived at. We still need to have faith in utopia as a motivating force to change the status quo and in education as a necessity and a way for everyone to get back in the game, study, learn, imagine, and know".

This paper discusses the connection between the future and architectural design by reviewing the experiments of architecture and spatial design with utopias over the past, the theories of futures studies and future literacy, and how utopias can be a medium for designing concrete and aspirational futures and spaces.

This paper is guided by the following three research questions:

What is the relationship between futurescapes and architecture as well as spatial design?

How can utopias inspire futurescapes and engage architectural and spatial design education for future literacy?

How can future thinking and futurescapes be incorporated into architectural and spatial design education?

The second section of this paper discusses the dialectical relationship between the history of utopia in the direction of spatial design and the futurescapes. In Section 3, we will discuss how the axiomatic theory of utopia feeds back into future designs and futurescapes. Further in the fourth section of the paper, we will explore how utopian theories from the past to the future map onto the education of the next generation of architects and spatial designers.

Ideal and Concrete Utopias

“The home of the Utopian impulse was architecture rather than painting or sculpture. Painting can make us happy, but building is the art we live in; it is the social art par excellence, the carapace of political fantasy, the exoskeleton of one’s economic dreams. It is also the one art nobody can escape.” (Hughes, 1980)

The utopias of the past were permeated with an optimistic view of the future, because 'Pessimism is a luxury of good times [...] in difficult times, pessimism is a self-fulfilling, self-inflicting death sentence,' decreed psychologist Evelin Lindner.

The practice of optimism with respect to the future has been an extraordinary drive for change in architecture over the centuries: from the representation of the Ideal City (15th century) becoming the architecture of the city of Pienza, through the centuries to the visionary architecture of the 18th-century Utopists, Étienne-Louis Boullée and Claude-Nicholas Ledoux, and the social utopias of Rober Owen and Charles Fourier.

In Italy, the most obvious marriage between futurescapes and architecture took place with the Futurists, such as Sant’Elia, who believed in the technologies of speed and energy, and who designed buildings capable of accommodating all the impetuosity of the hoped-for future, as did the Radical movements in architecture in the 1970s (Archigram, Archizoom, Superstudio, Buckminster Fuller, etc.) who designed theoretical, extreme and visionary futures that served generations of designers as reference imagery within which to experiment.

Architecture then made use of science fiction in its forms in literature, comics and film. The 19th and 20th centuries saw the proliferation of political and scientific utopias that started the strand of 'Science Fiction'. Writers such as Philip Dick, directors such as Stanley Kubrick, Stephen Spielberg, Jorge Lucas and many others projected their visions into the future, often dystopian, for cyborg, post-human, technocratic and psychopolitical narratives capable of foreshadowing to the public what would happen if any of those predictions came true.

One of the most significant ways in the past in which architecture has taught itself to elaborate the future has been through utopias borrowed from philosophy, religion, science, politics, art, and even invented its own to experiment with. The relationship between architecture and the future has been mediated by utopias, so there has been no utopia without a location, without a place, a city, or a building to host it (Mosco & Triassi, 2017).

The history of utopias has a double level, that of ideal utopias and that of concrete utopias: futurescapes. Utopia is a non-place that is, however, a model to aspire to, while a futurescape is a real place that experiences a model of

a possible future: a realized utopia, a concrete utopia.

The relationship between utopia and futurescape is thus cardinal because the former serves to host scenarios of futures, while futurescapes are the projects that give consistency and form to utopias.

The practice of optimism with respect to the future has been an extraordinary drive for change in architecture over the centuries: from the utopia of the Ideal City (15th century) becoming the futurescape in the Piazza Pio II in Pienza.

Through the centuries, to the visionary architecture of the 18th century, utopists such as Étienne-Louis Boullée and Claude-Nicholas Ledoux, and the social utopias of Robert Owen and Charles Fourier. There were even perverse forms of nostalgic utopia that denied the future by immortalizing, in a sort of photographic freeze-frame, what remained of the grandeur of ancient buildings to preserve their memory, such as Piranesi's imagery translated, many centuries later, into postmodernist futurescapes, by architects such as Charles Jencks, Charles Moore, Michael Graves.

Many futurescapes, instead, are derived from political, economic, environmental, and hygienic utopias such as those about cities. Ebenezer Howard (1850-1928), who had been studying cities before the establishment of urbanism as an academic field, was one of the most influential protagonists behind the Garden City movement. His book *Garden Cities of Tomorrow* (1902), for which he became widely known is still so influential that garden cities continue to spring up all over the world nowadays.

However, the speculative exercise on the city was mostly based on intuitions, on falling in love with new construction or transportation technologies that led to scenarios of futures that had not yet been built. "Paris of tomorrow could be magnificently equal to the march of events that is day by day bringing us ever closer to the dawn of a new social contract," wrote Le Corbusier in support of Plan Voisin. Plan Voisin is a real-world rendering of Ville Contemporaine, an urbanistic utopia of three million people. Plan Voisin called for the central part of Paris to be leveled to the ground (except for the most valuable monuments) and developed as a universal grid of streets.

Le Corbusier's utopia never left the drafting table, but Plan Voisin broke off from tradition, stimulating the birth of a modern city, devoid of a corridor that made the cities more spacious, brighter, and cleaner (Mosco & Triassi, 2017). F. L. Wright's Broadacre City is one of the architectural and urban utopias that most closely resembles the present. Where flying machines were used for a closer connection, which today we could translate into a sophisticated and technological system of last-mile logistics with drones and cars better suited to city environments. In contrast to his contemporaries, Frank Lloyd Wright laid the groundwork for contemporary studies, from urban reforestation to the '15-minute city' advocated by urbanist Carlos Moreno.

The most obvious marriage of Utopias and Futurescapes occurred in Italy with the Futurists, such as Antonio Sant'Elia, who believed in the technologies of speed and energy and designed buildings capable of accommodating all the impetus of the hoped-for future. His legacy was taken up by radical movements in architecture in the 1970s (Archigram, Archizoom, Superstudio, etc.) that designed theoretical, extreme, and visionary futures that served as a reference for generations of designers to experiment and build. Arcosanti, a still-in-progress project by Paolo Soleri, is an urban extermination of the concept of ecology and housing density. A social and community architecture project that takes shape, matter, and life. Till the utopia of the city in a building which became a futurescape embodied into Corviale, the 1 km long building, designed by Mario Fiorentino.

Even if Corviale failed in its commitment to building and as a social utopia, it is still inspirational for many other projects such as The Line at the heart of the Red Sea: the megacity Neom, which Saudi Prince Mohammed said would be home to 1.2 million people by 2030.

Architecture therefore used science fiction in literature, comic books, and film. The proliferation of political and scientific utopias in the nineteenth and twentieth centuries gave rise to the strand of Science Fiction. Writers like Philip Dick and directors such as Stanley Kubrick, Stephen Spielberg, Jorge Lucas, and many others projected dystopian visions of the future for cyborg, post-human, technocratic, and psychopolitical narratives capable of foreshadowing to the public what would happen if any of those predictions came true. It now becomes evident that Futures Studies can make a significant contribution to the systematic design of futurescapes in architecture, and it is more and more optimism than pessimism towards the future, to experiment with forms of cities and architecture that can accommodate experimentation with alternative futures.

Like the futurescape of Seaside, the city in the movie *Truman Show*, which is the perfect city, orderly, safe,

where everyone smiles and is happy... and which in the movie is a fiction set but, is one of Florida's gated cities, built to provide safety, beauty, and normality for wealthy Americans who go for a comfortable retirement in the US South.

And it is no coincidence that countries experiencing rapid economic and technological growth, such as the United Arab Emirates, have incubated experiments such as the sustainable city of Masdar and the recent Museum of the Future, designed by architect Shaun Killa, as a projective laboratory of visions of futures linked to strategic themes for that country, and not only, such as travel, health, space, ecology, climate change, etc.(Barbara & Ferraro, 2022).

“A map of the world that does not include Utopia is not worth even glancing at, because it leaves out the one country at which Humanity is always landing. And when Humanity lands there, it looks out, and, seeing a better country, sets sail. Progress is the realization of Utopias”. (Wilde, 2007)

From axiomatic theory of utopias to futures studies

What architecture has done for centuries is to employ utopias as impossible scenarios, philosophical, intellectual, political but fundamentally historical exercises. They were the Radical movements in the 1970s that began to construct an axiomatic theory of utopias.

One of the theorists of the future in architecture was certainly Yona Friedman. He tried to investigate what potential utopias had to be “realized” and change the way we design the future of cities and buildings. His built legacy is limited, but Friedman’s utopian ideals represent one of the most important design of futurescapes because there was a quantum of feasibility behind his utopias (Friedman, 2000).

In the first instance, the birth of a “realized utopia” by Friedman came from below, from a collective dissatisfaction that took shape. For Friedman, utopias were only “realized”, if they produce collective consensus and if they assume the existence of technologies and behaviors capable of eliminating or transforming the initial dissatisfaction. Friedman and the radical architects brought to universities and schools this new idea that the future was not given, but that it was first a fundamental projection of the project and then an inalienable practice for students.

Design exercises capable of elaborating future scenarios had to be based on dialogue with other disciplines and avoid entering into disciplinary issues vertically. Architects like Friedman paved the way for scientist-architects like Nicholas Negroponte, physicists interested in art like Ilya Prigogine, and unconventional philosophers like Ivan Illich to teach architecture.

Thanks to this interdisciplinary cross-fertilization, began to be created the DNA of what are now the most established practices for futures studies in architecture universities:

- the emergence from the bottom, from communities producing contributing scenarios.
- the adaptability of scenarios, understood not as assertions but as dynamic and in turn generative variables, in continuous transformation.
- the temporal stratigraphy of the built environment involving a co-presence of artifacts from different eras in the same space and the need for reconciliation and sustainability.
- Interdisciplinarity and the need to think "outside the box" to raise awareness of an unconventional approach.

For Friedman, “true utopias are realized and believing in utopias and being a realist is not a contradiction because a utopia is, par excellence, realizable” (Friedman, 2000).

His ideas anticipated what can be considered the formative objectives of Futures Studies according to futurist David Hicks (Hicks, 2003) :

- Developing desired scenarios helps motivation and results.
- The anticipatory studies exercise makes students proactive.
- Understanding values helps to make appropriate choices among various possible alternatives.
- Understanding trends and events that can or may influence the future helps to better understand the consequences of individual and collective actions on future generations and leads to more considered decisions in the present.
- Developing creative imagination and critical thinking helps to discern a range of possible, preferable, and

desirable futures both personally and globally.

- Developing a personal worldview helps students cultivate their relationship with the idea of sustainable futures while improving and preserving society.

- Developing responsible citizenship and political skills contributes to active and responsible participation as citizens, to truly benefit from - and not just be subjected to - the decisions of others.

Futures literacy for the next generations of architects and designers

Architecture has long thought that progress would be limitless and economic growth would continue and that our living standards would also always improve, and this was the case until not so long ago.

In recent decades, the vision has changed and not only is the future not inexorable, but it is evident how much the impact of our designs can distort it and even backfire on humanity. Although the very idea of a project cannot be imagined without visions of the future, today there are very few schools of Architecture and Interior Design in the world where Futures studies are included as a core teaching in educational and academic programs. It is time to start literacy from the very beginning of education, so that the future is not seen as an inescapable situation therefore not considered but becomes a real design methodology for the next generation of students at every level of education (Bishop & Hines, 2012).

Although it is evident that the future is strategic for those who, working with students, ask questions about tomorrow, there is still a widespread prejudice that future studies are abstract and misleading with respect to the problem-solving needs that some more pragmatic approaches impose.

Yet, it is evident that the current crises (from pandemics to wars, to energy and environmental crises, as well as political and economic crises) paralyze the new generations with respect to the ability to look forward in a sort of planning block with respect to the future in its most diverse forms (Poli, 2017).

The urgency of teaching futures is thus closely related to the need to prepare for them, including their construction, selection, and completion. The educational goals associated with teaching futures are aimed at educating both individuals and groups. The educational goal is to assist students in developing the ability to see and prepare for their own futures, whereas the teaching goal is to assist students in developing the ability to interpret major changes, whether technological, political, or social. Both objectives are required to stand critical in relation to mainstream visions, but also to geopolitical scenarios, those proposed by futurists, or international goals such as the Sustainable Development Goals (SDGs), which the United Nations has identified as the 17 common goals for the 2030 Agenda.

Future architects and spatial designers will have to evaluate issues from the standpoint of design, communities, and establish their own position on merit, not only to face the challenges of the present, but also to design the futures they prefer, both for themselves and the communities in which they live.

Architecture has a duration in time, which often goes beyond the life of its architect, so a building is a time machine, which must deal necessarily with projections of the future.

Through Futures literacy, students can build greater 'awareness of choices, the ability to judge what one can or should do, know how to choose suitable options in uncertain contexts, and take responsibility for the consequences of decisions and behavior. In short, operating with moral autonomy requires both a code of ethics capable of directing the 'right' behavior toward others and the independence to act with personal integrity in difficult situations (Poli, 2017).

The role of project practice in the construction of a theory of futures leads students to critical analysis and autonomy with respect to disciplines, but also allows them to gain awareness of the role of design in the construction of futures.

The scenario

The story of a girl who born in Corvetto in 2022 and will die in Corvetto. The main question is how can we make this place as a safe place during her life?

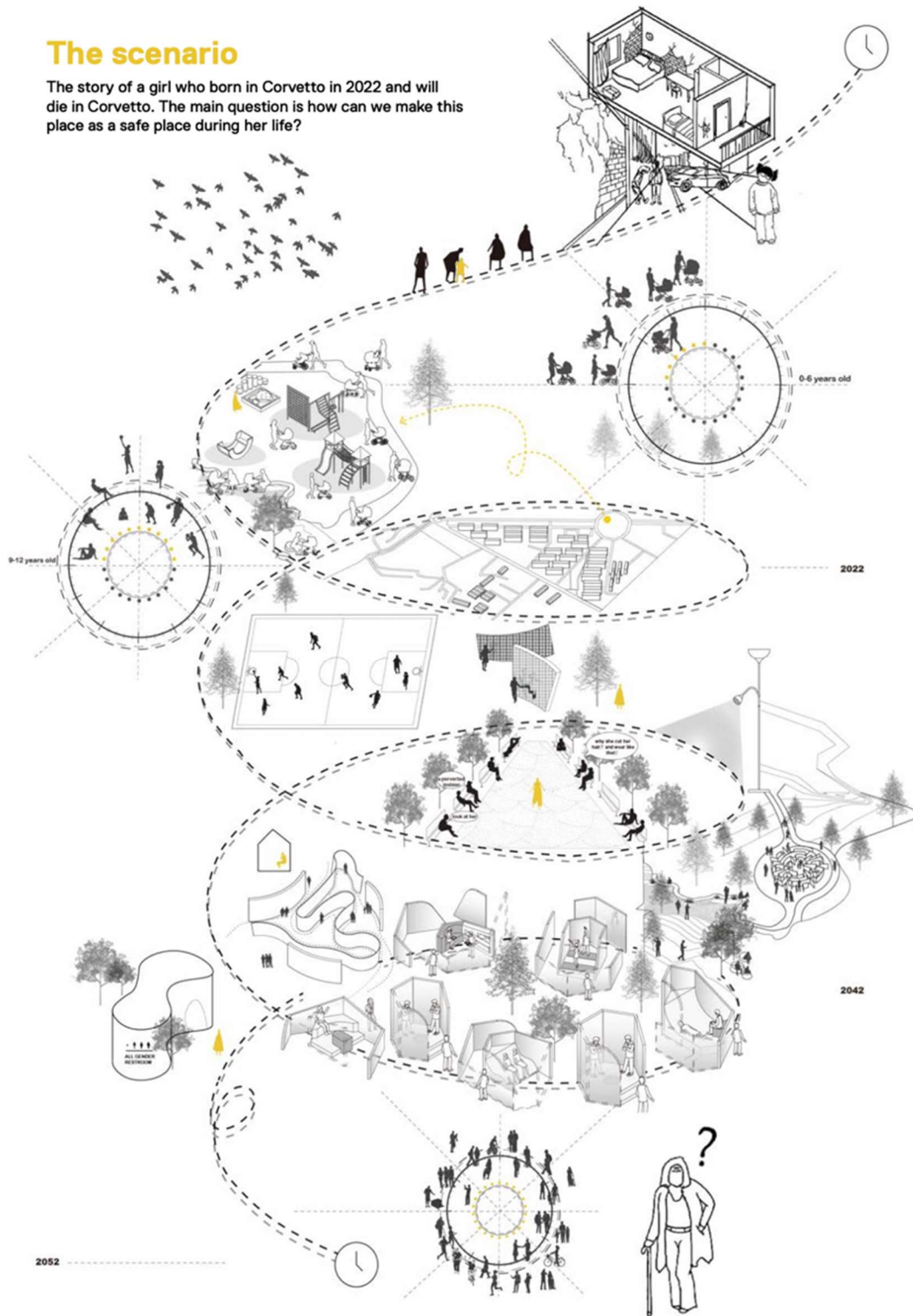


Fig. 1: Future Roadmap, 1. Interior and Spatial Design for Master students, Laboratory of Ephemeral/Temporary Space Design, Students works, Politecnico di Milano, 2022.

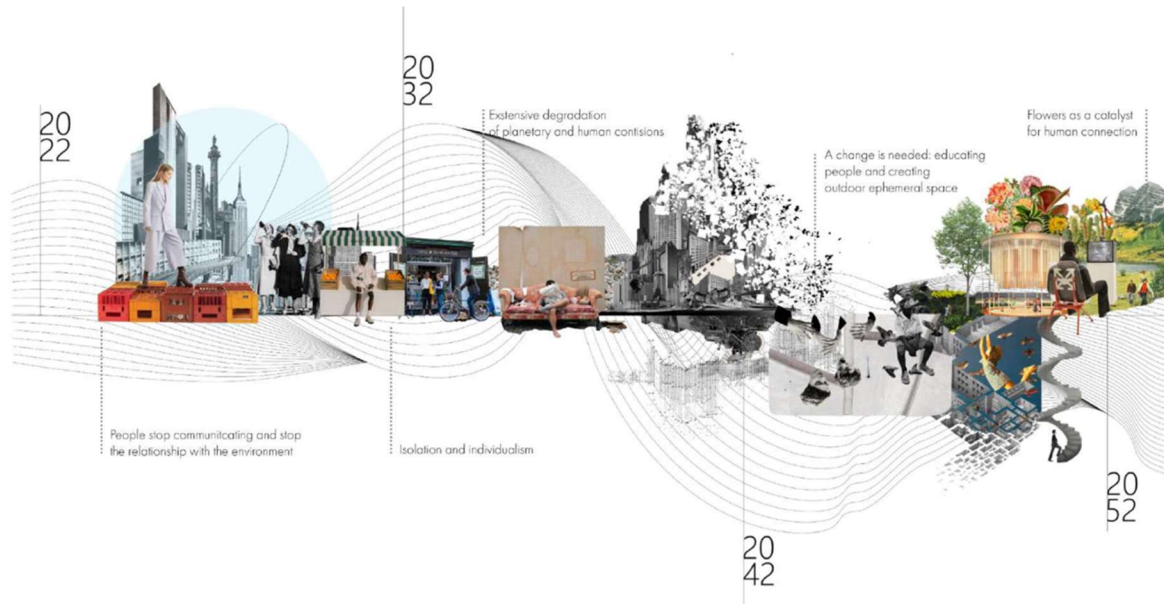


Fig. 2: Future Roadmap, 2. Interior and Spatial Design for Master students, Laboratory of Ephemeral/Temporary Space Design, Students works, Politecnico di Milano, 2022.

At a time when the future is in crisis when generations of students see it vanishing, cannibalized by previous generations, Futures Studies become a new design, pedagogical and research tool rooted in the social and political realities of the territories, involved through co-design processes, with communities and direct links with the territory (De Carlo & Marini, 2015).

Futures studies also have another advantage, which is that they embody the opposite form of paternalistic discipline instruction, as they enable students to regain autonomy and self-determination and consider the city as an 'educational environment'. The practice of futurescapes within architecture and spatial design courses not only encourages young students to construct their own futures, but also enables them to generate maieutic processes with respect to the communities involved in their projects and extract the same potential from them (Dalisi, 1967).

In the exercise book *Le strategie di futuro in classe* (Future Strategies in the Classroom), philosopher and futurologist Roberto Poli points to the transition from "future of" to "future in" as indispensable. The disciplines of architecture will in fact have to work not only on the identification of signals and trends, but above all on the "structured introduction of future-in" skills within the disciplines of design to "acquire the ability to actively use the future in the present, the skills necessary to 'make the future speak'".

The skills required must therefore be as much technical as cultural to enable awareness and language, but also the freedom that allows people to orient themselves, develop ideas and points of view, express themselves and defend their dignity (Miller, 2006).

All futures - possible, plausible, probable, and preferable - must have a voice in the project so that there is awareness of the mechanisms by which we can shape it (Amara, 1981). Futures must be made explicit and engaged "Making the possible futures being formed explicit is the best way to understand them, to articulate them, and to be able to take a position on them. We may like some of these futures, others less so. If we do not make them explicit, we cannot do anything about them and we may want to intervene too late when the chips are down" (Poli, 2017).

In architecture universities, the most often discussed and explored topic, across all disciplines, is in the past, rather than the future (Slaughter, 1996). Utopias went through macro-history, unidirectional, and monoverse. By contrast, future studies use an unusual sequence, past-future-present. In this sense, the present becomes the convergence of past and future, the place and laboratory of design (Poli, 2017).

The need to build the future requires a systematic literacy in the School of Architecture of those who must construct such important artifacts as buildings with the future. If we want to help the next generations to develop

their future skills, to visualize and realize the futures they consider desirable for themselves and for the community in which they live and work, we must introduce and disseminate the study of the future systematically in schools (Poli, 2017).

Discussion

Radical architects and designers used utopia as a generator of visions of futures as in 'Continent City' (1961), where Europe is represented by a network of high-speed railways, composing a large European city without borders. Or in the project by Archizoom and Super Studio in Italy, Ant Farm in San Francisco, and especially Archigram in the UK. The latter, formed in London in 1961, employed unusual media and formats, such as collages, zines, comic strips, and radical statements to spread the vision of pop, high-tech, consumerist cities. Their work was mainly imaginative and provocative, and their playful and dynamic cities like Plug-in City and Instant City had no presumption of actual realization but affected the generation of scenarios for architects to envision the future.

The role of representations and visualizations of futures becomes crucial in the communication and sharing of scenarios. The birth of digital software has introduced more sophisticated languages in both static representations, such as stop motion along the timeline of change, and more dynamic ones.

Relevant examples are for instance the videos used by the British creative agency Squint Opera, which bridges architecture, design, media, and technology to produce compelling narrative-driven immersive experiences in physical and virtual worlds. It uses Unreal Engine, part of Epic Games, to create large-scale virtual twins of future cities, as well as employing Virtual Production techniques to create filmic visions of places and industries.

Contemporary architecture is also using interactive disciplines, linked to gaming, to produce simulations, interactive scenarios, and digital twin generation. Both visualization techniques from videogames and interactive videos perhaps could help students to share futurescapes and the communities to understand the scenarios and futures. These new tools are familiar to students, who more easily than their professors can narrate and represent scenarios and their evolution over time.

Conclusion

In this paper we attempted to demonstrate how utopia can be used as a medium to connect space and architectural design, as well as the future of education. Utopias can and will be read as semiotic systems implying a distinct spatial and temporal dimension; their formative strategies (extrapolation, imaginary projection, spatial juxtaposition, etc.) are linked with a large variety of generic structures and narrative typologies such as the pastoral, the exotic, the sublime and the picturesque (Pordzik, 2009). In an increasingly complex and digitized scenario, at different time scales in the future, utopia might act as a motivation to change the present situation and a way to bring everyone back to playing, learning, imagining and recognizing problems in order to build a more sustainable futurescapes.

Furthermore, the limitation of this paper is that our discussion focuses primarily on the field of architectural and spatial design and does not devise other types of design themes. We also hope that more scholars will participate in the follow-up work to explore more possibilities of utopia and futurescapes in other design disciplines.

"The utopia of education: an ideal of research and discovery to regain strength and face the paralyzing present in which we have ended up. We still have to believe in utopia, a driving force to overturn the present situation, and in education, an individual and collective need and path to get back into the game, to study, to know, to imagine and to know". (Augé, 2009)

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