



21st Century Landscape Sustainability, Development and Transformations: Geographical Perceptions

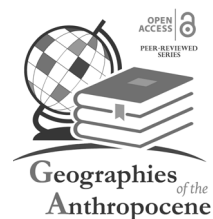
Giovanni Messina, Bresena Kopliku (Eds.)

Preface by Elena dell'Agnese

21st Century Landscape Sustainability, Development and Transformations: Geographical Perceptions

Giovanni Messina, Bresena Kopliku

Editors



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*21st Century Landscape Sustainability, Development and Transformations:
Geographical Perceptions*

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2. Cultural Heritage as a Mirror of Sustainable Development. Its Potential Roles and Functions in Areas of Environmental Crisis: a Case Study

Valentina Castronuovo

2. Cultural Heritage as a Mirror of Sustainable Development. Its Potential Roles and Functions in Areas of Environmental Crisis: a Case Study

*Valentina Castronuovo*¹

Abstract

The indirect destruction of cultural heritage through various local and national development plans is the subject of the research. As a systemic problem, it is directly linked to the global environmental crisis and to the specific cultural and social values of contemporary society. Among the areas where this short-circuit is particularly evident, Taranto - one of the most populous urban centres in Apulia (a region of southern Italy), whose case study is the subject of this study - is a typical place where, alongside the ineffective means of protecting and regenerating the territorial heritage, it seems crucial (for “the few”) to favour systems of industrial and military growth that have caused an environmental disaster. Urban abandonment, disintegration, social degradation, impoverishment of the quality of urban life, disease, death, compromised use of land and water are just some of the effects of “productive development at any cost”. A development policy that also reproduces the obvious effects on the cultural heritage of the area, which today represents a synthesis of the deep ecological crisis of the city: a widespread heritage stratified by almost three thousand years of history, whose impoverishment is the order of the day after repeated collapses and static instability, calculated here, methodologically speaking, from censuses and quantitative statistics from primary sources. The aim of this study is to demonstrate the need for a renewal of the development dynamics of the area under study, with a view to a regenerative coexistence of resources and assets within the paradigm of a culture of sustainability.

Keywords: *Cultural Heritage; Cultural heritage damage; Environmental crisis; Urban policies; Sustainable Development.*

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1. Introduction: cultural heritage as a matrix for developing a culture of sustainability

Industrialisation, practices of extractivism and linear economics have a significant impact on the longevity of architectural heritage, even when it is not directly affected by local events (Tengberg *et al.*, 2012). This is the ‘indirect’ destruction of cultural heritage, theorised in doctrines dealing with the highly topical issue of recent years: the destruction of cultural heritage even in the absence of armed conflict.

As early as 1968, UNESCO published the Recommendation for the Protection of Cultural Heritage Threatened by Public and/or Private Projects (UNESCO, 1968), which recommended that cultural heritage should be preserved in anticipation of the effects of the economic development of Member States: pollution, large-scale industrial development projects, agricultural activities, unauthorised excavations, inadequate infrastructure maintenance and planning, unsustainable tourism and urbanisation are among the factors that threaten the survival of cultural heritage today, as in the past. The continuation of unsustainable human activities in places where cultural heritage exists can undermine its resilience and resistance. Failure to recognise this risk, and consequently to calculate the true cost of loss and damage, could trigger mechanisms for the re-functionalisation of urban centres that are not sustainable. In recent years, the study of the impact of various manmade factors on heritage has developed, which is of great importance for heritage conservation (Hongshu & Xiufeng, 2023). By analysing these mechanisms, we can identify them and establish some macro-control measures. The combination of environmental monitoring technology for in-depth understanding of the environment in which built cultural heritage is preserved, whether mobile or immobile, and research on heritage conservation techniques represents a new way of thinking about its preservation and planning new protection plans (Hongshu & Xiufeng, 2023).

Moreover, the protection of cultural heritage is closely linked to the degree of resilience of a place (European Commission, 2003), understood as the ability to cope with and recover from aggressive external events (UNESCO, 1968). In the context of a broader reflection on the risks of loss and deterioration of a society’s history, memory and symbolic apparatus, the state of health of the cultural heritage could represent a “mirror” of the level of sustainability of the development processes implemented in a place.

*For many years now, there has been a significant and fruitful debate in Europe on the development of for the development of a territorial cultural policy:
reflection on the territorial value of cultural heritage, on its role in a modern society
which feels the need to look to the future, on its status as a significant element and generator of values, memories and identifications
(Carta, 2006, p. 37) ².*

But the common memory represented by heritage is not an inert, passive thing, but a field of activity in which past events are selected, reconstructed or erased, and endowed with political meaning (Said, 2000). Even today, territorial heritage represents a crucial space of investigation for observing the processes and dynamics of an ever-evolving extractive capitalism and for understanding how crisis of values are not sudden crises, but the result of a process that takes place through precise choices, choices that are materialised in territories and contested by territories (Imperatore, 2023, p. 14). The extent to which a concept of “active territoriality” (Banini, 2017) can be found in contestation, based on the so-called “consciousness of place” (Magnaghi, 2010), as an awareness of the value of territorial heritage as an essential element for the reproduction of individual and collective life, as well as biological and cultural life, is to be found in the possibility for the settled community to choose the distinctive features of the inhabited territory (Banini, 2017). From this perspective, the territorial cultural heritage becomes a by-product of the active interrelation between people, places, things and practices, a factor that emerges from “chains of connectivity”, which requires an ontological change in the decision-making process concerning it (Harrison, 2013). This integrated perspective allows heritage conservation to be reconceived as a creative and contingent process of producing the past, in the present, for the future, within the power/knowledge effects at play in the domain of governmentality (Harrison, 2013; Smith, 2006). Heritage can therefore become a means for the territory to reconfigure itself in the face of systemic crises (Caravello, 2023). It should therefore represent the restructuring of the ideological apparatus, the change in the way of thinking and seeing forms in the wider context of human activity (Eco, 1980). From this perspective, the activity of rediscovering the meanings of the signs of history, rather than a simple philology of the past, implies an “invention” of new interpretive codes. These considerations lead us to propose a prospective management

² Author’s translation.

of cultural resources: cultural heritage must go beyond its predictable uses, and the multiplicity of potential uses must face the challenge of a concept always oriented towards authenticity, implying a permanent interplay between adaptability and identity, in a perpetually “mobile” perspective. This is to avoid the trap of a cultural heritage that is seen only as a precondition for all collective strategies of public property management and not as a co-acting component of territorial development (Carta, 2006). Cultural heritage thus becomes, together with natural heritage, an ecosystem capable of concretely generating principles and criteria of a culture of sustainability.

The aim of this study is to demonstrate the need for a renewal of the development dynamics of the study area, aiming at the regenerative coexistence of resources and assets in the paradigm of a culture of sustainability. Furthermore, through a case study and analysis of secondary data of the historical centre of Taranto (Puglia, Italy), affected by an environmental disaster of anthropogenic nature, it aims to evaluate the effectiveness of the environmental measures adopted and to know the role of the protection and enhancement of the cultural heritage carried out by the political authorities in the last two decades. The choice of indicators used is closely linked to the purpose of the analysis. Within this framework, this chapter aims to explore considerations regarding the role of cultural heritage in regional and multi-level development planning, in the light of EU policies and recent global sustainability initiatives. The focus will therefore be on the trends and limitations of the planning approaches used so far, as possible evidence for updating local development plans in a human-environment relationship key (Fusco Girard, 2021) and for re-decoding areas of environmental crisis.

2. Materials and Methods

2.1 Study area

On 1 January 2023, the municipality of Taranto had a population of 188,310 and an area of approximately 249.86 km² (**Figure 1**).



Figure 1. Puglia Region and Municipality of Taranto: administrative boundaries view. Source: author's elaboration on Qgis data.

The city is developed along three natural peninsulas and an artificial island - the historic centre, known as the “Città Vecchia” (**Figure 2**) - between the two basins of Mar Grande and Mar Piccolo, natural outlets of the Gulf of Taranto.



Figure 2. The historic centre of Taranto: satellite view.

Source: author's elaboration on Qgis data.

Its strategic position has been responsible for its military importance for centuries. The Taranto dockyard, inaugurated in 1889 and located in the coastal area of Mar Piccolo, has become a source of marine pollution due to the release of pollutants such as heavy metals and polychlorinated biphenyls onto the seabed. Around 2,400 civilian employees work in the most important technical-industrial company in the Italian defence sector. Since the early 1950s, the city of Taranto has not only had a military function (confirmed by the construction of the new N.A.T.O. naval base inaugurated in 2004), but also an industrial one. In fact, it became a centre of excellence for steel production with the creation of the IV Centro Acciaierie “Italsider” (now Acciaierie d’Italia S.p.A.), inaugurated in 1965 and still one of the largest industrial steel processing complexes (the full cycle production plant covers an area of 15 square kilometres). To the north of Taranto is the ENI S.p.A. refinery, which is directly linked to the Basilicata oil field in Italy. On the same side are many centres for the management of hazardous waste from Taranto and other industrial areas. Despite the presence of many important production and military facilities, the city shows significant forms of degradation and socio-

economic imbalances linked to the strong constraints that large industrial groups and military institutions exert on its economy: high unemployment, poverty, marginalisation, crime, low education rate, environmental degradation and social and economic inequalities between the different neighbourhoods of the city. For example, the provincial employment rate for the 15-64 age group will only reach 44.7% in 2022, compared to the national rate of 60.1%³. Of particular concern is the poor health of the population (high mortality from respiratory and cardiovascular diseases) and excessive infant mortality. The mortality rate between 1995 and 2009 represents 15% of the total population (Comba et al., 2012). According to the official ISTAT mortality statistics, the change in the mortality rate recorded in 2021 with respect to the 2015-2019 average shows that the city of Taranto has one of the largest increases (+22%), a percentage probably favoured by the impact of the COVID-19 syndrome. In 2021, the Ministry of Justice will declare Taranto an environmental disaster city.

The state of the city's built heritage is also alarming, particularly that of Taranto's historic centre, which has suffered from years of neglect. In fact, since the 1970s, the 'historical' population has been forced to migrate to newly built neighbourhoods (Blandino, 1974; Trono et al., 2016), offshoots of the 'new' city, due to the static condition of the residential structures. The loss of architectural heritage is a process that also affects buildings of historical and cultural value, affected by multiple collapses and structural damage (Castronuovo, 2023) (**Figure 3**).



Figure 3. A square in *Taranto Vecchia* between collapsed buildings. Source: ph. Castronuovo Valentina.

³ Data available on the I.Stat platform, accessed on 7 march 2024.

On the basis of the Emergency Response and Damage Monitoring Instrument of the Taranto Provincial Fire Brigade Command, a census of the situation was made between 1995 and 2020 (the data from 2016 to 2020 are a projection of the statistical trend compared to previous years): more than 800 accidents were recorded, with an average of 31.38 accidents per year. The trend identified (**Figure 4**) can support the hypothesis that, in the absence of targeted intervention plans that include the historical centre of Taranto in a systemic planning of the area, further static damage will occur in the next few years in a range of 24-38, with an average static damage = 3. During the years studied, the maintenance of the structural fabric of the historical centre of Taranto was almost never definitive: often the same building was subjected to several successive static failures.

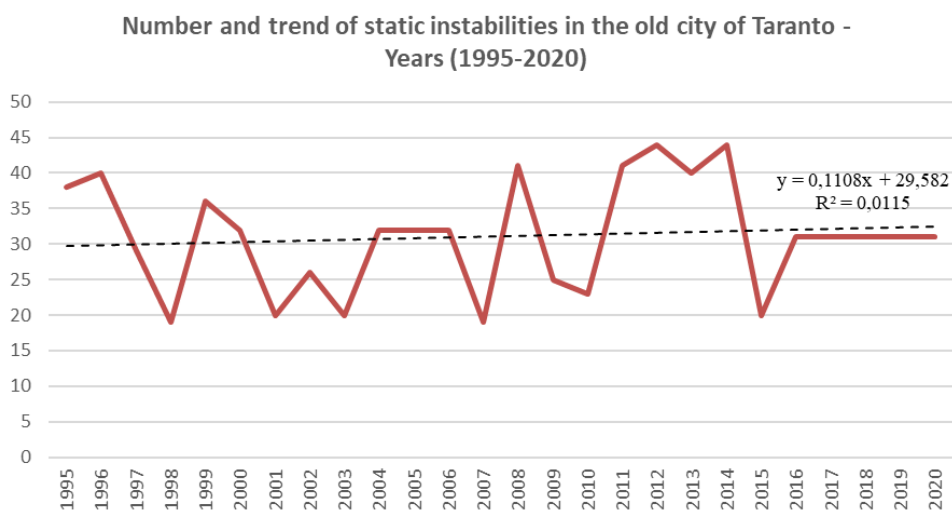


Figure 4. Static collapse trend 1995-2020. Source: author's elaboration from data archives of the Taranto Provincial Fire Department.

The abandonment of the architectural heritage of the historical centre is already having questionable consequences: the ongoing gentrification process, which is certainly slower than in other historical centres, tends, as always, to leave no room for the original inhabitants of the place and to distort the intended use of the area.

2.2 Data Collection and Analysis

After an in-depth analysis and literature review, the identification of core

indicators closely related to the management of the cultural heritage in the city of Taranto is carried out, with emphasis on the historical centre for the years 2001-2020. The decision to consider this period from the point of view of continuity was made due to the availability of good quality data. In general, an indicator is successful when it reflects the phenomenon under study, is measurable (in numbers, proportions and ranks), verifiable and reproducible. On the basis of the literature consulted, it was therefore decided to enrich the specific indicators to be included in the cultural heritage sector with territorial indicators (United Nations, 2004; Castronuovo, 2023; Caspersen & Olafsson, 2010; Bruni, 2016; Vallega, 2008; Fleskens *et al.*, 2009; Lee & Hsieh, 2016; Neri *et al.*, 2016). The data collected are divided into four main areas, namely “community”, “environment”, “cultural heritage” and “economy” (**Table 1**), according to their subject matter and the details presented.

Response indicator	Unit of analysis	Year range
Area under landscape protection (Km2)	Municipality	2001-2020
Area under landscape protection on total area (%)	Municipality	2001-2020
Municipal public expenditure devoted to the management of cultural heritage – (% of total budget expenditure)	Municipality	2001-2020
Current public expenditure per capita for the management of cultural heritage on a regional basis (museums, libraries and art galleries) (€)	Region	2001-2020
Static disruption of the historic centre's land heritage (no.)	Municipality	1995-2020
Urban regeneration plans/Site Specific policies with cultural heritage interventions (no.)	Municipality	2001-2020
Decontamination proceedings concluded out of total proceedings at provincial level (%)	County	2001-2020
Pro-industrial law decrees (no.)	State government	2001-2020
SIN sites surface area (km2)	State government	2001-2020
SIN sites surface area (km2) - marine area	State government	2001-2020

Table 1. Indicators selected and analysed on the ‘Taranto case’ subdivided by thematic area. Years 2001–2020.

The data used for the analysis came, depending on the topic, from scientific and technical reports from various institutions, research centres and active citizens, including the National Institute for Statistics (ISTAT, 2015); the Municipality of Taranto (Città di Taranto, 2019; Comune di Taranto, 2014); the Apulia Region - Department for Environmental Quality (Barbanente, 2013; 2014; 2015); the CNR Institute for Coastal Marine Environment; the Higher Institute for Environmental Protection and Research (ISPRA); the Ministry for the Environment and Protection of Land and Sea. The information was then evaluated in order to establish cause and effect relationships. The metrics representing each component of the analysis were first standardised, i.e. converted into purely numerical values, using the min-max method. The purpose of normalising the indicators was to make them comparable, as they were originally expressed in different quantities and polarities. The normalised indicators were then multiplied by a numerical coefficient to create a synthetic indicator category with an exponential mathematical function (OECD, 2008). This step required the application of a weighting system that considered all indicators equally important and the identification of the technique of compensatory synthesis (indicators were considered as substitutes).

3. Results of European and ministerial policies applied to the “Taranto” contex

The arrangement of the line graph resulting from the comparison of the aggregated data related to the government policies aimed at addressing and mitigating the pressures and issues related to cultural heritage (**Figure 5**).

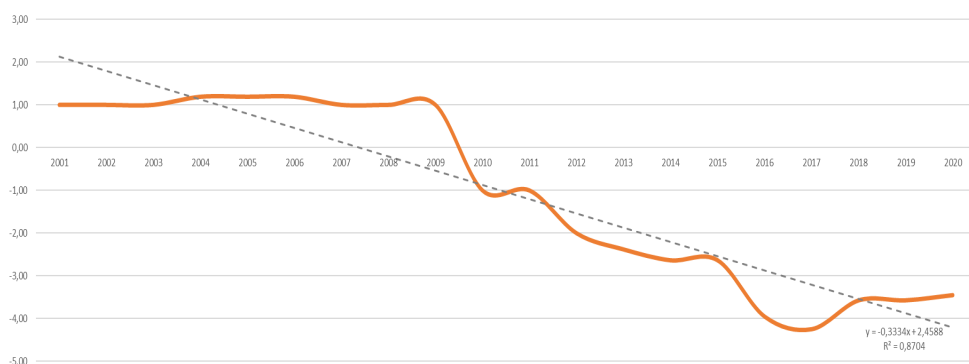


Figure 5. Improving impacts of multi-level policies on cultural heritage: trend in the Taranto urban area. Years 2001–2020. Source: author’s elaboration

Overall, the pattern over the defined period is negative, especially for the period 2012-2020, as a result of the implementation of the “pro-iron and steel industry decrees”. Despite the fact that these measures were taken in response to the environmental disaster in Taranto, they must be considered proportionate to the protection of the area’s environmental resources and aimed at maintaining industrial production. The slight increase in 2020 is due to the remediation processes that have been completed; of the total number of processes expected at provincial level, the entire area of the Site of National Interest (SIN) has been taken into account, which will increase by +38.96% in 2020.

The indicator “Urban regeneration initiatives involving cultural heritage” is particularly interesting. Several European and national policies have been applied to the Taranto competition, including the Urban II strategic plan for urban regeneration, which ran from 2000-2006. From the planning stages of the actions, their implementation did not correspond to reality. In fact, the proposed urban redevelopment initiative was intended to bring about a significant change in a part of the city, without mentioning the harmful effects of past industrial and military activities, which still have an impact on the area. The area of intervention was the historic centre and the Borgo neighbourhoods (designed by Murat at the end of the 19th century) and the Porta Napoli/Tamburi neighbourhood, the two branches of the historic centre that extend inland near the industrial area, for a total of 509 hectares and a population of 47, 400 inhabitants, with European funding of 15.1 million euros. The programme attempted to pursue a strategy based on the transformation of the territory through public interventions for the integrated recovery of the historic area, with the aim of reconnecting the historic centre with the whole urban area, strengthening both its historical roots and its settled society, and recovering the deepest ties that make the idea of the ‘city’ concrete and shared (Comune di Taranto, 2009). Of the forty interventions provided for in the Operational Programme, only 10% were structural interventions in buildings of historic-artistic interest already owned by the municipality and functional for their adaptation as cultural spaces. However, during the years in which the programme was implemented, the municipality went through a period of financial instability and political and administrative crisis, which had a significant impact on the implementation of the programme. The resurfacing of streets and pavements and the work carried out on urban amenities could not compensate for the failure of the programme in all those interventions that required longer-term planning, such as the repopulation of central areas, the restoration of dilapidated historic buildings and the improvement

of environmental quality (together with the rehabilitation of dilapidated sewerage and water supply networks). It is worth noting, among other things, that the most unsuccessful actions were concentrated precisely in what was defined as the ‘central point’ of the programme, because of the importance of the old settlement, the historic centre, ‘which had to be reconnected to the city in its sociological roots of building and strengthening the settled community’ (Comune di Taranto, 2009, p.8). To date, the two main policy instruments that have also been prepared for the historic centre of Taranto are the Institutional Development Contract (CIS), launched following the approval of Law 20/2015, which has suffered from the change of government at the national level (Rotondo, 2020), and the project “Re-inhabitation of the historic centre of Taranto”, approved within the National Innovative Programme for Housing Quality (PINQUA), funded by the National Recovery and Resilience Plan with 2.8 billion euros, which aims to restore the historic centre of Taranto to its original state and to improve the quality of life of its inhabitants. 2.8 billion, which aims to reduce suburban decay, improve the energy efficiency of public housing and carry out urban regeneration measures to improve the quality of life of the population. The progress of the CIS intervention programme includes, in the “Heritage, cultural activities and tourism promotion” sector, the implementation (now completed) of two cultural heritage interventions located outside the historical centre of Taranto, but close to extremely endangered industrial areas. The restoration of a number of buildings in the historic centre of Taranto are included in the “Urban Regeneration” sector, such as the restoration of Palazzo Carducci, Palazzo Troilo and a building on one of the main streets, via Garibaldi. All of these interventions are still at an embryonic stage. In particular, they are all measures derived from older programmes (e.g. Urban II) and have never achieved the implementation objectives of these specific measures. On the other hand, the PINQUA project “Restoration of the historical centre of Taranto” concerns a large part of the area, the eastern quadrant of the historical centre, which is characterised by a high housing shortage and socio-economic difficulties. Buildings, including residences. The plan aims to “repopulate” the area, which is currently largely uninhabited. A total of 95 apartments in 8,041 square metres of public space will be renovated at a total cost of 15 million euros. The process is still at an early stage and suffers once again from the serious administrative problems associated with the title deeds of the properties affected. The difficulty of tracing the owners of the properties, due to the historical process of abandonment, makes it difficult to carry out the planned works.

4. Conclusions

The rehabilitation and redevelopment plans for the historic centre of Taranto are only able to take root in a small percentage of the urban, social and cultural fabric of the area. This is evidenced by the fact that the interventions in favour of the island's cultural heritage are constantly transferred from one operational plan to another, which shows that no "altering" operation is effective without reprogramming the territory from a sustainable and long-term perspective. The results of the analysis must necessarily be read in this light: any policy, however methodologically coherent and well-intentioned, proves ineffective or partially effective in the face of the maintenance of the status quo of the existing production system. They are also useful as a first approach to highlight the possible causal relationships existing in the territory, they reveal gaps in the interpretation of the territorial cultural heritage, which should be the subject of a more detailed analytical evaluation in order to specifically understand the possible direct causal relationships between the environmental degradation of the city and the loss of its cultural heritage.

Furthermore, the period analysed is a limitation of this study. In order to highlight the causal relationship between the factors identified with regard to the loss/preservation of the cultural site, it is necessary to take into account the analysis of the Taranto area in both the pre-industrial and post-industrial periods. This comparison can provide further evidence of the effectiveness (or ineffectiveness) of the policies implemented. Obviously, the availability of data in the pre-industrial period represents an important source of follow-up. This gap can be filled by using historical indicators which, despite their limited distribution, can provide a partial view of changes in the environment of the study area.

However, cultural heritage, if used as a matrix of anti-systemic value and representation of processes of collective recognisability (Tinacci Mossello, 2014), and not as a mere recipient of recovery interventions, could play a primary role in the act of regenerating, with continuity, that social network of interpersonal trust relationships that is necessary for the very existence of any community and place over time.

In the conventions and documents of the Council of Europe and the Commission of the European Community on spatial planning and cultural heritage, spatial cultural assets are essentially considered as symbols of the cultural heritage of events that have marked the evolution of society. Cultural heritage thus translates the time of the cultures that have stratified the territory into visible signs and offers an image of the "eternity" of civilisation for

reflection. In order to improve the understanding of the actual and potential role of cultural heritage and not to reduce it to a reduced testimony of unsustainable modern development, it is important to define it conceptually and politically as a source of social innovation for smart, sustainable and inclusive growth.

These considerations lead us to propose a forward-looking and proactive management of cultural resources. Currently, the top-down approach to heritage management in the study area has both interpretive and operational shortcomings, which are mitigated to a very small extent by bottom-up approaches aimed at partially recovering heritage use rights (Castronuovo & Berardi, 2017). These are forms of social claim that start from a direct knowledge of place and focus on an operational, rather than an analytical, dimension of collective action. They are self-organised social processes capable of producing contextual socio-spatial effects. From this perspective, the study aims to stimulate policy makers, together with communities, to initiate specific analyses of the risks threatening cultural heritage, in order to implement organic protective measures before irreversible further damage occurs, an urgent need in the face of global challenges.

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Territories continue to transform due to endogenous and exogenous development drives. The thickening of logistics and transport networks, large commercial hubs, energy supply options, agricultural and industrial policies, tourism and migrations constitute then, individually and in a systemic sense, some of the lenses available to read the transformative dynamics of territories in the crucial current geopolitical context. In addition, the increasing reach of digital technologies in the spaces and practices of our daily lives, has changed the way we perceive and use the landscape. These transformations find a reified outcome in landscape transitions, becoming a foothold for a trans-scale geographical reflection. We therefore want to insert this volume on this horizon. In fact, we have wanted to stimulate the geographical community to try their hand at landscape analysis to identify, through methodological and/or applied research contributions, problems, practices and trajectories inherent in the transformative dynamics of territories, compressed between the urgency of development and the need to change the energy and consumption paradigm.

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