THE DYNAMICS OF THE EVOLUTION OF LIFESTYLES, TERRITORIALITY, BELIEFS, ADAPTIVE BEHAVIORS, LANGUAGE, SYMBOLS, VALUE SYSTEMS, AND INSTITUTIONS UNDER THE IMPACT OF CLIMATE CHANGE. A PERSPECTIVE BOTH HISTORICAL AND BASED ON PREDICTIVE ANALYTICS.

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Abstract
Climate change has long functioned as a fundamental driver of socio-cultural transformation in human societies. Beyond its environmental and economic consequences, climatic variability reshapes modes of life, territoriality, belief systems, adaptive behaviors, language, symbols, value systems, and institutional structures. Climate change is one of the most important structural factors in the transformation of human societies, acting both as a slow force of cultural remodeling and as a trigger for rapid social transitions or evolutions. This study analyzes how climate variations have influenced, throughout history, ways of life, territoriality, belief systems, adaptive behaviors, language, symbols, values, and social institutions. The paper also proposes a forecast based on predictive analysis on how contemporary and future climate changes may generate new socio-cultural and institutional configurations. The analysis is based on an interdisciplinary approach, integrating perspectives from anthropology, history, sociology, cultural ecology, and futures studies.

Keywords: climate change, ecopolitics, *possibilism*, predictive analysis of social changes, environmental impact, symbolic reconfiguration, climatic determinism, territoriality, reconfiguration of social space.

1. Introduction

The relationship between climate and the organization of human societies is structural and profound. From the emergence of the first hunter-gatherer communities to the complex civilizations of the industrial and post-industrial eras, the climatic environment has directly influenced the possibilities of subsistence, mobility, population density, cultural patterns

and institutional architecture. In the current context of accelerated climate change, generated mainly by human activity, an analysis that goes beyond the strictly ecological and economic dimension, integrating the impact on the symbolic, linguistic, axiological and institutional structures of societies, becomes essential. Furthermore, it advances a futurological analysis of contemporary anthropogenic climate change, exploring potential trajectories of cultural adaptation, institutional and educational restructuring, and symbolic reconfiguration. The article argues that climate change operates not as a deterministic force but as a structural constraint that redefines the space of cultural possibilities, accelerating processes of transformation already latent within social systems.

2. Theoretical Framework

2.1 Climatic determinism vs. cultural *possibilism*

Early theories of climatic determinism posited a direct causal relationship between environmental conditions and cultural forms, considering them a dominant causal factor of culture. Although such approaches have been widely criticized for oversimplification, contemporary scholarship recognizes climate as a significant structural factor that conditions, rather than determines, cultural evolution.

The concept of *possibilism* emphasizes human conscience within environmental constraints, allowing for cultural diversity under similar climatic conditions. There is practically no contradiction between these two positions, nor should the outbreak of a devastating ideological war for any culture, no matter how advanced, be allowed. The position closest to historical reality would be that according to which climate does not mechanically, automatically and unconsciously determine the evolution or involution of a culture, but creates fields of possibility that favor certain adaptation solutions, initially at the level of general symbolism, then, gradually, determines changes at the level of consciousness, this process being, however, a long-term one, extending over several generations.

Any culture is closely linked to the place where it emerged. So implicitly, to the climate. A civilization born under the desert sun – like the oldest known ones – will be abruptly different from one that emerged near the Arctic Circle or on islands scattered in the vastness of the Pacific. Symbolism is, in this context, born from and shaped by the environment, by the climate. Climate determinism is the prisoner stuck between exhaustive

explanation (unimaginable in this case, due to the unpredictability of the global climate phenomenon) and interpretative limits (subsumed and conditioned by the very power of interpretation of the human mind regarding prediction). The idea that climate decisively shapes the destiny of human societies runs through the history of thought from Antiquity to the present. From Greek theories about the influence of latitude on human temperament to modern explanations linking economic prosperity, political organization, or cultural creativity to climatic conditions, climate determinism has offered a seductive narrative: that the natural environment dictates civilizational trajectories.

However, this perspective, although partially validated by empirical observations, raises significant epistemological, ethical, and political issues. In its classical form, climatic determinism argues that climatic factors—temperature, humidity, rainfall patterns, seasonality—determine not only livelihoods but also social structures, behavioral patterns, and even intellectual capacities of populations. In the 19th and early 20th centuries, this paradigm was adopted by human geography and anthropology, often coupled with hierarchical explanations of cultural differences. Temperate climates were associated with rationality, progress, and discipline, while tropical zones were depicted as favoring passivity or stagnation. Such interpretations legitimized not only questionable scientific theories but also colonial and racial political projects. However, we cannot afford to reject climate determinism outright, for we risk falling into the trap of reductionism: denying the structural influence of the environment. History provides numerous examples in which climate change has played a crucial role in the collapse or transformation of societies, from the decline of Mesoamerican civilizations to the agrarian-demographic crises of premodern Europe. Moreover, the distribution of natural resources, shaped by climate, inevitably influenced population density, mobility patterns, and institutional complexity. Current climate change is neither slower, nor faster, nor more aggressive, nor more irreversible than past ones, but this time a complex civilizational factor intervenes: the need for awareness.

The era in which civilizations abandoned their temples, agricultural crops, and settlements because the climate suddenly became dry, well, that era has set forever. Or it should set. And this is not because it would be difficult for us to recreate our civilization in other areas, but because the level of consciousness of humanity has reached another level, beyond considerations related to territoriality or sense of ownership. The change

must start from within each of us, starting with awareness and going all the way to sacrificing some attributes of civilization that we will have to rethink in agreement and especially in harmony with the environment. All the scientific data and study results accumulated over the last decade demonstrate that not everything that is possible is good for the environment in which we develop our cultures and progress.

2.2 The concept of ecopolitics and socio-ecological systems

Cultural ecology and socio-ecological systems theory provide a useful analytical framework for understanding the co-evolution of human societies and their environments. These approaches conceptualize societies as complex adaptive systems in which material practices, social structures, and symbolic systems interact dynamically with ecological conditions. Today, it can no longer be said that climate unambiguously dictates human destiny, but neither can it be ignored. It acts as a slow, often invisible force that shapes the horizon of the possible and amplifies the vulnerabilities or resilience of societies. This is an epistemological warning: the current global culture, no matter how sophisticated, mechanistic, or technologically advanced it may be, is not, cannot be completely autonomous from the material conditions of existence. In the current era, marked by accelerating climate change, this lesson takes on new relevance, inviting a rethinking of the relationship between nature, society, and human responsibility at the individual level.

Ecopolitics is a field of political thought and practice that integrates ecological principles into the process of governance, public policy formulation and collective decision-making. It analyzes the relationship between power, society and nature, with the objective of protecting the environment, sustainable use of natural resources and ensuring a long-term balance between economic development, social justice and the integrity of ecosystems.

The emergence of ecopolitics is closely linked to the intensification of global ecological crises, in particular the acceleration of climate change, which deeply affects the economic, social and political structures of contemporary society. Traditional development models, based on the extensive exploitation of natural resources and unlimited economic growth, have proven incompatible with the ecological limits of the planet. In this context, ecopolitics appears as a necessary response to the failure of classical policies to anticipate and manage environmental risks. Rapid climate change — manifested in extreme

weather events, rising sea levels and loss of biodiversity — is forcing societies to rethink the role of the state and collective responsibility towards nature. Ecopolitics promotes the idea that the environment is not just a passive backdrop to human activity, but an essential actor that conditions the security, health and well-being of the population. Thus, environmental protection becomes a fundamental political priority, not a secondary objective. In addition, ecopolitics is motivated by the need for adaptation and climate justice. The effects of climate change are not evenly distributed, disproportionately affecting vulnerable communities. Therefore, ecopolitics aims to build inclusive and equitable policies that ensure the transition to a sustainable society without accentuating social inequalities. In this sense, ecopolitics represents not only a reaction to the climate crisis, but also a profound transformation of the way in which contemporary society defines its values, priorities and relationship with the environment. What is enormously damaging in this period of readjustment, at least in terms of ecopolitics, are excessive norming, coercive measures without a real basis, the imposition of aberrant rules. The inner balance of the human being rejects any form of coercion, accepting to make concessions only when its own existence is put at risk. It is very difficult to convince a society as a whole to obey rules that protect it from a real and global danger, but which at the same time threaten its way of life based on technological convenience, and – we must admit – sometimes wasteful, if you do not act proactively so that the message reaches each individual, causing them to act and convincing others to do the same.

3. A Brief Historical Perspective: climate change as a driver of socio-cultural transformations

In this chapter, we will limit to examples related to the European continent, but this does not mean and only demonstrates that the stages of this process of evolution of the human-society-environment relationship have not evolved differently in other regions of the planet to the detriment of the third.

3.1 Prehistory and Ancient History

The end of the last glaciation favored sedentarization and the emergence of agriculture. Climatic oscillations determined: the transition from nomadism to fixed territoriality, the emergence of the first social structures, of property, the institutionalization of political and religious

power. The first concepts of the connection of man with the environment, social structures, hierarchy, and systems of meaning are theorized. And yet, the first advanced cultures in human history appear, develop and evolve in warm areas, near water, as a result of the survival instinct and more – a first sign of the perception of the relationship between material well-being and the stability of the environment.

3.2 Middle Ages

The two climatic periods of the Middle Ages created different evolutionary patterns, with direct, undoubted consequences on European civilization. The Early Middle Ages (until the end of the 13th century), characterized by a mild climate of oceanic origin, supported agricultural and demographic expansion, making possible a remarkable civilizational leap, with the undeniable peak of the Renaissance, the cultural phenomenon that would put an end to a long dark period. In contrast, the Little Ice Age (14th–16th centuries) generated: famine, migrations, conflicts, the intensification of apocalyptic religious discourse, and its end marked the beginning of a new era, considered by some historians the second Renaissance, namely the Baroque.

3.3 The Modern Era

The relative climatic stability that lasted until the end of the 20th century allowed: the development of the nation-state, urbanization, industrialization, secularization, the supremacy of science, the universalization of value systems (progress, growth, domination over nature). Here, however, the first crack in the logic so far appears: the value system based on domination over nature, doubled by the development of industry, triggered a hunger for resources which, in turn, favored the outbreak of the most devastating wars (at least so far), motivated by the grabbing of resources, colonialism, and ignoring the damage caused to the environment. Hence the imperative to reconsider the value system of human society at the individual level so that this process of self-destruction can end as quickly as possible. "Adaptation" is the key word.

4. Adaptive lifestyles and behaviors

The way humans and the societies they created relate to risk and uncertainty factors has had only one direction throughout history: always risk and uncertainty related to how the environment and climate could harm humans, not the other way around, that is, by relating to how much harm human actions can do to the environment. From this point of view, the times when societies relied on hunting, fishing, and spontaneous gathering of fruits from nature are not much different from today. In fact, not much has changed at the level of individual consciousness. The structure of daily life requires the procurement of the necessities of daily life through much more aggressive methods. The question arises: what else are intensive agriculture, fish farming and all the industries that develop horizontally starting from these? The intensive nature of the economic development of global society, along with new extensive trends, are equally insensitive to the impact on the environment. Hence the need for adaptation. New founding myths are needed, the old ones are no longer useful, because the relationship with the environment, more precisely the need to eliminate its destructuring tendencies, has become a problem of survival for the entire planetary ecosystem. It is about a new paradigm based on solidarity, a new social architecture and interconnectivity at the individual level. Society must not become a hive, but it must learn its survival tactics.

5. Territoriality, migration and th reconfiguration of social space

Climate and weather patterns changes, the dilution of seasons into each other have profound effects on social space. Problems arise that humanity has never faced before, at least not to such an abrupt extent. Territoriality becomes more fluid, and collective identities can fragment, hybridize, defensively or religiously radicalize, and through the loss or reduction in the surface area of habitable territories, political and cultural borders can be redefined or migrations of a climatic nature can occur, the latter being nothing new, but representing an enormous conflict potential in the current context. The current global political system is based on the state – defined as a territory, a nation, and a language – and its relations with other similar entities. The current configuration is the result of a long series of historical conflagrations and compromises, which does not leave much

room for optimism. Even less so at the level of the simple individual. Because the individual has entrusted his fate to the state - also a creation of his - which makes the transition to a new type of social philosophy very difficult. So the most difficult thing will be the transition from the apathy generated by the existence of the state structure with all the benefits it offers to the citizen to the imposition of solutions from the bottom up, a process that, in democratic states, is still taking place at a theoretical level, but with the state's tendency to make decisions on its own without consultation. Last but not least, climate migration, although it seems like a fantasy now, will become a key element in the future, which will no longer be able to be ignored because massive masses of people will be forced in the not too distant future to leave their homelands due to drought, rising sea levels, or for reasons related to excessive pollution that will make their territories uninhabitable.

6. New beliefs, symbols and language

Historically, climate crises have generated: religious interpretations (divine punishment, purification), rituals of symbolic control of nature, secularized apocalyptic narratives. Nowadays, we are witnessing the emergence and success of a new current of thought: environmentalism as a quasi-religious system. The apocalypse no longer comes from the gods, but is caused by the neglect of the environment by human society in its pursuit of ideal well-being and supreme comfort as a species. There is a reconfiguration of the central symbols of human civilization, and even a new lexicon or modified lexical forms appear to illustrate the seriousness of the situation. As we have shown earlier, excesses do not lead to anything good. The transformation of ecological culture into an institutionalized religion, including through inquisitorial bodies that apply sanctions for violations, is as harmful as possible and does more harm to humanity than pollution or the accumulation of greenhouse gases itself.

A slow transition from anthropocentric values to ecocentric and intergenerational values is observed, simultaneously with the emergence of social tensions or antagonisms between economic growth and sustainability, individual freedom and collective responsibility. An Environmental Law has also emerged, putting intense pressure on social and political institutions, profoundly affecting economic development – through restructuring pushed to the point of abolishing some sectors –,

social protection, legal systems, resource allocation. All of this ultimately affects global governance, international relations and calls into question cooperation between states. This pressure has imposed the creation of new climate-related institutions, the redefinition of sovereignty, and the expansion of the concept of climate security.

7. Forecasts and scenarios based on predictive analytics

This analysis draws on literature on futures studies, complex systems theory and resilience research. The scenarios are constructed based on key variables: the level of social cooperation, institutional adaptability, access to sustainable technologies and the capacity to manage climate risks. The aim is not to make an exact prediction, but to identify plausible possibilities that can guide political and social strategies.

Three types of scenarios for the evolution of society under climate change and its effects can be considered as plausible hypotheses.

The first of these is **the adaptive scenario**. In this scenario, considered the ideal one, societies manage to respond proactively to climate change by implementing integrated mitigation and adaptation policies; investments in resilient infrastructure; large-scale education and awareness; intensified transnational cooperation. For such a scenario to succeed, it is necessary first of all to have a flexible, transparent governance that spares the consumer pride that is not accountable to anyone of the human individual as a social entity taken as a singular social unit. It is probably the most difficult to put into practice because of the difficulties related to the belief, deeply rooted in man's mind for millennia, that he is the absolute master of the environment who is obliged to obey him and give him, willingly or by force, everything he wants. Here a new mythology is needed, which will however need several generations to be implemented. Such a scenario must be plausible in the eyes and ears of those who listen/see/put it into practice, flexible and transparent; to emphasize the credibility of the circular economy, the elimination of waste and accelerated decarbonization; to fully favor social cohesion and inclusion and to definitively eliminate inequalities; to integrate local traditions and ancient knowledge into the new strategies of ecological planning. But there are also major risks: uneven implementation across regions; vulnerabilities of developing countries; potential tensions between economic and environmental needs.

The second is **the scenario based on fragmentation and polarization**, according to which climate pressures exacerbate existing discrepancies between social groups, economies and states, generating political fragmentation – competition for scarce resources; social polarization – conflicts between privileged and marginalized groups; climate nationalism – protectionist policies and migration restrictions. The results of the practical application of such a scenario are not simple and even less easy to neglect: exacerbated inequalities between the Global North and the Global South; increased social violence and political instability; withdrawal of major state actors from global cooperation agreements; Local survival systems with an emphasis on security. The consequences will not be long in coming: reduced capacity to respond to crises, massive economic disruptions, decline in trust in institutions, volatility of the global political environment.

The third category, **hybrid scenarios**, will probably be a mix of the two previous scenarios: regions and communities where adaptation succeeds, ensuring a satisfactory level of prosperity, coexisting with fragmented and polarized areas. This hybrid variant is characterized by: the coexistence of technological advances and socio-political conflicts; uneven migratory flows; innovation concentrated in ecological hubs, but restricted in other areas. It is the most possible of the three scenarios, but not the happiest. As for efficiency: it is out of the question. However, from the current perspective it is by far the closest to the global socio-political reality.

Conclusions

Climate change is not just an environmental crisis, but a process of civilizational restructuring at the individual level. It acts simultaneously on the material and the symbolic, reshaping ways of life, beliefs, language, values and institutions. History shows that societies that manage to integrate climate change into flexible systems of cultural adaptation have a greater chance of continuity. The future will depend not only on technical solutions, but on humanity's ability to redefine its relationship with the environment and with itself. Cultural ecology and socio-ecological systems theory provide a useful analytical framework for understanding the co-evolution of human societies and their environments. These approaches conceptualize societies as complex adaptive systems in which material practices, social structures, and symbolic systems interact dynamically with

ecological conditions. Climatic change has repeatedly disrupted established patterns of territoriality, generating migration and population displacement. In the contemporary era, climate-induced migration challenges existing political boundaries and legal frameworks, contributing to the emergence of fluid, transnational identities and contested notions of belonging. Territorial loss also carries symbolic consequences, undermining place-based identities and collective memory, while simultaneously fostering cultural hybridization and, in some cases, defensive identity formations. Climate change must be understood as a catalyst of deep socio-cultural transformation rather than a purely environmental phenomenon. Its impact extends from material practices to symbolic structures, reshaping how societies organize space, construct meaning, and envision the future. Historical precedents demonstrate that resilience depends not solely on technological capacity but on cultural flexibility and institutional adaptability. The future of human societies will thus be determined as much by symbolic and normative innovation as by scientific and technical solutions.

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