THE METAMODERN SHIFT IN GEOGRAPHICAL THOUGHT: OSCILLATORY ONTOLOGY AND EPISTEMOLOGY, POST-DISCIPLINARY AND POST-PARADIGMATIC PERSPECTIVES

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Abstract
In the article, we address the issue of a metamodern shift in geographical thought, reflecting on the context of the current Anthropocene polycrisis, which encompasses a range of environmental, geopolitical, economic, and socio-cultural challenges of the present era. We start from the assumption that postmodern epistemological and methodological frameworks are insufficient for a comprehensive understanding and resolution of these challenges. In this context, we explore the potential of metamodernism as a new philosophical and scientific platform that oscillates between modernist rationalism and postmodern skepticism, allowing for the productive integration of these frameworks.
The primary objective of this study is to demonstrate how metamodernism can contribute to the reinterpretation of geographical thought and to identify its potential as the fifth first-order discontinuity in the historical development of this discipline. In the theoretical and methodological section, we discuss discontinuities in scientific thought and apply the Latour-Barnes model to analyze the phases of mobilization and autonomization of metamodernism within academic discourse. We introduce key metamodernist concepts and principles - metarealism, zetetism, hylosemiotics, sublation, oscillation of scientific discourses, the paradoxical position of truth and grand narratives, dia/polylogical thinking, and the coexistence of layers of cultural evolution (Pipere, Mārtinsone, 2023, Storm, 2021), — and outline their applicability in geographical research. We employ qualitative, discourse-based, and historical-contextual methods to examine the metamodern shift in geographical thought, focusing on epistemological, ontological, and methodological transformations.
We reinterpret geography as a post-disciplinary and post-paradigmatic scientific discipline that oscillates between various ontological, epistemological, and methodological frameworks. In this context, we emphasize the necessity for

an open, reflective, and pluralistic approach that facilitates the integration of diverse types of knowledge and methodological strategies. Understood through the lens of metamodernism, geography becomes a field of dynamic oscillation between the natural sciences, social sciences, humanities, and technological interpretations of reality. This conceptualization of geography addresses the need for comprehensive, practice-oriented knowledge that can tackle contemporary global challenges, such as polycrisis. This aligns with zetetic epistemology, which prioritizes abductive reasoning (inference to the best explanation) over rigid deductive or inductive models. We introduce hylosemiotics as a methodological tool that enables researchers to analyze material-symbolic interactions in space and place. This approach integrates semiotic analysis with material studies, providing a novel framework for interpreting geographical landscapes.
In doing so, we aim to encourage discussions about applying metamodernist concepts in geographical thought while also acknowledging its limitations and potential risks. Moreover, we underscore the necessity for further theoretical and empirical reflection to refine methodological strategies and practical applications of the metamodernist framework in geographical research.

Keywords
Geography, geographical thought, hylosemiotics, metamodernism, metamodern shift, metaxy, oscillation, polycrisis, post-postmodernism, zetetic epistemology.

INTRODUCTION

The extraordinary dynamism of the contemporary era is reflected in the Anthropocene polycrisis (Matlovič, Matlovičová, 2024), which encompasses the environmental impacts of climate change, the ongoing transformation of the global geopolitical order, the end of economic globalization (see, for example, Zeihan, 2022), the looming collapse of modern societies (Turchin, 2023), the decline of capitalism and the emergence of techno-feudalism (Varoufakis, 2024), the rise of artificial intelligence, and shifts in the perception and interpretation of reality within post-Enlightenment and post-truth contexts (Derakhshan, 2021). This situation presents a significant challenge to the scientific community, prompting questions about the adequacy of existing epistemologies and methodologies in interpreting the contemporary world and devising practical solutions for the sustainable development of human civilization (Matlovič, Matlovičová, 2024). Maxwell (2024) argues that academic inquiry has predominantly emphasized 'knowledge-inquiry' over 'wisdom-inquiry, which encompasses not only knowledge but also its application in solving real societal problems.

In this context, it is noteworthy that, over the past two decades, there has been an increasing number of arguments within culture and philosophy questioning the adequacy of postmodernism as an explanatory framework for understanding the essence and complexity of contemporary societal phenomena, cultural trends, and developments in art, philosophy, and science (e.g., Hughes, 1996; Hutcheon, 2002; Hassan, 2003; Kirby, 2006; Toth, 2010; Rudrum, Stavris, 2015; Clare, 2017). There has been growing reflection on emerging cultural tendencies that succeed

postmodernism. These reflections emphasize the reinterpretation of historical events and narratives, thereby moving beyond postmodern skepticism towards grand narratives. A notable trend is the renewed emphasis on sincere emotions and authentic experiences in contemporary culture, contrasting with postmodern cynicism and irony. There is also a renewed interest in depth and meaning in artistic and cultural expressions, differing from postmodernism's focus on superficiality and simulacra (van den Akker, Gibbons, Vermeulen, 2017).

In this regard, various conceptualizations of new movements aiming to replace postmodernism have emerged. The first anthology of key texts (Rudrum, Stavris, 2015) discusses multiple concepts, including altermodernism (Bourriaud, 2009), automodernism (Samuels, 2007), hypermodernism (Lipovetsky, 2005), metamodernism (Vermeulen, van den Akker 2010), performatism (Eshelman, 2008), post-postmodernism (Nealon, 2012), pseudomodernism/digimodernism (Kirby, 2009), remodernism (Childish, Thomson, 2000), and renewalism (Brooks, Toth, 2007). Among these concepts, metamodernism has gained the most traction in philosophy and scientific inquiry (Pipere, Mārtinsone, 2022).

The aim of this paper is to explore the metamodern shift in geographical thought by examining its ontological, epistemological, and methodological implications, positioning it as the fifth first-order discontinuity in the development of geographical thought as understood in our previous work (Matlovič, Matlovičová, 2020). We briefly outline the development of metamodernism and its reception within philosophy and scientific inquiry. Subsequently, we introduce the key concepts and principles of metamodernism and indicate its potential for adoption within geographical thought. We seek to promote discussion regarding the application of metamodernist concepts in geographical thought, while simultaneously highlighting the limitations and risks of this approach. Moreover, we underscore the necessity for further theoretical and empirical reflection to refine methodological strategies and practical applications of the metamodernist framework in geographical research.

THEORETICAL AND METHODOLOGICAL FRAMEWORK, DATA, AND METHODS

The foundational theoretical basis of our considerations is rooted in the reception of the idea of discontinuity in scientific thought, which emerged as a response to the rejection of the linear-cumulative model of the history of science, as advocated by positivist historiography. We have previously discussed this idea in the context of the development of geographical thought (Matlovič, Matlovičová, 2020). In this regard, the work of Kuhn (1962/1970) is particularly relevant, as he defined discontinuity as a scientific revolution characterized by a paradigmatic shift, involving a fundamental transformation at the ontological, methodological, and

axiological levels of science. Kuhn's concept of paradigm shifts also introduced the problem of incommensurability, indicating that new paradigms are not always fully compatible with preceding ones (Kuhn 1970).

I. B. Cohen (1987) proposed a historical analysis of scientific revolutions through four universally applicable tests, acknowledging both the objective and subjective dimensions of discontinuity in science. Lakatos (1970) introduced the concept of scientific research programs, asserting that discontinuity occurs only when there is a change in the "hard core" of the program—a process he deemed rare. In contrast, Laudan (1984) criticized the notion of complete discontinuity in paradigmatic shifts and suggested a network model, where levels of science (ontological, methodological, axiological) are not hierarchically interconnected. Foucault (2000) introduced the concept of the episteme, emphasizing that discontinuities in knowledge are not causally inevitable but arise from power relations and historical contingencies. Retrospectively, M. Cohen (2015) described the concept of paradigmatic shift as an "intellectual virus" that had also permeated the social sciences, humanities, and even political discourse (Matlovič, Matlovičová, 2020).

Building upon this framework and following Peet's (1998) discussion on five levels of generalization, we identified two orders of discontinuities in geographical thought. First-order discontinuities represent fundamental changes at the level of worldview paradigms (metaphilosophical and philosophical levels, according to Peet, 1998). Second-order discontinuities pertain to changes at the level of disciplinary matrices (philosophical and socio-theoretical levels). Based on this hierarchical classification, we identified four first-order discontinuities and sixteen second-order discontinuities in the historical development of geographical thought (Matlovič, Matlovičová, 2020). Given that the most recent first-order discontinuity in geographical thought was the postmodern discontinuity, and considering that metamodernism aspires to succeed postmodernism, it is reasonable to consider the metamodern shift in geographical thought as the fifth first-order discontinuity in its history.

For analyzing the progression of the metamodern shift in scientific thought, we adopt the Latour-Barnes model of disciplinary change, originally applied to the analysis of the rise and decline of regional science (Barnes, 2004; Johnston, 2006, p. 286; Matlovič, Matlovičová, 2015, pp. 18–20; Matlovič, Matlovičová, 2021). This model is based on Latour's classification of phases through which a scientific discipline passes during its paradigmatic transformation (Latour, 1999). The successful progression through these phases is deemed essential for achieving transformative change.

The first phase is mobilization, initiated by a group or individual articulating a new agenda. The second phase, autonomization, involves systematic engagement with the academic community to stimulate acceptance, internalization, and

subsequent expansion of the new agenda within the discipline. The third phase, building alliances, is a dynamic process overlapping with the previous phase, aiming to establish the new agenda in a broader disciplinary context through institutionalization. The fourth phase, public representation, extends the previous phase by expanding the agenda's influence beyond academic structures into the wider societal context (Johnson, 2006; Matlovič, Matlovičová, 2015).

Ideally, the competition for advancing a new agenda within a scientific discipline should culminate in rational deliberation guided by the strength of arguments. However, in reality, the process is influenced by institutional rivalries and political strategies. In this context, six political strategies are employed. The first four—politics of denigration, criticism, rejection, and silence—are characteristic of the mobilization and autonomization phases. The latter two—politics of adaptation and politics of unification—prevail during the alliance-building and public representation phases, as the discipline seeks to maintain competitiveness within the broader academic and societal framework (see Johnston, 2006; Matlovič, Matlovičová, 2015).

We interpret the introduction of metamodernism into academic discourse as the mobilization phase in accordance with the Latour-Barnes model, while its reception within the philosophy of science and scientific thought represents an attempt at autonomization. Furthermore, we highlight the political strategies applied in advancing the metamodern shift.

This contribution employs an interdisciplinary approach, integrating multiple methodological strategies from the philosophy of science, epistemology, cultural theory, and geographical thought. The methodology is predominantly qualitative, analytical, and historical-contextual. The article is grounded in extensive content and discourse analysis of relevant sources, encompassing philosophical, cultural, and geographical theories.

The selection of literature for this study was guided by the following criteria to ensure comprehensiveness and relevance: relevance to metamodernism and geographical thought (sources were selected based on their direct engagement with key concepts of metamodernism, as well as their relevance to geographical thought and philosophy of science), and diversity of perspectives (to capture a plurality of viewpoints, literature from diverse philosophical, geographical, and cultural frameworks was incorporated). Special attention was paid to including both advocates and critics of metamodernism. We analyzed the selected literature using qualitative content and discourse methods, focusing on how metamodernist concepts are articulated. Key themes were identified and coded, such as the evolution of metamodernist thought, conceptual integration with geography, and methodological implications. Concepts were systematically compared with modernist and postmodernist frameworks to highlight points of convergence, divergence, and transformation within geographical thought. Throughout the

analysis, efforts were made to remain critically reflexive, recognizing potential biases arising from personal academic orientation and interpretative frameworks. The inclusion of diverse sources aimed to mitigate subjective influence. Particular care was taken to critically evaluate both supportive and critical perspectives on metamodernism, ensuring balanced representation. Interpretative conclusions were cross-referenced with primary source arguments, and areas of ambiguity were acknowledged. This approach sought to avoid overinterpretation or misrepresentation of philosophical positions.

THEORETICAL FOUNDATIONS OF METAMODERNISM IN CONTEMPORARY SCHOLARSHIP

The process of forming metamodernism as a new intellectual agenda can be analyzed within the context of the mobilization phase, as conceptualized in the Latour-Barnes model. Here, initiators articulate new theoretical foundations, challenging the paradigmatic framework of dominant discourses and striving for their reconfiguration (Johnson, 2006). The initial phase of this process can be traced back to 1975, when Mas'ud Zavarzadeh first introduced the term "*metamodernism*" to describe literary works that transcended the boundaries of modernism and postmodernism (Zavarzadeh, 1975). Although this concept did not immediately gain broad acceptance, various intellectual currents sporadically revived it in subsequent decades, resulting in a plurality of interpretations within scholarly discourse (Carruth, 1986; Haig, 1991; Koutselini, 1997; James, Seshagiri, 2014).

According to Knudsen (2016), the first signs of the exhaustion of postmodernism as the dominant cultural paradigm emerged in the 1990s. David Foster Wallace, in his essay *E Unibus Pluram* (1993), critically reflected on the implosion of postmodern irony, which had transformed from a tool for critiquing and demystifying power and hegemonic narratives into a mechanism that hindered authentic expression and emotional connection. Wallace thus disrupted the epistemological framework of postmodernism by articulating the need for a return to sincerity, engagement, and emotional truth—elements that can be regarded as early indications of a metamodernist stance (Knudsen, 2016).

Metamodernism gradually entered philosophical and academic discourse, a progression that can be identified as the autonomization phase within the Latour-Barnes model. Feldman (2005) contributed to this by constructing a theoretical triangulation between Gadamer, Habermas, and Derrida, thus suggesting the possibility of epistemological mediation between modernist rationality and postmodern skepticism. Feldman argued that although these philosophers often criticized one another and their philosophies were perceived as incompatible and intransitive, they actually shared certain epistemological and methodological foundations. Feldman conceptualized an interpretative triangle,

with each philosopher representing a distinct pole of critical interpretation, yet all operating within a metamodernist framework (Feldman 2005).

For our considerations, the first part of Feldman's article is particularly relevant, wherein he defines metamodernism and distinguishes it from both modernism and antimodernism. His analysis follows three main lines: a critique of modernism, a rejection of postmodern relativism and antimodernism, and the delineation of metamodernism as a middle path between these extremes. Feldman described metamodernism as a more moderate and productive alternative to modernism and postmodernism. His political strategy moved from critique to outright rejection. He criticized modernism for its reliance on subject-object metaphysics and epistemological foundationalism, which presuppose fixed, objective grounds of knowledge. He argued that if the subject cannot reliably connect with the objective world, such a model leads to either epistemological uncertainty or to relativism and nihilism. Postmodernism, on the other hand, was critiqued for its tendency to descend into radical relativism and antimodernism, wherein truth and knowledge are perceived solely as constructs of power, lacking the potential for objective or intersubjective validation. This, according to Feldman, disqualifies any form of critical discourse (Feldman 2005).

Feldman coined the term "metamodernism" to avoid the negative connotations and ambiguities associated with postmodernism, while simultaneously needing a term that reflected the transcendence (meta) of modernism and postmodernism. Metamodernism, as he defined it, embodies a synthesis of elements from both traditions—rejecting the rigid rationality and epistemological foundationalism of modernism while distancing itself from the extreme relativism and skepticism of postmodernism. The term thus emphasizes the dynamic oscillation between these frameworks, seeking a balance between engaged truth-seeking and the critical deconstruction of dogmas. Feldman acknowledged the situatedness of knowledge within context but maintained that forms of understanding could be attained that are not purely arbitrary (Feldman 2005).

Moreover, Feldman aligned his interpretation of metamodernism with Kuhn's concept of paradigmatic shifts, arguing that metamodernism represents a new philosophical framework akin to scientific paradigms in Kuhn's theory. It shapes our understanding of the world without relying on the objective epistemological foundations of modernism or the extreme relativism of postmodernism. Metamodernism thus emerges as a paradigm seeking equilibrium between certainty and uncertainty, tradition and innovation, interpretation and critique. His concept is dynamic, grounded in continuous oscillation between various epistemological positions, which is a key characteristic of metamodernist thinking (Feldman, 2005).

Feldman's decision to adopt this concept was inspired by Kuhn, Gadamer, Habermas, and Derrida. From Kuhn, he embraced the notion that knowledge

does not progress linearly but undergoes discontinuous transitions between paradigms, creating a dynamic oscillation among interpretations of reality. Gadamer's concept of the fusion of horizons led to the idea that knowledge and interpretation oscillate between subjective prejudices and the objective influences of tradition, emphasizing the significance of dialogue in individual and collective understanding. Habermas's theory of communicative action was particularly inspiring in terms of the communicative model of truth, which oscillates between individual convictions and universal norms of rational discourse. Derrida's deconstruction influenced Feldman's focus on meaning as non-fixed, oscillating between various interpretive frameworks depending on context and linguistic hierarchies (Feldman, 2005).

Feldman's approach, in Latourian terms, became part of the "circulation of references," wherein theoretical frameworks were iteratively modified, accumulating new interpretations until the explicit synthesis of metamodernism was generated. Although Feldman's article did not immediately garner broad acceptance, his work became an integral component of the scholarly argumentation that subsequently shaped and advanced the discourse on metamodernism.

The definitive breakthrough in the academic discourse on metamodernism was marked by the publication of *Notes on Metamodernism* by Vermeulen and van den Akker (2010), a key text that codified metamodernism as a recognizable paradigmatic configuration. The authors acknowledged that the term "metamodernism" had previously been employed in various works; however, they emphasized that their conceptualization was neither derivative nor directly influenced by these earlier usages (Vermeulen, van den Akker, 2010, p. 76). According to them, the prefix "meta" encapsulates three meanings that characterize the essence of metamodernism: *„epistemologically within (post)modernism, ontologically between (post)modernism, and historically beyond (post)modernism*" (Vermeulen, van den Akker, 2010, p. 57).

Vermeulen and van den Akker employed a political strategy of critique toward the declining postmodernism, arguing that its dominant strategies—irony, relativism, and deconstruction—were no longer sufficient for explaining contemporary cultural, aesthetic, and philosophical phenomena. Instead of advocating a definitive return to modernism or persisting within postmodern fragmentation, they defined metamodernism as a "*structure of feeling*", a concept originally derived from R. Williams (1977). However, they reinterpreted this notion: while Williams, grounded in historical materialism, saw emergent cultural forms as indicators of transitional periods not yet fully articulated as dominant ideologies, Vermeulen and van den Akker (2010) understood the "structure of feeling" in the context of oscillation between modernism and postmodernism.

They posited that the contemporary "structure of feeling" is not merely a transitory phase but rather a persistent oscillation between opposites—idealism

and skepticism, engagement and irony, hope and melancholy. The concept of oscillation thus becomes central to their articulation of metamodernism, capturing the fundamental dynamics of this paradigm. This oscillation is conceived not as a compromise or synthesis but as a dynamic movement, wherein the metamodern subject continuously navigates between opposing poles without definitively anchoring in either. Hence, metamodernism is neither a return to modernism nor an extension of postmodernism but an ongoing movement between these poles (Vermeulen and van den Akker 2010).

Metamodernism, as conceptualized by Vermeulen and van den Akker, does not reject the notion of truth but perceives it as an ever-evolving concept. It acknowledges the possibility of knowledge while recognizing its limitations—for instance, scientific methods are useful but cannot unveil all aspects of reality. Modernism aspired to one ultimate truth, postmodernism dismissed truth entirely, whereas metamodernism embraces a plurality of truths, seeking a balance between facts and interpretations. This approach facilitates a pragmatic engagement with truth, framing knowledge as an ongoing process of negotiation and interpretation. It underscores the plurality and contextualization of knowledge while encouraging dialogue between contradictory perspectives without insisting on definitive resolutions. It accepts truths as provisional, acknowledging their inherent uncertainty (Vermeulen and van den Akker (2010).

This epistemology is characterized by the "as-if" approach, derived from Kant's concept of negative idealism. The "as-if" epistemology allows for action and belief in certain values or ideals, even while acknowledging their uncertainty or unattainability. It embodies a cultural and societal behavior where meaning, truth, or progress are approached "as if" they were attainable, despite awareness of their elusiveness. This oscillatory epistemology distinguishes metamodernism from naive modern idealism, which fully believes in absolute truths, and from postmodern skepticism, which entirely denies them. The "as-if" epistemology, combined with the concept of oscillation, enables the metamodern subject to navigate between opposing positions without definitive settlement—constantly reevaluating possibilities (Vermeulen and van den Akker 2010).

This notion also relates to the ontological concept of *metaxy* [1](being-in-between), which the authors associate with philosophical traditions from Plato to Eric Voegelin. In metamodernism, *metaxy* is not interpreted as a static "in-between" but as a dynamic state of being simultaneously here and there, experiencing tension between opposites. This tension is central to metamodernism, allowing for continuous oscillation and dialogue rather than final resolutions or outright rejections. It reflects the fundamental nature of reality, characterized by constant

1 the term originates from the Greek expression μεταξύ (metaxý), which literally means "between" or "in the middle." (Vermeulen and van den Akker 2010).

negotiation between dichotomies such as hope and skepticism, engagement and irony, idealism and realism. This dynamic oscillation is ontologically rooted, emphasizing that reality is not fixed but persistently fluctuates between opposing extremes (Vermeulen and van den Akker 2010).

According to Vermeulen and van den Akker, metamodernism is not merely a descriptive category but a theoretical strategy that facilitates the understanding of renewed engagement and meaning-making in an era marked by uncertainties. It is a fluid yet crucial concept that reflects a contemporary world overwhelmed by uncertainty yet driven by a desire to reinstate grand narratives—not in an absolute sense but within a critically aware, oscillatory framework (Vermeulen and van den Akker 2010).

The reasons behind the broader success of Vermeulen and van den Akker's (2010) introduction of metamodernism into academic discourse—especially when compared to Feldman (2005)—can be attributed to several factors. Feldman's work is academically demanding, characterized by complex philosophical language, and primarily intended for specialists in philosophy and legal theory. By contrast, Vermeulen and van den Akker offered a more accessible and intuitive explanation of metamodernism, making the concept easier to grasp for both academic and non-academic audiences.

Timing also played a crucial role. Feldman's work emerged in 2005, at a time when academic debates concerning post-postmodernism were still nascent. Vermeulen and van den Akker published their essay in 2010, a period when there was already a broader demand for theories capable of supplanting postmodernism. Additionally, they launched the online platform *"Notes on Metamodernism"*, where they began publishing further texts and analyses regarding metamodernism in art, architecture, literature, and popular culture, thereby accelerating the discourse.

Five years later, Vermeulen and van den Akker (2015) revisited their initial article, noting that interpretations of metamodernism had since diversified and encountered various misunderstandings. They emphasized that metamodernism should not be understood merely as a philosophy, aesthetic movement, political program, or literary technique. They rejected interpretations that framed metamodernism as a manifesto, utopian vision, or a new mode of thinking to be prescriptively followed. Expressing concern over such misinterpretations, they clarified that their intention was to describe, not prescribe (Vermeulen and van den Akker 2015).

According to them, metamodernism is best conceptualized as a "structure of feeling," representing a widely shared sensibility that cannot be reduced to a singular strategy. It is not about synthesizing opposites but about consciously oscillating between them. They opposed views portraying metamodernism as a harmonizing principle, asserting instead that the dominant sensibility of contemporary culture is characterized by constant oscillation and paradox. Metamodernism, therefore,

is not a harmonious synthesis but a tension between contradictions. They linked metamodernism to responses to the economic, ecological, and political crises of the 21st century, perceiving it as a cultural logic that offers new ways of thinking and reacting to contemporary challenges, including environmental threats and growing social inequality (Vermeulen, van den Akker, 2015).

This position reveals the promising potential of metamodernism for geographical thought, which has traditionally cultivated an investigative approach to understanding complex phenomena and seeking practical solutions in zones of intense interaction between natural environments and human societies. The emerging challenges of the Anthropocene polycrisis, for instance, represent a pertinent research agenda for geography (Matlovič, Matlovičová, 2024).

A significant contribution to the academic discourse on metamodernism is represented by the two editions of L. R. Andersen's works (2019, 2023). Andersen distinguishes between the concepts of *metamodernity* and *metamodernism*. While she understands metamodernism as an artistic and cultural movement primarily associated with aesthetics, literature, film, and contemporary art, she conceptualizes metamodernity as a broader framework of social, political, and philosophical thought, capable of shaping new political, economic, and cultural systems. Metamodernity is envisioned as an attempt to reconstruct a society capable of addressing the challenges of the 21st century. It encompasses ecological, social, and economic issues and proposes the integration of the most valuable elements from past epochs—indigenous, pre-modern, modern, and postmodern. Metamodernity aspires to transcend mere artistic expression by creating a practical framework for societal development. In this sense, Andersen perceives it as more "realistic" and politically relevant than metamodernism itself (Andersen, 2019).

In the second edition of her book, Andersen (2023) opted to rename metamodernity to *polymodernity*, although the substantive content of the book remained largely unchanged. This renaming reflects her attempt to better capture the complexity of contemporary realities. It is debatable whether this change constitutes a case of conceptual redundancy. The title modification can be interpreted as an attempt to rebrand the book to make it more attractive to a wider audience, while the core content remains essentially the same. In line with Agnew (2012), this could be seen as a fanonian response to the already established concept of metamodernism.

Stoev (2022) also contributed to the conceptualization of metamodernism and metamodernity. He interprets metamodernism as an aesthetic and axiological framework that synthesizes modernist and postmodernist elements, while metamodernity is understood as a broader cultural and historical era that transcends postmodernism and reflects new forms of thinking and aesthetics. Similarly, Nachaeva (2021) presents a perspective on metamodernism as a new

anthropological myth that integrates diverse cultural, ethical, and aesthetic dimensions. She argues that metamodernism offers an understanding of reality and subjectivity through the experience of the "other Self" (*affication*). This process implies that a subject comprehends their identity through empathy and the experiences of others, marking a step towards the restoration of ontological grounding. This return to ontology is framed as a theoretical effort to overcome the relativism inherent in postmodern discourse (Nachaeva, 2021).

As metamodernism gradually gained supporters, it also provoked criticism, particularly from orthodox postmodernists who employed the politics of denunciation and rejection. They labeled metamodernism as a "reactionary" or "neosentimental project" that undermines the deconstructive strategies of postmodernism. Such arguments appeared predominantly in responses to the seminal works of Vermeulen and van den Akker (2010). Murphy (2017) criticized metamodernism as an academic construct, contending that it was not a natural consequence of artistic evolution but rather the result of actively "assembling" disparate works into a unified framework. He argues that just as Kafka created a new literary style, Vermeulen and van den Akker constructed metamodernism not by uncovering an existing artistic tendency but through interpretation. According to Murphy, metamodernism only became a tangible concept after being named, with artists subsequently creating works consciously within its framework (Murphy, 2017).

Murray (2021) focused his critique on the concept of oscillation, suggesting that oscillating between complexity and simplicity is insufficient. Merely alternating perspectives or "wavering" between opposites (e.g., rationality and spirituality, systemic thinking and holism) does not address deeper processes of shedding harmful layers of complexity and returning to fundamental, robust foundations (e.g., spiritual values, ethics, intuition). Modern culture often assumes that complex problems require more complexity for resolution, but Murray warns that sometimes the solution lies in embracing simplicity—not oscillating between extremes but eliminating unnecessary layers of knowledge or belief systems. He posits that while oscillation may be a useful aspect of metamodern thought, it should not be regarded as the sole mechanism for development. Genuine transformation, he argues, also requires releasing redundant complexity, confronting shadow elements, and returning to core values (Murray, 2021).

Shullenberger (2020) highlighted paradoxes related to the transformation of metamodernism from an aesthetic concept into a political ideology oscillating between conviction and performative irony, especially during the first Trump era. In this context, he referenced Abramson's (2016) attempt to interpret Trump's candidacy through the lens of metamodernism. Abramson argued that Trump was not merely a product of cynical populism or media culture but represented a new type of politician who strategically oscillates between

idealism and manipulation, self-irony and sincerity. Abramson anticipated that Trump's political style would have long-term implications for American politics, as later confirmed by Trump's second presidential victory in 2024. He contended that Trump is not a postmodern politician whose sole aim is the deconstruction of political norms, but rather a "metamodern politician"—an individual oscillating between idealism and cynicism, authenticity and self-irony, while maintaining belief in a personal metanarrative despite its controversial nature. This combination of confidence and self-reflection is, according to Abramson, characteristic of the metamodern approach to politics (Abramson, 2016).

Shullenberger (2020) critiqued Abramson by pointing out that subsequent updates to Abramson's blog propagated the narrative that Trump was merely a product of Russian interference in the U.S. elections. Shullenberger argued that this shift abandoned the metamodern perspective on Trump, instead embracing a rigid, moralizing interpretation of political reality (Shullenberger, 2020).

In response to such resistance, the *politics of adaptation* allowed certain academic groups to pragmatically integrate metamodernism into existing disciplines without presenting it as a radically divergent concept. Subsequently, the *politics of unification* was applied, portraying metamodernism not as an opposition to postmodernism but as a synthetic concept capable of preserving its critical potential while opening space for new forms of engagement and authenticity. This strategy proved particularly crucial for its acceptance in interdisciplinary discussions concerning epistemology and ontology.

The next section of this contribution will focus on further elaborating this developmental trajectory.

OSCILLATING FRAMEWORKS: THE RECEPTION OF METAMODERNISM IN SCIENTIFIC DISCOURSES

Following the initial phase of mobilization, the autonomization phase ensues, characterized by systematic engagement with the scientific community to expand and establish the new epistemological framework. The reception of metamodernism in scientific literature has evolved from an initial focus on aesthetics and culture to a broader interdisciplinary framework encompassing the philosophy of science, as well as the natural, social, and humanities disciplines. This discourse has yielded numerous valuable insights, including significant implications for geographical thought.

A central theme within this discourse is the association of the contemporary crisis in the social sciences with the exhaustion of the postmodernist discourse. Pipere and Mārtinsone (2022) argue that postmodernism has led to excessive fragmentation and relativization of knowledge, impeding the formulation of a cohesive framework for research and social praxis. In this context, metamodernism

is presented as a potential avenue for restoring balance between skepticism and idealism. As conceptualized by the authors, metamodernism does not represent a return to outdated paradigms but rather establishes a new, dynamic framework in which diverse perspectives and methodologies complement one another (Pipere and Mārtinsone, 2022).

This approach carries practical implications for research, particularly concerning mixed-methods studies, interdisciplinary approaches, and inclusive knowledge production. The authors dedicate considerable attention to the application of the metamodernist framework within specific fields of research, including education, psychology, social policy, and ethics. They highlight that metamodernism facilitates innovative ways to tackle complex challenges like polycrisis. The authors not only analyze metamodernism but also actively advocate for it as a superior alternative to postmodernism (Pipere, Mārtinsone, 2022).

In a subsequent publication, Pipere and Mārtinsone (2023) extend the application of the metamodernist framework to encompass all branches of contemporary science, including the natural sciences, social sciences, and humanities. They explore how the epistemological and ontological principles of metamodernism influence scientific thinking, scientific truth, and interdisciplinary collaboration. Drawing upon diverse philosophical approaches and theoretical frameworks—including metamodernist philosophy, post-normal science, systems theory, and digital innovation—they identify six key principles of metamodernism relevant to scientific inquiry (Pipere, Mārtinsone, 2023).

A significant contribution to the reception of metamodernism in the study of religion and other humanities is provided by Storm (2021, 2025). In his works, Storm introduces several key concepts aimed at encompassing a wide range of philosophical disciplines within his metamodernist project. Central to his approach is the incorporation of the metamodernist principle of *oscillation*, understood as a continuous dynamic between opposing poles. Rather than resolving this tension through synthesis or definitive conclusions, Storm emphasizes the productive engagement with these oppositions. This principle permeates his entire body of work, shaping his approach to philosophy, epistemology, ontology, ethics, and semiotics.

In the subsequent sections, we will provide a more detailed discussion of the key metamodernist principles and concepts, highlighting their potential for reception within the ontological, epistemological, methodological, and ethical dimensions of geographical thought.

METAMODERNIST CONCEPTS AND PRINCIPLES AND THEIR RECEPTION IN GEOGRAPHICAL THOUGHT

Metarealism – The Multilayered Nature of Geographical Metareality

According to Storm (2021), the foundational philosophical premise of metamodernism is *metarealism*, which offers a novel approach to conceptualizing reality and existence. Rather than adhering to binary categorizations, metarealism proposes a multilayered understanding of reality. To support this perspective, Storm introduces the concepts of *modes of reality* and *contrastive classes* as essential tools for comprehending how reality is defined and categorized. Reality, from this perspective, does not possess a singular or uniform mode of existence but rather consists of multiple "modes" or forms of being, contingent upon the specific type of phenomenon in question. Each phenomenon can be deemed "real" within a particular context while simultaneously being perceived as "non-real" within another (Storm, 2021).

Storm emphasizes that the term "real" acquires significance only in contrast to something considered "non-real." Therefore, it becomes necessary to specify the *contrastive class*—that is, the framework within which something is identified as "non-real"—when labeling any entity as "real." This approach helps clarify vague or misleading conceptualizations of reality. Storm's metarealism oscillates between these poles, rejecting dogmatic interpretations of reality as either purely objective or purely constructed (Storm, 2021).

Enriching this discussion is the concept of ontological stratalism introduced by Dziadkowiec (2015). Ontological stratalism, as conceptualized by this author, represents an integrative philosophical framework that explores the layered structure of reality. This framework draws upon a diverse array of theoretical and philosophical traditions, including British emergentism, general systems theory, complexity theory, G. Ellis's four-worlds concept, Hartmann's ontological theory of stratification, and Whitehead's processual philosophy. Despite their distinct approaches, these perspectives share a fundamental concern with the stratified organization of the world. In its broad conceptualization, stratalism encompasses all theoretical frameworks where the notions of layers or hierarchical structures of being play a significant role. Within this context, elements of stratalist thinking can be identified in British emergentism, Hartmann's stratified ontology, complexity theory, and general systems theory. All of these perspectives acknowledges that reality is organized into distinct yet interrelated levels, emphasizing the importance of analyzing how these levels interact and contribute to the emergence of complex phenomena. In its narrower definition, ontological stratalism is framed as a philosophical stance positing that the world consists of a hierarchically layered structure, characterized by successive, partially distinct strata or levels of being. These layers are defined by specific intra-layer structures,

inter-layer relationships, and entities that transition or interact across these layers (Dziadkowiec, 2015, p. 8).

The core focus of ontological stratalism is on addressing four fundamental problems:

a) definition of layers: understanding the nature and criteria that define distinct layers of reality.
b) structure of layers: analyzing the internal organization and properties that characterize each layer.
c) inter-layer relationships: investigating the dynamic interactions and causal relationships between layers.
d) hierarchy of layers: exploring the ordering and hierarchical arrangement of layers in the structure of reality.

The originality of this concept lies in its deliberate positioning between two extreme ontological stances: reductionist monism (particularly physicalism), which attempts to explain all phenomena by reducing them to fundamental physical processes, and isolationist pluralism (e.g., occasionalism), which treats layers of reality as entirely separate and non-interacting domains. By rejecting both extremes, stratalism advocates for an intermediate approach, acknowledging the distinctiveness of layers while recognizing their interconnectivity and mutual influence. This perspective allows for a more nuanced understanding of reality, where complexity and hierarchy are seen as emergent and interdependent (Dziadkowiec, 2015).

He further emphasizes that integrating the conceptual apparatus of Whitehead's processual philosophy can provide ontological stratalism with a dynamic and diachronic dimension. This inclusion enriches stratalism by framing layers not as static entities but as processes that evolve and interact over time. Whitehead's processual insights contribute to understanding how entities transition across layers, how complexity unfolds, and how dynamic interplays shape the stratified reality Dziadkowiec (2015, p. 248).

Ontological stratalism, when approached through a metamodernist lens, emerges as a dynamic and integrative framework that oscillates between the poles of hierarchical structure and fluid interconnectivity. It embraces the layered complexity of reality, acknowledging both the stability of stratified orders and the transformative potential of inter-layer interactions. In this sense, ontological stratalism does not merely provide a map of reality but becomes an active methodology for exploring the interplay between order and chaos, stability and change, simplicity and complexity. It holds the potential to inspire interdisciplinary dialogues and methodological innovations that honor the plurality of perspectives while seeking coherence within diversity. This oscillatory stance offers a fertile ground for philosophical reflection, encouraging continuous movement between

questioning and meaning-making, uncertainty and insight, and ultimately, between the known and the possible.

From a metamodernist perspective, rigid disciplinary boundaries are rejected in favor of a dynamic reconceptualization of the object of inquiry. Applying the principles of metarealism to the Earth's *landscape sphere*—the core object of geographical inquiry (see Matlovič, 2006)—allows for its interpretation as a *multilayered metareality*, oscillating between diverse modes of existence. These modes depend on both context and epistemological approach.

In this framework, the object of geographical inquiry is not a static assemblage of geospheres but rather a continuously evolving structure of interactions oscillating between the material and immaterial, the physical and the social, the virtual and the conceptual. Thus, the Earth's landscape sphere manifests not merely as a material system but also as a mental and social construction. Geographical inquiry, therefore, oscillates between these diverse modes of understanding.

This perspective encourages the integration of natural, social, cultural, technological, noospheric, and cyberspheric dimensions of the Earth's landscape sphere (Matlovič, 2006), facilitating scientific inquiry that transcends rigid dichotomies between objective and subjective knowledge. Consequently, it promotes a dynamic, context-sensitive, and integrative approach to geographical research, aligning with the metamodernist principle of oscillation and the rejection of fixed epistemological frameworks.

Anchoring Reality: The Dynamics of Natural and Social Kinds

Metarealism addresses the relationship between objective and constructed reality through the concept of *contrastive classes*—nothing is inherently real but only in contrast to something else. This perspective enables geography and the social sciences to transcend postmodern skepticism towards objective phenomena without reverting to rigid realism. The *theory of social kinds* offers a mechanism for both stability and transformation, demonstrating how social categories are formed, altered, and reproduced through anchoring processes. According to Storm (2021), this theory forms the foundation of metamodernist ontology. The author aims to replace exhausted and unproductive postmodern approaches, particularly the dominance of discursive studies. He extends the analysis of social phenomena beyond the confines of language and discourse to understand their material causes and consequences.

In Storm's view, metamodernism must integrate linguistic analyses with examinations of material, social, and environmental factors. The proposed solution is a framework of *processual social ontology*, representing a shift from essentialist thinking towards a dynamic, process-oriented perspective on reality. Storm conceptualizes *natural kinds* and *social kinds*, integrating them into this framework, which emphasizes the dynamic and interconnected nature of reality (Storm, 2021).

Natural kinds are categories that reflect an objective, relatively stable, and "natural" structure of reality. These entities or phenomena exist independently of human activity, context, or perception. They are typically studied and interpreted through the natural sciences, which rely on empirically verifiable facts. Although natural kinds are regarded as "natural" and objective, their classification can be partially influenced by human discourse and practical needs (Storm, 2021).

Social kinds are categories that emerge through human activity, social interactions, and historical-cultural contexts. They are characterized by variability and constant change, lacking stable or universal properties. Their meaning is fluid and shifts depending on geographic, historical, socio-economic, political, and cultural contexts. These are entities whose existence depends on human beliefs, linguistic constructions, social practices, and material conditions. They are continuously sustained, modified, and reconstructed through social interactions and material activities. Their properties are neither inherent nor fixed but represent constellations of characteristics that depend on ongoing negotiations between social actors, material conditions, and cultural patterns. This *relational ontology* rejects essentialism and the isolated understanding of entities, which is particularly useful for studying complex phenomena explored by geography (Storm, 2021).

Storm defines social kinds as *temporary zones of stability* within constantly evolving processes, anchored in material reality and social interactions. These kinds can include artifacts (e.g., hammers, money), social roles (e.g., professor, Buddhist monk), norms, events, and institutions. Storm adopts the concept of *homeostatic property clusters* from philosopher Richard Boyd, who defines natural kinds as clusters of properties maintained by stable causal mechanisms. However, Storm adapts this model to social kinds, conceptualizing them as dynamic *clusters of powers* rather than static properties. These powers reflect the potential of entities to act or be acted upon within specific contexts. Storm distinguishes between actualized powers – actual properties observable at a given time; and potential powers – properties that may manifest under specific circumstances. Powers can be advantageous (abilities) – contributing positively to the stability or reproduction of social kinds, and disadvantageous (liabilities) – contributing negatively, potentially undermining the sustainability of social kinds (Storm, 2021).

Social kinds exhibit both *homeostatic* and *heterostatic* mechanisms that maintain stability and variability within the kind. Storm (2021) focuses on the *causal processes* that anchor and stabilize the properties and powers within social kinds, thereby ensuring their sustainability and reproduction. The author identifies three fundamental types of these anchoring processes.

Dynamic-nominalist anchoring occurs when social kinds acquire shared properties through naming, classification, and subsequent role adoption. This process involves the continuous creation and maintenance of categories via discourse, norms, and authoritative decisions. Importantly, these categories are

not entirely arbitrary; rather, they reflect specific social and material conditions. Dynamic-nominalist processes emphasize the *power of naming*, which not only mirrors reality but also normatively and politically shapes it. For such processes to function effectively, they must be supported by institutional and legal mechanisms that reinforce the authority of classifications and roles (Storm, 2021).

Mimetic anchoring refers to the imitation and dissemination of social practices, economic models, cultural trends, political strategies, and societal values. These processes highlight how social kinds replicate and stabilize through cultural and social mimicry. For instance, the adoption of specific economic systems, fashion trends, or governance models across societies exemplifies how social categories can propagate through imitation. This process ensures that certain social kinds persist and expand their influence over time (Storm, 2021).

Ergonic anchoring explains why social kinds may share similar properties, even if they originated independently, due to their design to fulfill identical functions. This type of anchoring involves *physical, natural, material, and technological processes* that contribute to the formation and maintenance of social categories, such as infrastructure or technology. Anchoring, in this context, is based on *functional selection and design*—for example, the structure of currency systems, the architectural templates of global hotel chains, the layout of airport terminals, the algorithmic frameworks of navigation apps, the spatial configuration of logistics hubs, the interoperable infrastructures of data centers and server farms or the standardized design of fast-food restaurants. These designs are selected and stabilized according to their capacity to meet specific functional needs (Storm, 2021).

Storm's framework of anchoring processes offers a comprehensive understanding of how social kinds are dynamically formed and stabilized. By distinguishing between dynamic-nominalist, mimetic, and ergonic anchoring, he illustrates the complex interplay of discursive, cultural, material, and functional factors that shape social reality. His approach enables the deconstruction of existing social constructs and provides a pathway for their reconstruction within new socio-material contexts. Storm introduces the concepts of *deconstruction* and *reconstruction* to elucidate how social kinds are formed, transformed, and stabilized.

Deconstruction refers to the analytical process of examining how social kinds emerge and function while stripping them of essentialist and immutable status. It involves uncovering the historical, social, and material conditions that have contributed to their current formation. Empirical reconstruction involves the investigation of specific *power-clusters*—the sets of properties that characterize a social kind—and analyzing the anchoring processes that stabilize them. This process seeks to understand how social kinds maintain their coherence and continuity over time. Normative reconstruction occurs when scholars

advocate for the reinterpretation or redefinition of social kinds, proposing new conceptualizations and uses for these categories within academic or social contexts (Storm, 2021).

Social kinds, therefore, represent *dynamic, processual clusters* of properties and powers that gain stability through various anchoring mechanisms. Storm's distinction between *natural* and *social kinds* provides a robust framework for understanding reality as a dynamic interaction of objective natural processes and historical-cultural constructions. This integration is fundamental to his metamodernist approach, which seeks to transcend binary oppositions between the natural and social worlds by unifying them in a dynamic process of interaction.

From the perspective of geographical thought, the integration of *metarealism* and the *theory of social kinds* enables the conceptualization of space as a dynamic configuration of social and material interactions. These interactions oscillate between *relative stability*—such as state borders or urban structures—and *continuous transformation*, such as the evolving social identities of cities or the development of technological networks.

Storm's (2021) theory of social kinds introduces an innovative ontological framework for defining geographic objects. It overcomes the traditional dualism between natural and social phenomena by interpreting them as *dynamic, processually anchored structures* that oscillate between stability and transformation. This approach facilitates the integration of material (natural) and social factors into a more comprehensive geographical understanding. Natural kinds represent ontologically more stable categories of geographical investigation, as they are determined by natural laws. However, their classification and interpretation can be influenced by social constructs. Although natural kinds exist independently of human perception, their social significance and utilization oscillate depending on context. For example, mountain ranges may be perceived as natural barriers, sacred spaces, or economic resources (e.g., tourism, mineral extraction, forestry). Thus, the meaning attributed to these physical features is shaped by cultural, economic, and political narratives.

In contrast, social kinds are *dynamic categories* emerging through human activity, political decisions, and cultural processes. Their existence is not inherent but is stabilized through anchoring mechanisms. For instance, state borders are not natural entities but are social kinds anchored by legal norms, geopolitical agreements, and physical infrastructure such as walls, fences, or customs checkpoints. Social kinds also oscillate between *local and global narratives*, as well as between historical traditions and emerging narratives. For instance, the concept of "Europe" encompasses geographical space, cultural identity, political projects, economic zones, and historical constructs that have evolved over time (e.g., Jensen, Richardson, 2004). The fluidity of this concept reflects the dynamic nature of social kinds and their continual negotiation through anchoring processes.

Anchoring processes are mechanisms that stabilize geographic entities, enabling them to persist despite their inherently dynamic character. Storm (2021) identifies three principal types of anchoring that can be applied to geographical thought. Dynamic-nominalist anchoring stabilizes entities through *naming and classification*. Geographic concepts such as "Central Europe" or "Post-Soviet Space" emerge from historical, political, and discursive processes. These names help stabilize perceptions of space, although their meanings can change over time. For example, while *Czechoslovakia* no longer exists as a political entity, it persists in cultural memory as a historical and discursive construct. Maps serve as key instruments of nominalist anchoring, translating spatial realities into stable categories despite their constant transformation. Mimetic anchoring occurs through the imitation and replication of spatial patterns. For example, urban planning models such as the "*15-minute city*" (e.g., Mocák et al., 2022) have been replicated across various cities through processes of mimicry. Similarly, economic models—such as China's exportation of infrastructure projects to Africa—contribute to the formation of new geographic structures (e.g., Taylor, Zajontz, 2020). Cultural norms also replicate spatial perceptions; for instance, the ideal of "suburbia" as a desirable form of living originated in the United States but has influenced urban development across Europe and Asia (e.g., Clapson, Hutchison, 2010). Ergonic anchoring is achieved through material infrastructure. For example, *cyberspace* is anchored in physical data centers and computational infrastructures (e.g., Hristova et al., 2022). Despite its seemingly intangible nature, it continuously reconfigures in response to technological innovation. This anchoring ensures that even the most fluid and dynamic forms of spatiality retain material grounding.

The integration of *metarealism* and the *theory of social kinds* in geographical analysis offers a robust framework for overcoming the dichotomy between physical and social space. It provides an analytical lens that integrates *natural, social, technological, and symbolic dimensions* of geographic reality. This perspective enables the study of how space is formed, stabilized, oscillated, and reconfigured within global-local interactions.

Embracing Uncertainty: Zetetism in Metamodern Epistemology

The concept of *zetetism*[2], as articulated by Storm (2021), represents an epistemology that integrates skepticism with productive and practically oriented knowledge. In contrast to postmodern skepticism, zetetism extends its critical lens to skepticism itself, highlighting that while radical doubt is always possible, such doubt holds limited value if it does not lead to improved differentiation between more

2 A term derived from the Greek word **ζητητικός (zētētikós)**, which means "one who seeks" or "one who investigates." It originates from the root **ζητέω (zēteō)** – "to search," "to inquire," or "to strive for understanding." (Storm, 2021).

and less probable claims. Thus, zetetism replaces "paralyzing doubt" with *modest yet effective knowledge*—knowledge that is aware of its limitations yet remains committed to deepening our understanding of reality (Storm, 2021).

A pivotal element of Storm's argument is the association of zetetism with *abductive reasoning* (inference to the best explanation). Storm asserts that abduction offers a model of progressive knowledge development that is more resilient to skepticism than inductive generalization. Abduction allows for a *cumulative increase in certainty*: when a hypothesis is progressively supported by multiple lines of evidence and alternative explanations are systematically excluded, it becomes increasingly robust, even though it may never achieve absolute certainty. This author argues that *intellectual progress is possible*, provided that knowledge is framed as provisional and open to revision. He rejects the notion of absolute certainty as an unrealistic epistemological standard, emphasizing that while anything may be questioned, not all claims are equally questionable. This approach fosters a nuanced and differentiated framework for evaluating knowledge claims (Storm, 2021).

Storm advances the concept of *"modest knowledge,"* which entails the recognition of potential error even in strongly supported beliefs. Zetetism, therefore, does not stand in opposition to knowledge but rather deepens critical thinking by demanding differentiated and precise analytical tools. It encourages scholars to embrace uncertainty as a natural aspect of inquiry while still striving for the best possible explanations and interpretations (Storm, 2021).

In the context of academic research, Storm underscores that in the absence of absolute certainty, the level of evidentiary rigor must be adjusted to the significance of the research question. This perspective bridges epistemology with *practical decision-making*, emphasizing that the process of inquiry must align with the pragmatic implications of knowledge claims. Hypotheses must be treated as provisional, predictions should be flexible, and multiple scenarios must be considered. Storm's zetetism emphasizes that knowledge is *processual*—a dynamic and evolving framework where conclusions are open to revision based on emerging evidence. This epistemological model is not merely theoretical but possesses significant *practical value* for addressing complex global challenges such as the climate crisis, migration, or social inequality. By advocating for flexible and context-sensitive approaches, zetetism contributes to the development of adaptive strategies that are capable of responding to the uncertainties inherent in contemporary global issues. In this sense, zetetism embodies an epistemological framework that combines intellectual humility with methodological rigor. It invites researchers and practitioners to embrace uncertainty not as a barrier to knowledge but as a condition for deeper inquiry and more sustainable problem-solving (Storm, 2021).

Based on zetetic principles that emphasize open, self-reflective, and practically oriented knowledge, a metamodernist reinterpretation of epistemology within geographical thought can be proposed. Geography is therefore not conceived as a rigid discipline with strictly defined boundaries but as a a dynamic field of knowledge that oscillates between paradigms while striving to identify the most plausible explanations within the context of an evolving reality.

Storm (2021) underscores the necessity of integrating doubt as a productive instrument of knowledge. In geographical research, this implies embracing *epistemic humility* and continuously scrutinizing established knowledge. Geography should deliberately employ *abductive reasoning*, which does not provide definitive or universal answers but seeks the most probable explanations of geographic phenomena based on available evidence. Knowledge is thereby understood as provisional, contextual, and open to revision.

Metamodern epistemology within geography rejects fixed paradigms and instead emerges as a post-disciplinary and post-paradigmatic science that eschews rigid separations between subdisciplines and incompatible paradigms. Instead, it emphasizes the dynamic interconnection of knowledge across disciplines and paradigms. This approach highlights oscillation between analytical and synthetic frameworks, perceiving geographical objects as *dynamic social kinds* whose identities are continually shaped by the interaction between natural processes and social practices. The post- prefix in "post-paradigmatic" signals that geographical thought does not adhere to a single dominant paradigm but rather integrates multiple paradigms in a reflexive way.

A geography grounded in zetetism operates within the conceptual space of *metaxy*—the oscillation between stability and transformation, between objective and subjective knowledge, and between universal and particular perspectives. Every research endeavor is conceptualized as a negotiation between various ontological and epistemological approaches, whereby geography reflects the complexity and fluidity of reality.

It is precisely within this oscillation that geography discovers its *epistemological strength*, enabling deeper and more nuanced understandings of the world. This perspective positions geography as an adaptive and reflexive discipline, capable of navigating the uncertainties and complexities inherent in contemporary global challenges.

In practical research contexts, the principle of *methodological pluralism* is applied to address the complexity of natural and social phenomena. Methodological pluralism is a key principle of metamodernism, which allows: to oscillate between different approaches, thus minimizing the limits of individual methods; to combine different insights and perspectives in order to understand complex phenomena in all their breadth and depth; and to open up space for interdisciplinary and transdisciplinary collaborations, thereby strengthening the

capacity of science to respond effectively to contemporary societal challenges (Pipere, Mārtinsone, 2023, pp. 18-19).

Instead of relying on a single analytical framework, metamodernist research oscillates between quantitative (statistical, GIS, machine learning) and qualitative (ethnographic, discourse analysis, participatory research) methods depending on the research context. Data should be continuously re-evaluated and questioned while remaining pragmatically useful for understanding spatial phenomena. Mixed methods enable researchers to explore these phenomena from multiple perspectives, thereby reducing the risk of one-sided interpretations. This approach requires scholars to possess both knowledge and flexibility across various methodologies, ensuring that they can employ them critically and reflectively. Such an approach necessitates a profound understanding not only of individual methods but also of their broader philosophical and epistemological contexts. Abduction allows researchers to generate the most plausible explanations based on incomplete information, avoiding modernist certainty and postmodernist skepticism.

For instance, in urban geography, research on *gentrification* and studying power dynamics may combine quantitative methods—such as statistical analysis of demographic changes and spatial analysis of property price variations—with qualitative approaches, including ethnographic interviews with residents and narrative analysis concerning perceptions of transformations. This combination allows for a more nuanced and holistic exploration of gentrification, capturing both its material impacts and subjective experiences (e.g., Drouet, Barrioz, 2024).

Metamodernism urges researchers to remain critically aware of the epistemological foundations underlying their chosen methods. It requires reflexive engagement with the limitations and assumptions underlying these methodologies. A pertinent example of reflexivity in geographical research involves the application of *big data* and *algorithmic analysis*. While such methods can yield valuable insights, they also necessitate a critical consideration of ethical concerns, including issues of digital surveillance, privacy, and the power structures embedded in algorithms (Varoufakis, 2024). Thus, metamodern methodological pluralism not only facilitates richer empirical insights but also promotes critical awareness and ethical responsibility in the practice of scientific inquiry.

Hylosemiotics: Bridging Materiality and Meaning in Geographic Inquiry

Storm formulates a metamodern theory of meaning, referred to as *hylosemiotics*[3]. He argues that semiotics (the study of signs) and ontology (the study of being) must be formulated conjointly, as meaning is never isolated from the physical

3 The term is derived from the Greek words: ὕλη (hylē) – meaning matter, material, or substance, and σημειωτική (sēmeiōtikē) – meaning the science of signs or semiotics

world. In contrast to postmodern skepticism, which reduces meaning to linguistic games and social constructs, hylosemiotics emphasizes that knowledge arises through active engagement with the world. The mind is not an isolated entity but a dynamic network of relationships among the body, external signs, and collective representations. Human beings, along with other entities, utilize the world as an extended cognitive memory, where meaning is not simply a subjective interpretation but something that emerges from materially grounded signs that facilitate coordination within both social and ecological systems. Hylosemiotics thus challenges radical linguistic relativism and the idea of translation as impossible, offering a new approach to analyzing culture, knowledge, and the semiotic nature of reality (Storm, 2021).

As evidenced in our preceding considerations, geography within the metamodern framework is conceptualized as a *post-paradigmatic discipline*. From this perspective, it is particularly productive to highlight that Storm (2021), through his hylosemiotic approach, re-evaluates Kuhn's concept of the incommensurability of paradigms. He builds upon the notion that reference and meaning are not fixed but arise in interaction with the material world through semiotic processes. Storm rejects Kuhn's strong notion of untranslatability and argues that scientific paradigms are not closed linguistic systems but emerge from the semiotic relationship between the world and its interpretation. He dismisses the idea that scientific terms have absolute referents that change with paradigm shifts. Instead, he proposes that reference is flexible and can follow *"property clusters."* This means that even when paradigms change, old and new concepts may overlap, allowing for at least partial translation. Scientific concepts are not rigid entities but are processes of inference and property clustering (Storm, 2021).

During paradigm shifts, scientists do not translate words directly but alter how they interpret *signs-aspects* of the world. This process is abductive (as in Peirce's semiotics), meaning that scientists reinterpret existing concepts to derive new meanings. If paradigms were entirely untranslatable, scientists could not engage in discussions or reconstruct past theories. Empirical testing (e.g., experiments, observations) serves as a semiotic anchor that enables comparisons across paradigms. Scientific paradigms are not linguistically incompatible islands but historically interconnected semiotic systems. Storm points out that even as language evolves, scientists can understand older theories and translate them into new frameworks. This hylosemiotic reconceptualization offers a realistic yet flexible perspective on the evolution of science, where meanings are not fixed but adapt through interaction with the material world (Storm, 2021).

From an epistemological perspective within geographical thought, the hylosemiotic approach enables a metamodern reinterpretation of the key geographic concept of *place* as a dynamic semiotic configuration. Here, material structures, social interactions, and value interpretations converge. This approach

integrates compositional, socio-constructivist, and substantive-axiological research perspectives into a coherent framework (see more in Matlovič, 2009).

Within the hylosemiotic framework, the compositional perspective involves the analysis and synthesis of spatio-temporal structures and forms of abiotic, biotic, and anthropogenic origins. These structures are perceived as dynamic semiotic configurations. The *geodiversity* of a given place arises from the coexistence and interaction of *physiospheric, technospheric, sociospheric*, and *noospheric-cyberspheric* components, all of which are carriers of both material and meaningful signs. Applying the compositional perspective involves predominantly empirical-analytical approaches, expanded by the examination of materially grounded semiotic processes. This approach facilitates understanding how physical and technological structures not only shape space but also carry meanings that influence their interpretation and perception within ecological and social systems.

The socio-constructivist and contextual perspective within hylosemiotics focuses on analyzing the position of the studied place through the interpretation of materially grounded semiotic interactions across various contexts. This perspective identifies and explains socio-spatial processes, mechanisms, actors, and networks, conceptualizing place as a dynamic semiotic configuration where material and meaningful flows intersect. Interactions between the place and its surroundings, as well as between macro- and local structures, are analyzed as processes of emergence, exchange, and transformation of signs and meanings that shape the daily experiences of actors. This approach primarily employs critical-analytical methodologies, enriched by the study of *semiotic anchors* and interpretative frameworks through which communities construct meaning in complex social, technological, and environmental networks.

The substantive-axiological perspective within the hylosemiotic framework concentrates on identifying and understanding dominant materially anchored meanings, identities, and values formed through semiotic interactions in the everyday efforts of local communities. This approach explores how meaningful dominants and value orientations manifest in specific material signs, spatial arrangements, and symbolic practices that define the community within space and time. The identity of place is thus understood as the result of dynamic interaction between the material environment, social practices, and cultural symbols that together create a meaningful framework for existence. Applying this perspective involves primarily hermeneutical methodologies, expanded by analyzing material signs and their meanings, with a focus on interpreting how communities anchor their values and identities through interaction with the physical and social environment.

The hylosemiotic approach, with its emphasis on the integration of material structures and semiotic processes, facilitates a nuanced understanding of *place* as a dynamic and multilayered phenomenon. This conceptualization allows for

the interpretation of geographic reality as an interactive and evolving semiotic landscape, wherein physical and social dimensions are intricately interconnected. It encourages geographical research that acknowledges the co-evolution of materiality and meaning, advancing analyses that reflect the complexity of spatial experiences within contemporary socio-ecological systems.

Such an approach not only broadens the analytical scope of geographical inquiry but also fosters reflexive awareness of how meanings are constructed and stabilized in relation to material conditions. This enables the development of methodologies capable of capturing the dynamic and oscillatory nature of geographic phenomena, thereby contributing to a more holistic understanding of spatial realities in the context of global transformations.

Sublation in Metamodern Thought: Reconciling Contradictions through Higher Synthesis

The concept of sublation within the context of the rise of metamodernism was emphasized by Vandevert (2025), who identified its deeper connection with Hegelian philosophy. Vandevert expands upon the traditional understanding of Hegel's triadic dialectic (*thesis – antithesis – synthesis*) by introducing a fourth stage, termed "absolute negation," which refers to the continuous repetition of transformative processes. He draws on Žižek's concept of the *negation of negation*, a central element of Hegelian dialectics. According to Žižek, the *negation of negation* is more than mere rejection—it is a process that transforms and reinterprets the original state, wherein negation is not the final goal but a means to ascend to a higher level of being and understanding. In the metamodernist framework, *negation of negation* implies that each new phase incorporates aspects of past epochs while overcoming and transforming them. This process culminates in *sublation* (*Aufhebung*), where opposites merge into a higher synthesis (Vandevert, 2025). Sublation, therefore, does not destroy the original concept but reformulates and elevates it to a higher level. It is a cyclical, never-ending process that continuously unites what has been alienated or separated.

Vandevert (2025) extends Hegel's concept of sublation to the oscillation between opposites (e.g., seriousness vs. irony, subjectivity vs. universality), asserting that metamodernism does not negate these dichotomies but integrates and transforms them. In metamodernism, sublation is intrinsically linked to three key elements:

a) Ironic Sincerity – an oscillation between irony and sincerity, which do not exclude each other but form a new, authentic mode of expression.
b) Becoming – a process of continuous transformation that does not aim for fixed truth but embraces a dynamic state of rediscovering the self and the world.

c) Self-Renewal – the ongoing reassessment of personal identity and position in the world through continuous introspection, leading to transformation at both individual and collective levels.

For Vandevert (2025), sublation is not merely about overcoming contradictions but also about integrating them into a higher whole. Postmodernist rejection of universal values, he argues, leads to a sense of anomie and stagnation. Metamodernism, by contrast, reevaluates and reconstructs these values in a new, flexible, and self-reflective form—one that acknowledges its limitations, embraces imperfection, and continuously seeks higher principles and meanings (Vandevert, 2025).

The metamodernist principle of sublation promotes a research methodology in geography that is both integrative and dynamic. For instance, the analysis of globalization and local cultural identities should not be approached through rigid dichotomies but through an understanding of how these identities continuously transform under the influence of global trends while maintaining local specificity. In environmental geography, the concept of *sublation* encourages strategies that recognize the cyclical and interdependent relationship between humans and natural systems. This includes acknowledging historical environmental degradation while fostering innovative practices for ecosystem restoration. In terms of urban geography, sublation can inform sustainable development models that integrate global design innovations with local cultural and environmental needs. Urban planning becomes a process of oscillation between global trends and local adaptations, ensuring that development is contextually relevant and ecologically responsible.

Just as science oscillates between irony and sincerity in metamodernism, geography oscillates between quantitative and qualitative approaches, with neither being inherently superior. For instance, in social geography, big data analytics (such as GIS analysis) are combined with ethnographic methods and narrative research to understand spatial behaviors and perceptions of landscapes from both subjective and objective perspectives (e.g., Kwan, Ding, 2008).

The *self-renewing* nature of sublation in metamodernism is also reflected in geographical research into historical and cultural spatial processes. Colonial and postcolonial geographies are no longer read solely as narratives of European expansion (the modernist narrative) or purely as deconstructions of Western influence (the postmodernist narrative). Instead, they are interpreted as dynamic interactions between local and global forces, resulting in continuous hybridization and redefinition of cultural and economic relations.

Similarly, the evolution of geopolitical thought is no longer viewed as a linear progression from realism to liberalism and postmodernism but as an ongoing reassessment of geopolitical theories within new historical contexts. Old principles

transform through oscillation into new syntheses. In the global epoch, the boundaries between local and global have become increasingly blurred. Processes of globalization and localization do not negate one another but mutually influence each other through *sublation*, often referred to as *glocalization*. For example, while multinational corporations like McDonald's or Subway standardize global production, they also adapt their products to local markets (such as offering vegetarian menus in India or ensures that its meat is halal-certified in the Middle East). Similarly, Starbucks offers green tea frappuccinos in Japan, Teriyaki chicken sandwiches in China, and dulce de leche lattes in Latin America; KFC serves spicy paneer zinger burgers in India and congee for breakfast in China; Domino's Pizza includes paneer tikka and keema do pyaza pizzas in South Asia, while offering corn and tuna toppings in South Korea. Even IKEA includes local dishes like biryani in its Indian outlets or kimchi fried rice in South Korea, reflecting how global brands embed themselves in local cultural and culinary contexts (e.g., Alamuri, Aluvala, 2024). In regional geography, sublation is manifested through ongoing dialogue between global trends and local realities, constantly transforming these into higher levels of understanding.

Metamodern geography is conceived as a continuous process of oscillation, transformation, and reinterpretation, wherein sublation does not eliminate previous paradigms but transforms them into higher levels of understanding and synthesis. Sublation thus emerges as an effective tool for addressing the challenge of inter-paradigmatic integration within geography. It enables flexible transcendence over binary conflicts between different approaches and fosters the creation of new syntheses that account for the complexity of geographic phenomena. Despite its strengths, this approach necessitates a high degree of reflexivity, epistemological discipline, and practical sensitivity to the limitations inherent in each paradigm.

In sum, the concept of sublation within metamodern geography allows for a more nuanced and adaptive framework for understanding and researching complex spatial phenomena. It promotes a vision of geography as a field in constant motion—integrating past paradigms while transforming them into new, higher-order syntheses. However, achieving such integration requires rigorous methodological reflection, a commitment to epistemological plurality, and a deep awareness of the contextual limitations inherent in every paradigm.

Oscillation of Scientific Discourses

One of the key principles of metamodernism, according to Pipere and Mārtinsone (2023), is simultaneity induced by oscillation. This principle describes how scientific discourses oscillate between two distinct models of scientific organization: the hierarchical model (represented by the metaphor of a tree or pyramid), typical of modernism, and the network model (represented by the metaphor of a rhizome—

an underground root system), characteristic of postmodernism. Neither approach is considered superior; rather, both coexist and influence each other depending on context and situation. This oscillatory principle allows scientists to integrate diverse approaches, oscillating between specialization, interdisciplinarity, and transdisciplinarity, enabling them to respond to the complex challenges of contemporary society. Oscillation, therefore, is seen as an inevitable and positive aspect of scientific development (Pipere & Mārtinsone, 2023, pp. 10-11).

In geographical research, two fundamental models of knowledge organization have been long applied. The hierarchical model, represented by modern positivist geography, examines the world through rigid spatial units (such as states, regions, and cities) and organizes scientific knowledge into disciplines and subdisciplines with clearly defined boundaries. Conversely, the rhizomatic model, typical of postmodern geography—such as relational geography and concepts like the "space of flows" (Castells, 1989)—understands landscapes and social structures as interconnected, dynamic nodes in constant interaction.

Metamodern geography does not prioritize either model but oscillates between them depending on the nature of the studied problem. For example, in the analysis of global megatrends (e.g., climate change, migration, urbanization), it becomes essential to establish connections between hierarchical levels (e.g., national policies) and rhizomatic networks (e.g., cross-border migration flows, digital spaces). Geography, as a transdisciplinary science, plays a pivotal role in linking academic research with societal needs. The principle of *metamodernist negotiation* (Pipere & Mārtinsone, 2023) manifests in two primary dimensions. First, in thematic areas such as environmental sustainability, climate change, or urban planning, scientific inquiry extends beyond academia to actively involve local communities, policymakers, and organizations in co-creating knowledge. A practical application of this principle is reflected in Responsible Research and Innovation (RRI) in geography (Owen et al., 2012). For instance, in the development of smart cities (e.g., Shayan, Kim Pyung 2023), it is crucial to negotiate between technological innovation and social impacts, addressing concerns like digital inclusion, gentrification, and urban ecological footprints. Critical cartography (e.g., Crampton, Krygier, 2005) also illustrates the metamodernist approach, emphasizing that maps are not neutral representations of reality but reflect specific value-laden and political frameworks.

The oscillatory principle further applies to defining geography's position within the scientific system. As previously discussed, geography is not a closed system with fixed boundaries but an open, flexible discipline that integrates knowledge across natural, social, technical, and humanistic sciences. This shift allows for better reflection on the complex relationships among environmental, political, economic, social, cultural, and technological processes—relationships that cannot be adequately captured within traditional disciplinary and subdisciplinary

frameworks. Post-disciplinary geography is thus characterized by permeability between methodological traditions and the capacity to integrate diverse analytical approaches based on the nature of the phenomenon under study. This approach enhances the discipline's ability to navigate the complexities of contemporary spatial, societal, and environmental processes. A notable implication of this oscillatory principle is the dissolution of any singular universal paradigm capable of addressing the full complexity of geographic phenomena. Unlike the modernist model, which favored a unified theoretical framework, and the postmodernist model, which critically deconstructed existing paradigms, metamodern geography embraces oscillation between multiple epistemologies and theoretical frameworks.

Thus, post-paradigmatic geography does not perceive methodological traditions as opposing but regards them as complementary tools for capturing complex realities (see Matlovič, 2007). Geography, therefore, oscillates between: the hierarchical model of science – where subdisciplines such as physical and human geography evolve within structured categories, and the network model of science – where interdisciplinary connections (e.g., between geography, anthropology, economics, sociology, political science, spatial planning, environmental science, development studies, risk management, information science) continuously change and adapt according to current research needs. This oscillatory approach equips geography with greater adaptability to the dynamics of the contemporary world, where rigid disciplinary boundaries and paradigmatic rigidity hinder understanding of interwoven spatial, social, and environmental processes.

Navigating Paradoxes: Truth and Grand Narratives in Metamodern Geography

Another metamodernist principle is the paradoxical position of truth and grand narratives in contemporary science (Pipere, Mārtinsone 2023). The authors highlight the ambiguity of truth in modern science, which oscillates between objective and subjective understandings. Objective truth has traditionally been regarded as universal and fixed. It was prioritized during the era of modernism, where scientific progress and truth were key values. Subjective truth reflects the relativity and contextualization of scientific knowledge, characteristic of postmodernism. The authors argue that in metamodernism, truth is understood as the simultaneous interplay of objective and subjective perspectives, with both approaches having their place in different scientific fields and discourses. This approach allows scientists to oscillate between relative and absolute understandings of truth, depending on the context and area of research (Pipere, Mārtinsone 2023, 11-12).

The authors claim that grand narratives return in metamodernism but in new forms. These are no longer universal "truths," but pragmatic, dynamic, and situated metanarratives that oscillate between different discourses. They provide examples

of these contemporary metanarratives: sustainability (connecting science with societal challenges related to the environment), the search for meaning (where science engages in broader discussions on how to improve human life and society), and digitalization (where science helps manage the transition to a digital society, with digitalization itself being perceived as a new grand narrative) (Pipere, Mārtinsone 2023, 11-12).

In geographical thought, the principle of the paradoxical position of truth and grand narratives can be applied to the reconceptualization of traditional concepts such as space, place, and region, which oscillate between objective and subjective approaches. Traditional geographical analyses, based on quantitative methods, mapping, and spatial relationships, reflect the modernist ideal of universal, objective truth, wherein space is perceived as measurable, structured, and predictable. Conversely, postmodern geography emphasized the subjectivity of spatial perception, focusing on the social construction of space and the plurality of meanings that individuals and communities attribute to places (Matlovič, Matlovičová 2007).

A metamodernist approach in geography integrates these perspectives, conceptualizing truth not as fixed and immutable but as a dynamic process in which scientific knowledge oscillates between precise models and interpretative narratives. For instance, the concept of quality of life can be both objectively quantifiable and subjectively experienced (e.g., Ira, Andraško, 2007, Petrovič, Murgaš, 2020).

The culmination of this oscillation is the return of grand geographical narratives in a new form: globalization, climate change, and digitalization are currently regarded as macro-processes with objectively measurable impacts, while their interpretation is shaped by cultural, political, and social contexts. Geography, consistent with metamodernist logic, does not reject grand narratives but approaches them with flexibility—examining their significance and applicability in specific contexts. This contributes to the formation of pragmatic and dynamic metanarratives that reflect contemporary challenges.

Beyond Boundaries: Embracing Dia/Polylogical Thinking in Metamodern Inquiry

The next principle of metamodernism emphasizes the dynamic oscillation between various perspectives, disciplines, and levels of knowledge, with the key concept being dia/polylogical thinking (Pipere, Mārtinsone 2023). This principle encompasses multiple layers: scientific thinking, the system of science and interdisciplinary interaction, the dialogue between science and society, and the concept of open science. The authors highlight the inherent complexity of scientific thinking, which often leads to the production of so-called demi-reality—

false beliefs and implicit assumptions that may arise from excessive analysis or abstraction devoid of context.

The authors advocate for metaxis-based thinking, characterized by the ability of scientists to oscillate between different approaches and perspectives rather than rigidly adhering to a single position. This involves transcending boundaries between scientific disciplines and oscillating between monodisciplinary, interdisciplinary, and transdisciplinary approaches. However, it is not limited to the oscillation between knowledge or methods but emphasizes active engagement in dialogue (polylogue) among scientists, society, policymakers, citizens, and other stakeholders. In this context, polylogue is understood as a multidimensional process that highlights the plurality of perspectives, collaboration, and the continuous enrichment of science with new insights and experiences, which are essential for addressing contemporary global challenges. Polylogue is not merely an exchange of information but a process of collective learning and reflection, where participants mutually enrich their knowledge and experiences. Open science and digitalization represent practical applications of this principle in the 21st century. Science becomes more accessible and democratic, engaging diverse actors in the creation, dissemination, and utilization of knowledge (Pipere, Mārtinsone 2023, 12-17).

In geographical thought, the principle of dia/polylogical thinking can be applied to the exploration of relationships across different scales (local, regional, global), between diverse methodological traditions (quantitative vs. qualitative geography), and between academic research and public discourse on space and society. This principle promotes transdisciplinary thinking in geography, oscillating between monodisciplinary, interdisciplinary, and transdisciplinary approaches.

For instance, in the analysis of climate change, geography integrates knowledge from physical geography (changes in atmospheric circulation, topography, and vegetation) and human geography (social consequences, environmental justice, adaptive strategies of populations) while actively engaging in polylogue with climatologists, sociologists, economists, ecologists, and policymakers to develop holistic frameworks for addressing environmental challenges (e.g., Fu et al. 2025). A practical application of this principle is open science in geography (e.g., Singleton et al. 2016), where digitalization, participatory mapping, and crowdsourcing are utilized to involve the wider public in the production of geographical knowledge. For example, the concept of "citizen science" enables citizens to participate in the collection and analysis of geographic data (e.g., OpenStreetMap, environmental monitoring applications), thereby expanding the framework of scientific inquiry beyond traditional academic institutions. Polylogue in geography is also evident in addressing issues such as the exploitation of natural resources, land-use changes, the development of social awareness regarding environmental threats, and the sustainable development of rural areas—where diverse perspectives intersect,

including those of environmental movements, development planners, and local communities (e.g., Wójcik, Dmochowska-Dudek, 2024). In such cases, geographical thought does not offer unilateral solutions but creates space for oscillation between competing narratives, facilitating participatory planning and negotiation among stakeholders (e.g., Cilliers, Timmermans 2014).

Overall, metaxic thinking in geography fosters the integration of diverse epistemologies, disciplines, and perspectives, enabling oscillation between theoretical models and empirical realities, between scientific expertise and local knowledge, and between academic research and public engagement.

Spatial Dialogues: Coexisting Cultural Stages in Global and Local Contexts

The principle of the coexistence of cultural evolutionary stages within the metamodernist framework, connected to Storm's concept of metarealism, emphasizes the simultaneous existence of various cultural stages in contemporary science and their integration into a complex scientific discourse. Metarealism, as a fundamental philosophical pillar of metamodernism (Storm, 2021), provides a framework for understanding reality as a multilayered and oscillating phenomenon, where each cultural stage represents a specific "mode of reality." These modes are not rigidly separated but coexist and mutually influence one another depending on context and historical circumstances.

Pipere and Mārtinsone (2023) describe metamodernism as a transversal principle that connects and utilizes elements from all previous cultural epochs, including tribal life, polytheism, traditional theology, modern industrialism, and postmodernist critique. In metamodernism, various cultural paradigms exist side by side like "parallel universes." These paradigms are not necessarily in conflict but may complement one another, allowing scientists to draw wisdom from past epochs while avoiding narrow and one-dimensional approaches. This coexistence is not merely theoretical; it is manifested in scientific disciplines and fields that integrate traditional knowledge with modern and postmodern approaches.

The authors suggest that the principle of coexistence can be best illustrated through the concept of post-normal science. This concept is derived from Thomas Kuhn's notion of "normal science" but focuses on complex and uncertain problems that cannot be solved by simple systems. It emphasizes managing problems characterized by high risk, uncertainty, and multiple legitimate perspectives. The coexistence of different stages of cultural evolution is closely linked to the preceding principles of metamodernism (Pipere, Mārtinsone 2023, pp. 19-20).

Geography today already analyzes how various forms of spatial organization of society intersect within a single global reality, ranging from traditional tribal structures to the digital global network. For example, in cities of the Global South (such as in India, Nigeria, or Brazil), one can observe the concurrent existence of traditional neighborhoods characterized by spontaneous urbanism, industrial

production zones, and post-industrial smart cities (e.g., Rajendran et al. 2024). Metamodern geography does not evaluate these models through a hierarchical scheme of progress but rather examines how they influence and co-shape each other.

In rural geography, the coexistence of traditional agricultural forms (e.g., ecological farming, pastoralism) with hyper-technological agro-industrial processes (e.g., vertical farming, the use of AI in agronomy) can be observed (e.g., Colombo, Onorati, 2013). The coexistence of different cultural stages is also reflected in theoretical geographical thought, where various philosophical and methodological frameworks intersect and mutually influence one another. For instance, the geography of natural hazards combines traditional knowledge of indigenous communities about natural disasters (such as predictive signs of tsunamis in Polynesian culture) with modern geoinformation systems (e.g., GIS modeling of risk areas) (e.g., Hemi et al. 2024).

Metamodernism does not reject grand narratives but perceives them as dynamic, open, and contextual. One such contemporary grand narrative is digital transformation and cyberspace, which fundamentally reshapes geographical thought. Metamodern geography, therefore, explores how historical forms of spatial organization (e.g., agrarian settlements, industrial metropolises) intersect with new forms of digital and global hyperconnectivity.

The principle of the coexistence of cultural stages in metamodernism offers geography a transversal approach that integrates historical, contemporary, and future perspectives into a complex, multilayered understanding of the world.

GEOGRAPHY IN OSCILLATION: A METAMODERNIST RECONCEPTUALIZATION

Based on the preceding reflections, we can approach the metamodernist reconceptualization of geography as a scientific discipline. As the foundation for this reinterpretation, we will utilize the definition of geography formulated in one of our previous works (Matlovič, Matlovičová 2015, 8-9).

Within the metamodernist framework, geography is characterized as an oscillating discipline that avoids rigid dichotomies and transcends individual paradigmatic frameworks. It is ontologically fluid and metarealistically grounded, reflecting the multilayered nature of reality where natural, social, technological, and cultural dimensions coexist in constant interaction. Drawing upon a hylosemiotic understanding of space, geography perceives the Earth's landscape sphere as a dynamic sign system, where materiality and meaning continuously transform and influence one another.

Ontologically, geography operates within the space of *metaxy*—between stability and change, between the material and immaterial—while reflecting the relationships between the physiosphere, biosphere, sociosphere, technosphere,

noosphere, and cybersphere. These spheres are not separate but interconnected within the Earth's landscape sphere as zones of intense interaction along a global-local continuum. Within this space, dynamic oscillation occurs between various modes of reality, as formulated by metarealism. Geography, therefore, examines phenomena that are both materially grounded and socially constructed.

Epistemologically, geography is pluralistic and zetetic, meaning it acknowledges the limits of knowledge while promoting abductive and flexible approaches that enable progressive and practically oriented understanding of the world. This implies that geographical knowledge is continually open to revision, oscillating between skeptical questioning and the practical search for the best explanations. Geography seeks to identify and analyze complex connections between spatial, social, and environmental processes.

Methodologically, geography employs three hylosemiotically interconnected research perspectives:

a) Compositional Perspective - this perspective reflects the examination of geodiversity as a dynamic interaction between signs and material structures. Space is understood as a hylosemiotic structure, where physical, technical, social, ideological, and digital components intersect, creating a complex network of meanings. Research focuses on identifying the signs that stabilize spatial formations and understanding their variability within spatiotemporal structures.
b) Socio-Constructivist and Contextual Perspective - this perspective concentrates on analyzing semiotic networks, in which places are defined not only by their physical location but also by meaningful and relational interactions. Geography investigates how signs, practices, and discourses shape socio-spatial processes, how actor networks develop, and how the meaning of places transforms within global-local dynamics.
c) Substantial-Axiological Perspective - this approach explores how communities perceive and interpret their environment, how they attribute meanings to material and immaterial elements, and how these meanings shape their identity, values, and everyday efforts. Meanings are not merely subjective projections but are materially grounded in the environment and co-create the semiotic landscape of a place.

Geography, in the metamodernist spirit, is thus post-disciplinary, post-paradigmatic, and transversal, emphasizing the interconnectedness and mutual oscillation of various spheres and epistemological approaches. It is a science that not only reflects reality but also participates in its transformation towards *multispecies flourishing*—the joint thriving of humans, nature, and technologies—thereby demonstrating its social relevance (see Matlovič, Matlovičová 2012) in its heuristic, applicative, educational, and moral dimensions.

GEOGRAPHICAL THOUGHT IN FLUX: NEGOTIATING MODERN, POSTMODERN, AND METAMODERN PERSPECTIVES

The relational constellation between modern, postmodern, and metamodern geography is currently complex and multilayered, manifesting elements of conflict, tension, but also complementarity and synthesis. This constellation can be most accurately characterized as an oscillating symbiosis with elements of selective synthesis. Historically, modernist and postmodernist geography have been positioned in an antagonistic relationship. Modernism advocated for universal truths, objectivity, and systematic approaches, whereas postmodernism challenged these approaches, emphasizing plurality, subjectivity, and the relativity of knowledge. Their epistemological foundations were often in direct conflict, leading to tensions in scientific debates.

Metamodernism also grapples with tensions towards previous paradigms, particularly in its critique of postmodern skepticism, which it considers restrictive. At the same time, some modernist traditions criticize metamodernism for excessive theoretical abstraction and a limited practical application to date. However, metamodern geography does not seek to entirely reject previous paradigms but rather to integrate and synthesize them (see Table 1). Metamodernism perceives the development of geography as a process of oscillation and mutual complementation. From modernism, it adopts an emphasis on systematic approaches, empiricism, and the pursuit of identifying universal patterns. From postmodernism, it embraces sensitivity to subjectivity, plurality, and the contextuality of knowledge.

This sublative (synthesizing) approach means that metamodernism seeks to overcome the antagonism between modernism and postmodernism, recognizing the value of both directions and utilizing them according to different contexts. Metamodern geography approaches conflicts between previous paradigms dialectically and dynamically. It understands their interaction as a continuous oscillation between opposites, leading to productive tension and mutual enrichment. This approach enables complementarity: where modernist approaches offer precision and universality, postmodern perspectives contribute context and subjective experience.

Metamodernism oscillates between these poles based on the needs of specific research and issues, providing a flexible and context-sensitive framework for addressing contemporary geographical challenges.

Table 1 Simplified comparison of the fundamental attributes of modern, postmodern, and metamodern geography

ATTRIBUTES	MODERN GEOGRAPHY	POSTMODERN GEOGRAPHY	METAMODERN GEOGRAPHY
Philosophy	Empiricism, rationalism, positivism, logical positivism, critical rationalism, structuralism	Social constructivism, post-structuralism	Metarealism
Truth	Objective, universal, and measurable. Assumes the existence of a single reality that can be precisely known through scientific methods and empirical evidence.	Contextual, subjective, and socially constructed—resulting from discourse, language games, and social interactions, acknowledging a plurality of truths and interpretations.	Processual, oscillating, and contextually grounded. Respects the plurality of perspectives while seeking practical, best explanations, recognizing that certainty is always temporary and open to revision.
Ontology	Based on realism and essentialism. Assumes the existence of an objective and independent reality that exists regardless of human perception and exploration.	Prefers anti-realism and perceives reality as a result of social constructions. Rejects essentialism and emphasizes the social construction of narratives and power structures.	Oscillates ontologically between realism and constructivism, emphasizing the dynamic and relational nature of reality. Balances essentialism and constructivism, perceiving them as complementary rather than antagonistic approaches.
Epistemology	Prefers positivist epistemology—emphasizing scientific objectivity, universal laws, and causal explanations.	Prefers epistemological relativism, emphasizing subjective perception, the contextual nature of knowledge, and the examination of power structures within scientific discourses.	Emphasizes plurality of approaches, flexibility, and continuous reflection. Oscillates between objectivism and relativism, leaning towards zetetic epistemology. Acknowledges uncertainty in knowledge while emphasizing productive and practically oriented research of reality.

ATTRIBUTES	MODERN GEOGRAPHY	POSTMODERN GEOGRAPHY	METAMODERN GEOGRAPHY
Methodology	Emphasizes empirical-analytical, deductive, and quantitative methodological approaches. Utilizes systematic mapping, statistical analysis, and modeling to identify universal laws and rules determining geographical phenomena.	Emphasizes qualitative, hermeneutic, critical, and interpretative approaches, reflecting the plurality of perspectives and subjective experiences. Focuses on analyzing discourses, social constructions, and meanings attributed to spatial entities by actors.	Advocates for post-paradigmatic openness, allowing for the combination of various research frameworks to achieve a comprehensive understanding of the studied problem. Oscillates between quantitative and qualitative approaches depending on the nature of the studied phenomenon. Prefers abductive and reflexive methodological strategies, enabling continuous revision of knowledge and openness to the complexity of studied phenomena.
Paradigms	Prefers paradigmatic stability, favoring unified and firmly grounded scientific paradigms based on positivist and empirical approaches.	Rejects a unified paradigmatic structure, emphasizing plurality, fragmentation, and skepticism towards grand theories. Accepts multiple equally valid paradigmatic approaches reflecting the contextual and subjective nature of knowledge.	Does not reject paradigms but perceives them as flexible and temporary constructs adaptable to the complexity of studied phenomena. Employs the concept of metaxic oscillation, allowing scientists to move between different theoretical approaches and integrate them for a deeper understanding of spatial phenomena.

Source: Own elaboration based on Matlovič, Matlovičová 2015

LIMITS AND RISKS OF METAMODERNISM'S RECEPTION IN GEOGRAPHICAL THOUGHT

In the context of adopting the metamodernist framework in geographical thought, it is essential to critically examine several issues concerning its practical applicability and conceptual coherence. Although metamodernism offers an intriguing theoretical perspective, there are several significant limitations and risks that must be addressed to ensure its meaningful integration into geographical research.

As geographical thought increasingly engages with the metamodernist paradigm, it becomes essential not to approach this engagement uncritically, but rather through a spirit of zetetic inquiry—that is, a searching attitude that oscillates between skepticism and constructive affirmation. The adoption of metamodernism is not without friction, and its integration into geography must reckon with its conceptual fluidity, methodological ambiguity, and the demands of empirical accountability.

Metamodernism invites geography into a liminal space—*metaxy*—where tradition and innovation, objectivity and subjectivity, theory and praxis co-exist in dynamic tension. Yet, one of the pivotal challenges lies in grounding this liminality within concrete research practices. While the conceptual apparatus of metamodernism—such as oscillation, metarealism, zetetism, and hylosemiotics—offers a richly textured reimagining of the geographical imagination, it remains, at present, primarily a theoretical framework. Its contribution to solving specific geographic problems or generating novel empirical insights is still emergent, and often speculative.

Translating metamodernist insights into operational research strategies remains a formidable task. The emphasis on oscillation across epistemological and methodological boundaries demands more than rhetorical flourish; it requires a refined methodological architecture that can accommodate fluidity without losing coherence. In the absence of structured guidance on how oscillatory thinking should be enacted in research design, data interpretation, or analytical synthesis, there is a risk that researchers may drift into interpretative ambiguity or methodological eclecticism that compromises analytical rigor. Constant negotiation between different approaches can blur the boundaries between validated scientific knowledge and speculative constructions.

Moreover, while metamodernism aspires to move beyond the paralyzing relativism of postmodernism, its commitment to embracing contradiction and pluralism might inadvertently reproduce some of the same uncertainties. The constant interplay between divergent paradigms, while philosophically enriching, must not undermine the pursuit of empirical clarity and methodological integrity. The danger lies not in the oscillation itself, but in failing to differentiate between

generative hybridity and incoherent synthesis. If left unchecked, the drive for inclusivity may dilute the epistemic precision geography relies on to inform spatial governance, environmental and spatial planning, or socio-ecological resilience.

Thus, the task before geographical scholarship is not to abandon metamodernism due to its current indeterminacies, but to refine it through iterative praxis. It must demonstrate its epistemological robustness not through totalizing claims, but through situated applications that show how its concepts generate insight within real-world spatial contexts. Metamodern geography, to fulfill its promise, must balance poetic ambiguity with analytic discipline—keeping one foot in theory's open horizon and the other grounded in empirical terrain.

In sum, metamodernism should be welcomed not as a ready-made solution, but as an open framework for rethinking geography's methodological futures. Its success will depend not on discarding precision for pluralism, but on reimagining precision itself as a relational, adaptive, and ethically attentive practice. Without evidence that metamodernist principles can enhance geographical analyses or contribute to applied research—such as in urban and territorial planning, environmental policy, spatial justice, disaster risk management, smart territorial development, climate change, migration, polycrisis, or the reinterpretation of place-based identities in digital geographies—its practical relevance remains an open question.

CONCLUSION

The metamodern shift in geographical thought represents a potential response to the complex challenges of the Anthropocene polycrisis, encompassing environmental, geopolitical, social, economic, and technological transformations. This shift reflects the need for new epistemological and ontological approaches capable of better explaining and addressing the complex and multifaceted problems of the present. At the core of metamodernist thinking lies the concept of oscillation between opposites, manifested in efforts to transcend the rigid dichotomies of modernism and postmodernism. This concept introduces a new approach to understanding space, place, and geographic processes as dynamic and multilayered realities. Geographic objects are not viewed solely as fixed and objective entities but also as social and cultural constructs that oscillate among various interpretations and values.

The key concepts of metamodern geography include metarealism, zetetism, hylosemiotics, sublation, the oscillation of scientific discourses, and the coexistence of layers of cultural evolution. Metarealism contributes to defining geography as a discipline that reflects the complex and layered realities of the Earth's landscape sphere, where material, social, and ideological elements mutually influence one another. Zetetism promotes a critical and practical approach to knowledge, where

the search for the best possible explanations is regarded as a continuous process open to revision. Hylosemiotics offers a new perspective on the relationship between material structures and meanings, enabling a better understanding of the complex nature of space and place. Sublation represents the process of transforming and integrating opposites, contributing to the creation of new syntheses and understandings. The oscillation of scientific discourses highlights the need for a flexible and pluralistic approach in geographical research that integrates various methodologies and perspectives. The coexistence of layers of cultural evolution emphasizes the importance of drawing from the knowledge and experiences of various cultural eras, enhancing geography's capacity to respond to contemporary global challenges.

Unlike modern geography, which prioritizes empirical universality, and postmodern geography, which focuses on deconstruction, metamodern geography actively oscillates between structured analysis and reflexive engagement. This enables it to integrate rational-empirical insights with qualitative humanistic perspectives, creating a more adaptive and context-sensitive approach to spatial research. Thus, metamodern geography is shaped as a post-disciplinary, post-paradigmatic, and reflexive science that avoids rigid categorizations and embraces the integration of various disciplines, methods, and perspectives. It allows for a deeper understanding of the complex relationships between humans, society, and the environment in a dynamic and ever-changing world.

Although metamodernism offers intriguing ideas for geographical thought, its practical applicability and conceptual robustness remain open questions. For its further development, it will be essential for metamodernist concepts to demonstrate their empirical utility, offer practical methodological frameworks, and avoid the risk of abstract theorizing that could disqualify them from the realm of practical scientific research.

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