

REGIONAL GEOGRAPHIES OF CLIMATE CHANGE

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ABSTRACT

This essay is a commentary on Peter Taylor's article 'The geographical ontology challenge in attending to anthropogenic climate change: regional geography revisited'. Taylor's article develops, in the context climate change, several themes that he has outlined during his long career. This commentary focuses particularly on the contested (discursive) regional, regional geographical and state-centric frames critically examined in Taylor's paper. Despite the mushrooming literature on climate change, ontological issues related to regionality/spatialities explored by Taylor have been largely overlooked. He introduces a useful multi-scalar and multi-dimensional framework for problematizing the ontologies of the spatialities related to climate change emergency. This commentary focuses on this framework in the context of regional geography. Since regional/territorial, particularly state-centric frames are frequently taken for granted, Taylor's proposal is very welcome and provides a valuable addition not only to the debate on climate change but also to the ongoing resurgence of regional geography and regional thinking.

Key words: regional geography; climate change emergence; territory; networks

INTRODUCTION

I was pleased to be invited to comment on Peter Taylor's (2023) article on the complex regionalities of the accelerating anthropogenic climate change. As a scholar who has worked for decades with the theory and practice of socio-spatial categories, especially region and territory, and the so-called 'new regional geography', I found Taylor's goal to problematize the geographical ontologies that challenge the language of climate change debate and the dominating state-centric practices, highly important. Since territorial, particularly state-centric frames have often been taken for granted in climate change debate, Taylor's paper is of central importance. In addition to its contribution to climate change debates, it is also beneficial for the ongoing revival of (new) regional geographies and shows that regional and political geography are two sides of the same coin. Ontology means, in this case, specific sets of concepts and categories

mobilized in (regional) geography. As Taylor's article demonstrates, the renewal of ontologies requires the reconceptualization of terms, frameworks and their relations.

This commentary focuses mainly on the regional (geographic) aspects of Taylor's article, and it is organized as follows. At first, I will contextualize Taylor's text, consider why it is topical, and how it echoes his earlier studies in geography. Next, I will look briefly at traditional regional geographic viewpoints on climate and regions and the related modalities of regionality. I will then elaborate Taylor's ontological interventions and his tripartite approach to the regional geographies of climate change and, finally, some conclusions follow.

CONTEXTUALIZING THE TEXT

Taylor's article is relevant for at least two reasons. First, climate crisis is global, and this scale is typically accentuated and explored as

the critical context in the struggle against climate change (Arnell *et al.* 2019). ‘Global’ is not ‘out there’ but is always situated contextually in various socio-spatial processes. Consequently, climate change affects contextually the lives of localities and humans, and other forms of life. Its effects manifest themselves inexorably across spatial scales in the form of complex, transforming and diverse, overlapping regional geographies, some of them territorial, some others relational. Some locales, regions, environments and their inhabitants face more severe consequences of climate change than some others. Developing countries, dry or wet areas, areas with widespread poverty and marginalized citizens, coastal areas or states with ineffective, corrupted governments often face great risks and are poorly equipped to prevent the materialization of such threats. Recent warnings suggest that low-lying communities and whole states could disappear, leading to a mass exodus on a biblical scale (Carrington 2023). Even if climate change is a global phenomenon, its effects can thus be between neighbours and individuals even within local communities (NOAA 2021).

Networking and relational spaces also come into play in complex ways. For example, the populist territorial notion of climate change-induced migration as a major ‘cross-border threat’ has actually been common across political spectrum for decades (Paasi 2022). Increased tensions between the expanding need for global action on many tricky processes (e.g. climate change, migration, global supply chains) and the popular demand to rebuild political communities beyond/behind national territories and borders, are also crucial challenges in the contemporary world (Agnew 2023, p. ix; cf. Paasi *et al.* 2022). The impacts of global climate change are also related to spatial scales and recognition of the scalar dimensions must doubtless be incorporated in relevant policies. I will return to the question of scale in the Discussion section.

Second, to my knowledge, geographers and others have not paid serious attention to the regional geography or spatialities of climate change. Challenging this state of affairs, Taylor and O’Keeffe (2021) argue that geography should actually be centre stage for understanding the ongoing climate emergency.

Taylor’s (2023) article takes this argument further and demonstrates that it is pertinent to examine the regional geographies of climate change also in conceptual terms. This could be beneficial to the ongoing renaissance of regional geography, ‘new regional geography’ or ‘new, new regional geography’ (Jones 2022; Paasi 2022). There is a genuine need for such a contribution. As Taylor (2023) displays much of research on climate change take regional-ity/spatiality for granted or at least simplify their roles. In new regional geography regions are today understood dynamically as intertwined territorial/relational processes that are constructed, reproduced and annihilated by active human agency and such dynamism is clearly necessary for understanding regions in the context of climate change. Perhaps, it is beneficial to see regions as ‘assembled temporary permanencies’ or ‘plastic regions’ (Jones 2022) that take us to a wider discussion about spatialities and that demand careful conceptualization of the entities being assembled, mobilized and connected, as well as specifying their interrelationships in constructing regions as ‘temporary permanencies’.

Taylor’s article echoes and brings together several key themes/ideas that he has examined during his long career, for example, spatial scales (Taylor 1982), world systems and historical regions (Taylor 1988), embedded statism (Taylor 1996a), new political spaces and the transitions from interstate to trans-state relations (Taylor 1996b) or world city networks (e.g. Knox & Taylor 1995). These studies have raised on agenda the questions of power and challenged the nationalist-statist imagination and understanding of geography’s history and geographical/cartographical visualizations/representations. Taylor has also been interested in the theory and practice of the region (Taylor 1991) and pushed regional geographical thinking further from a materialist perspective in the context of world-systems analysis (Taylor 1988; also Terlouw 2001). His studies have advanced conceptual tools, often challenging the taken-for-granted categories that are common in geography. This is highly important, since as Taylor (2023) shows also in his new article, the world’s geography is ceaselessly characterized by using nationalized, rigid ‘cartographic-territorial’

ontologies and ideologies rooted in the practices and discourses of national states and their hegemonic national identity narratives created through (and guiding) international relations, Othering and spatial fetishism (cf. Paasi 2021).

As Taylor and others remind, anthropogenic climate change does not respect territorial, bounded spaces and their borders (Dalby 2020; Taylor 2023). Already in the mid-1990s Kuehls (1996) suggested that the sovereign territorial state is not sufficient to contain or define the boundaries of ecopolitics and he criticized prevailing thinking about government, nature and politics. Ecopolitics indicates that while borders may be important barriers to social life and the mobility of citizens, goods and ideas, they can have a very limited role in relation to nature, which seems to imply a need to reject borders. Think, for example, major natural catastrophes (floods, droughts, earthquakes) or environmental disasters caused by human agency, such as Chernobyl nuclear accident in 1986 or oil catastrophes that have polluted the coastal areas of Europe or Alaska. A critical and dramatic addition to that list is certainly climate change. Actually, a firmly territorial approach and the emphasis on borders can in fact prevent the actions needed to relieve the impacts of such catastrophes or simply to acquire and distribute information regarding them.

Taylor calls for revitalizing a synthetic perspective, a sort of unity of physical and human geography that geographers have (ideally) tried to follow for a long time, and which implies moving beyond the physical/human divide that is today almost the order of the day. Taylor and O'Keefe's (2021) suggest that it is critical to see geography as a synthetic field that could bridge physical and human geographies and could ideally tackle better the problems related to the evolving climate emergency. This is necessary for putting geography at centre stage in understanding and tackling climate emergency (p. 394). One problem and perhaps the reason that led geographers to dismiss the synthetic role of their field, was that since the 1950s traditional synthesis was often seen as an empty abstraction of exceptionalism, an imagined ideal ontology that geographers tried to keep alive to justify geography among academic disciplines. They did this by using many kinds of expressions in their regional studies,

such as synthesis, uniqueness, total composition, complexity, compage, holism, Whole, individual, totality, organism, personality or, in the German context, Zusammenhang or Ganzheit. The challenge for geographers was to discover the 'integrating processes' that gave some measure of identity and uniqueness to an area. The problem is the huge diversity and variation in the objects and processes that human and physical geographers study. While the idea of synthesis might be problematic, it is, Taylor suggests, crucial to revitalize the study of human/environment relations. Likewise, also Cox (2023) notes that despite the fundamental differences in their research objects, physical and human geography have a shared interest to *configurations* of forces and things, and this could provide tools for a more general understanding and common language for such a synthesis. A major challenge is, of course, that *social/human* processes and related power relations are habitually relational and qualitatively different from physical processes and thus their relationships/interactions have to be carefully and contextually mapped and analysed.

The death of traditional regional geography as a research area (while it remained important in education and pedagogy) and the notion of region has been predicted at least for 70 years. In spite of geography's ceaseless transformation, regional geography and thinking have persisted both as ideas and practice. These ideas emerge continuously to the foreground in new discourses and social practices (Paasi & Metzger 2017; Paasi *et al.* 2018a). Thus, in spite of the progress of new ideas of spatialities and thinking in terms of bounded territorial or open relational spaces, regions matter, and it is necessary to rethink and 'update' their shifting roles. Taylor's article shows that this is crucial also in the context of climate change. There is a particular need to reflect what regions and 'synthesis' could mean also in normative terms that climate policies typically entail.

REGIONAL GEOGRAPHY AND CLIMATE: GEOGRAPHICAL ONTOLOGIES AND THE MODALITIES OF REGIONALITY

As Taylor (2023), Taylor and O'Keefe (2021) briefly notes, academic geographers have dealt

with climate in diverging regional frameworks since the institutionalization of their discipline. Obviously, regionalization is one of the fundamental ideas that professional geographers developed to map, classify, interpret and represent various phenomena, objects and processes in human and physical geography. It seems that Rob Shields' (1992) term social spatialization usefully displays how specific geographical ontologies related to space, regions, place and landscape are constructed and how they become institutionalized in language and in social action/practice and ultimately may frame our understanding of the society, the world and our own action.

I use the term social spatialisation to designate the ongoing social construction of the spatial at the level of the social imaginary (collective mythologies, presuppositions) as well as interventions in the landscape (for example, the built environment). This term allows us to name an object of study which encompasses both the cultural logic of the spatial and its expression and elaboration in language and more concrete actions, constructions and institutional arrangements". (Shields 1992, p. 31)

Processes of social spatialization are related to the basic territorial/spatial functions and roles of states, as discussed by Taylor (2023), and such often straightforward spatializations illustrate the idea of James Scott (1998), that is, 'simplifying problems to their bare essentials'. National identities/ideologies also come into play as part of the dynamic ontologies that are mobilized to make state spaces meaningful (cf. Paasi 2020). Such spatializations are dynamic and subject to transformation.

Regional geographers have contributed to the processes of social spatialization since the institutionalization of geography that is creating specific regional ontologies and frameworks for understanding the world in spatial terms. Climate was an important element in such early efforts. A well-known and influential endeavour to divide the world into distinct geographical regions, was outlined by Herbertson's (1905). His article contained several world maps (structural divisions, temperature belts, seasonal rainfall) that he used to generalize a schema of world's geographical regions. His intention was to demarcate natural regions based on a certain unity of

configuration, climate and vegetation. For him, such regions should replace the dominant political divisions of the world, a task that in a much more sophisticated way also inspires Taylor (2023). Herbertson presented his paper in the meeting of the Royal Geographical Society in 1904. His paper challenged the existing approaches and wisdom and, as often happens with new approaches and concepts, 'the reception accorded to his [Herbertson's] paper, when not actively hostile, damned it with faint praise' (Stamp 1957, p. 201). Despite tough start, Herbertson's idea of geographical regions was soon scrutinized and modified by many geographers in the United Kingdom, and it gradually spread from Britain to the Empire and across Europe and North America (Martin 2015). Its revisions lived in textbooks and pedagogic practice and gave a model to much of regional geography teaching until recent times.

Regional geography lost gradually its key position in academic geography (Thomas 2022). This occurred partly because regions were understood as static and isolated, not historically contingent processes that were part of wider spatial dynamism and configurations. But as noted above, the significance of regions has not disappeared, perhaps witnessing Ron Johnston's (1991) idea that geographers do not need regional geography, but they need regions. And it is not only geography that has witnessed the resurgence of the region and new conceptual work on regions, which claims more consolidated approaches after a long period of fragmentation (Paasi *et al.* 2018a, 2018b). Region is ever more important also in political science and international relations studies (Kohlenberg & Godehardt 2020).

Of course, there is not just one way to understand the region; innumerable conceptualizations and concrete applications for regions have been invented in academia, governance, politics, economy and cultural circles. In principle, geographers have operated with three interpretations of the region that seem to be present also in climate change research (cf. Paasi 2022). The first sees the region as a 'taken-for-granted' or a 'prescientific' category. As this label implies, such a region is not an intellectual problem for scholars. This idea has become ever more

significant since the 1990s in empirical social sciences and other fields. In Europe, a particularly significant background was the creation of the EU's statistical (NUTS) system that took European states under the shared regional-scalar-statistical umbrella and related social spatialization. Such regions are static and frequently taken for granted in research and similarly the social/discursive practices and political problems embedded in region formation are not problematized – hence the label 'pre-scientific'. As the examples in Taylor's (2023) article show, much of the language and cartographical representations related to climate change research and policies also take regional/territorial entities, particularly states, for granted. Fisher (2023) suggests some useful alternatives for moving beyond such state-centric spatializations.

The second way to understand regions is 'discipline-centric' interpretations that resonate with the evolution of geographical thinking and the development of research methods and techniques. Since Herbertson's (1905) studies on natural/climate regions, numerous discipline-centric interpretations have provided for more than 100 years crucial categories and methodologies for understanding and reproducing the idea of region and for justifying geography's disciplinary identity. Paasi *et al.* (2018b) identified no less than 150 concepts of region, regionalism and regional forms that are in use today, among them resilient region, ecoregion and sustainable region.

The third main category is 'critical' interpretations that emphasize agency, social relations and meanings. Since the 1980s–1990s it has been typical to see regions as relational social constructs as well as historically contingent processes and as results of struggles related to governance, economy, culture, political passions and environmental relations. Respectively, regions are seen as 'constantly shifting products of social and economic relations, not simply as units that need to be understood; and that does not look at regions in isolation, but instead sees them in relation to developments unfolding both above and below the scale of the region' (Murphy & O'Loughlin 2009, p. 241). Taylor's three ontological interventions by regions also seem

to both claim and express such a dynamic view.

TAYLOR'S ONTOLOGICAL INTERVENTIONS

Peter Taylor's article not only raises important matters that could benefit regional geographical research agenda, but it also resonates with other forms of spatialities, such as (trans-national) networks or the politics of scale and borders, themes that political geographers have reflected especially in the context of environmental governance and politics (e.g. Kuelhs 1996; Bulkeley 2006; Betsill & Bulkeley 2006; Dalby 2020). The key contribution in the article is the 'Ontological interventions by regions' section which presents three environmental policy needs for which new regional logics are outlined: mitigation to create resilience, adaptation to enable sustainability and stewardship to promote the development of human-in-nature. The recognition of policy needs, and related regional logics leads to an interesting discussion on three themes (and related) types of regions: inter-governmental resilient regions, (localization through) sustainable regions and regions for planetary stewardship. All three are doubtless dynamic, 'plastic regions' (Jones 2022).

Adaptation to climate change entails more profound changes in ways of life than mitigation and is critical to maintaining society and reproducing the world in ways that are ecologically more sustainable. Taylor recognizes the current global scale of human activities and production chains as a critical concern and suggests that more localized strategies are needed (cf. also Agnew 2023). Also, here the questions regarding scales ultimately end to the state, which Taylor finds problematic because of the enormous variation of what the state is, what is its role in the wider power matrix of states and what is its level of self-sufficiency. Taylor stresses particularly the role of cities as part of the wider constellation of city networks but also acknowledges again the significance of states and the linkages of states. Another important scale in climate change actions, underlined by Taylor (2023)

and other scholars, is the city, the urban or the scale of experience, to use Taylor's (1982) earlier scale terminology. Cities have multiple roles in the governance of climate action at and across all scales. For example, Broto and Bulkeley (2013) acknowledge cities as key sites where climate change is being addressed, and urban centres as a vital part of the global response to climate change.

In Taylor's (2023) scenario, sustainable regions could be 'green networks of cities', which would be, he notes, 'an egregious ontological intervention into the world political map'. The key role of the state would now be acting as a critical political-cultural entity rather than as a key economic entity as earlier. Taylor notes that such ontological intervention could occur merely when a climate emergency would be real. The result would be sustainable regions forming a matrix of cities and their regional leagues practicing policies that would restrain intra-league flows and then the flows of neighbouring leagues. How and when this critical emergency would be actual, remains an open question but such emergency would doubtless also have its own uneven multiscale regional geography.

The regions for planetary stewardship represent a step beyond mitigation for resilience and adaptation for sustainability towards a wider care of the earth and a change in ecological focus. Taylor suggests that this is about 'outliving today's climate change through an ecological focus on mutuality rather than hierarchy', in a way breaking the scalar logic. The three recognized regions and policy needs require moving beyond individual bounded states and subverting isolated state sovereignty, yet in practice, they all encompass states in making inter-governmental, complex decisions regarding sustainable and resilient regions. However, as Fisher (2023) demonstrates, also a variety of non-state institutions can come into play.

DISCUSSION

Taylor's (2023) article is framed in regions/regional thinking, which is a much-needed perspective into the debates on climate change. His text is thought-provoking, it commences from a materialist concept of reality and

encompasses some elements of an almost utopian thinking in its search for international and intra-state solutions that states, and other bodies could share and implement. One example, discussed critically by Taylor, are biologist E.O. Wilson's controversial ideas of 'half-earth', regarded by many as utopian. According to these ideas, half of Earth's surface should be designated as a human-free natural reserve. Taylor sees the merit on this thinking in forcing us to think the whole of the Earth's surface, while at the same time Wilson's ideas raises a divide, humans versus nature. Global geographical space is altogether 510 million square kilometres of which 150 million square kilometres is terrestrial space. Respectively, 70 per cent of Earth's surface is covered by oceans and most oceans are out of the political maps, that is, not controlled by states. This means that taking care of these areas inevitably requires international institutions and shared actions.

In Taylor's text, the long tradition of regional geography is discussed briefly, and his review of literature looks largely towards the past. He passes very concisely possible methodological ideas and guidelines that could be found from more recent geographical and interdisciplinary literature focusing on regions and spatialities. Of course, climate change is only one, even though in the long run the most critical problem for managing global environmental problems of the humanity. Many themes discussed in his text have been scrutinized in geography and other fields (the role of oceans, resilient and sustainable regions, etc.). I wonder if the analysis could have benefitted from a more intense dialogue with recent reference literature.

UN reports and many other documents remind us that people experience climate change in diverse ways. Such experiences are always related to variegated socio-spatial situations, contexts and conditions related to wealth/poverty, social class, gender and generation. These constitute one more layer in the regional geographies of climate change that need more attention in the forthcoming research. Climate change can affect our health, ability to produce food, housing, security and working conditions. Processes such as sea-level rise and saltwater interference have already expanded so that many communities have been

forced to displace, and prolonged droughts are putting people at the risk of food crisis. The number of 'climate refugees' is expected to rise (Carrington 2023), which challenges the straightforward national state-territory thinking and requires forms of governance that are much wider, ultimately global. According to various estimates, over 200 million people may have to cross regional borders over the next 30 years and relocate within their own states due to accelerating climate change, sea level rise, drought, floods, and lack of food and clean water (Clement *et al.* 2021). For a much larger number of people, who must flee across national borders, 'territorial sovereignty', as we currently know it in the security rhetoric and practice of states, turns out to be, in fact, the major obstacle to their security (Dalby 2020).

Peter Taylor's (1982) widely cited analysis of the political economy of scale identified three interconnected scales. First, global scale of world-economy scale was the starting point for his analysis. It is the scale where capital accumulation is organized. Two other scales are the urban scale (the scale of experience) and the scale of national state that intervenes between the world-economy and the urban. It is important to recognize that different spatial scales are not in opposition but define 'overlapping or transversal fields of power in which there is never a strict separation of one scale or level from others...' (Agnew 2023, p. 2). However, Kythreotis *et al.* (2023) write that the recognition of the scalar geopolitics of climate adaptation governance and missing interconnection between urban, national and international scales are a common problem in climate adaptation policies and governance. Consequently, much work needs to be done in analysing how such scales manifest themselves in the context of climate change and how inter-governmental resilient regions, (localization through) sustainable regions and regions for planetary stewardship exist and transform at, across and beyond such scales.

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