

TOWARDS A DIFFERENT MODE OF ABSTRACTION: THE DIORAMA IN HÄGERSTRAND'S EXPERIMENTATION IN THOUGHT

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Received: January 2023; accepted May 2023

ABSTRACT

Torsten Hägerstrand's career can be understood as a protracted experiment in thinking creatively about space and human–environment interactions. He continually sought to abstract – select, simplify and exclude – from the complexity of spatiotemporal processes in ways that differed from customs at a given point in time. This article argues that Hägerstrand's *Diorama, Path and Project*, one of TESC's most influential papers published in 1982, elaborated the diorama in English as a conceptual device to enact a different mode of abstraction in geography and interdisciplinary research. An undervalued conceptual device with which Hägerstrand was never entirely comfortable himself, the diorama is still worth engaging with at the current time of climate emergency.

Key words: Abstraction; diorama; interdisciplinarity; landscape; slow science; time-geography

INTRODUCTION

Torsten Hägerstrand's *Diorama, Path and Project* (*DPP*) is a remarkable article in more senses than one. Not only is *DPP* one of the most influential papers *Tijdschrift voor Economische en Sociale Geografie* has published over its long history but it also occupies a pivotal place in the evolution of Hägerstrand's own thinking. The article is perhaps best known as a response to sympathetic critiques of his earlier writings on time geography in the 1970s and early 1980s, most notably by Anne Buttimer, Christiaan van Paassen and Derek Gregory (see Hägerstrand 1982). While certainly a response to critiques of time geography, *DPP* is also – I suggest below – an experiment in what, after Alfred North Whitehead, can be called abstracting differently. Understood thus, *DPP* is an important textual account in what became

a career of tireless experimentation in abstraction that culminated in the posthumously published *Tillvaroväven* (Hägerstrand 2009). It is *DPP*'s experimentation with abstraction that makes the article relevant in the current era of climate emergency.

ABSTRACTION

It might seem strange to mobilize the thought of Alfred North Whitehead to make sense of Hägerstrand's intellectual trajectory and *DPP*'s place therein. However, both men had overlapping concerns, beyond an interest in process – a concept each elaborated in distinctive ways. In 1925s *Science and the Modern World* (*SMW*), Whitehead analysed the consequences of 19th-century science, industrialization and urbanization for Eurocentric thought and tertiary

education, making two points that are closely related to concerns Hägerstrand articulated some 80 years later. One of these is “the ignorance of the true relation of each organism to its environment” (Whitehead 1968 [1925], p. 196), which maps onto the introduction of the concept of the diorama in *DPP* as elaborated below. The other is the rise of scientific specialization and emergence of “the method of training of professionals, who specialize in particular regions of thought and thereby progressively add to the sum of knowledge within their respective limitations of subject” (Whitehead 1968 [1925], p. 196). As Stengers (2018) explains, Whitehead’s concern was that “[e]ach profession makes progress, but it is progress in its own groove”, which is problematic because “to be mentally in a groove is to live in contemplating a given set of abstractions” (Whitehead 1968 [1925], p. 197) and to treat everything that falls outside the domain in which a given profession specializes superficially.

There is a clear parallel here with Hägerstrand’s reference to a drawing he discusses in his 1984 Carl Sauer lecture (published in English as Hägerstrand 1995a). The drawing, called “The Scientific Points of View” and made in the 1930s by C.E. Wegman, shows “scientists eagerly pop[ping] their heads into his [sic] own telescope” and so constituting a floating, uneven and clumsily woven tapestry of scientist-with-telescope ensembles which is collectively incapable of seeing “the real world, symbolized by the tulip landscape down below, [because] it is out of reach” (Hägerstrand 1995a, p. 84). Because of academic specialization, Hägerstrand contended, the local world had fallen by the wayside. It had become treated – at best – superficially and urgently needed to be restored to scientific attention.

Whitehead’s understanding of abstraction was informed by his training and esteemed career in mathematics, differing substantially from understandings developed in (neo-) Marxism and critical realism (e.g., Cox 2013). In *SMW*, he understood abstraction as a creative and speculative practice that articulates connections between elements or objects by virtue of acts of selection, simplification and exclusion from the complexity of life, experience

and the cosmos of which humans are part. Abstraction therefore constitutes a *pharmakon* – “a remedy that always contains a poisonous element, and a poison that always holds a therapeutic virtue” (Stiegler 2020, p. 171). It is ambivalent and ambiguous, underdetermined and uncertain, and known and knowable only through the effects it creates in particular situations. Whitehead was adamant that both philosophy and science were impossible without abstractions as they allow analysts to “confine [their] thoughts to clear-cut things, with clear-cut definite relations” enabling them “to arrive at a variety of important truths” as long as “abstractions are well-founded, that is to say, if they do not abstract from everything that is important in experience” (Whitehead 1968 [1925], p. 59). He was equally clear, however, that one’s *modes* of abstraction ought to be revised if what matters to experience is omitted from consideration. This means, in the words of Stengers (2018, p. 112, emphasis in original) that reasoning and science have to be slowed down by “thinking with abstractions rather than *obeying* them”.

This is exactly what Hägerstrand did. If Whitehead’s philosophy can be considered a speculative process of revising the abstractions of scientific thought and continental philosophy in light of Darwinism, relativity theory and (early) quantum physics, then Hägerstrand’s oeuvre constitutes a protracted attempt to create a different mode of abstraction regarding human-environment interactions. This mode resolutely refused to think space in isolation of time, as any introduction to time geography will explain, but went much further. Particularly in the last quarter century of his life, at the start of which *DPP* was written and when his fame and retirement enabled him to become bolder in his thinking (Sörlin 2020), Hägerstrand foregrounded the local connectedness and momentary thereness to the life, actions and effects of *individuals* – corporeal existents such as people, plants, buildings that are indivisible at a selected scale of analysis – as directly important to how all that happens on the Earth’s surface can be experienced and understood. In hindsight, *DPP* was an important step in Hägerstrand’s thinking that allowed him to mobilize the importance of

local connectedness and momentary thereness within collateral processes as corrective against scientific specialization.

THE DIORAMA AS DEVICE FOR ABSTRACTION

My *first* proposition is this: the diorama, as the central concept elaborated in *DPP*, was a conceptual device enabling abstractions that sought to push geographers and other academics out of their groove. It encouraged them to imagine, conceive and examine whatever they were studying in novel ways that respected the complexities of collateral processes, local connectedness and momentary thereness.

A detour through another of Hägerstrand's lectures, the 1983 Annual John Mage Memorial Lecture at the University of Newcastle upon Tyne (published as Hägerstrand 1984), helps to contextualize this proposition. In that lecture, Hägerstrand recounted how the little daughter of a colleague of his was told off for classifying the spruce tree, bear and mouse her teacher drew on a blackboard "wrongly". She grouped the tree and bear together as the latter climbs in the former to create a topoeological class (Hägerstrand 2004), whereas, in keeping with the norms of modernity privileging functional equivalence, she "should" have created a functional class by grouping the bear with the mouse as fellow citizens of the animal kingdom. When read alongside a later essay (Hägerstrand 1995b), the 1983 lecture offers the most compelling discussion in the English language of the value of a topoeological sensibility. Both texts highlight how human action is enabled, conditioned, reconfigured and frustrated by the "web of existents" within which it has to take place. Both discuss science's experimental methods. Where the essay published in 1995 discusses the socio-material set-up that allowed Galileo to translate the speed of falling bodies into mathematical terms in ways that make the necessary arrangements of touch and contact disappear from view,¹ the 1983 lecture notes that experimental methods limit their own applicability because they "isolate[e] one or a few elements at the time" (Hägerstrand 1984, p.

377). He references the American philosopher Geoffrey Joseph to argue that the *ceteris paribus* clause habitually used by scientists – and oftentimes not even stated explicitly – is rather a *ceteris absentibus* clause. The rendering absent that experimental methods entail "is also creating conditions which do not exist in the real world and probably very often cannot exist in any imaginable world" (Hägerstrand 1984, p. 377) – with due consequences. It means, for instance, that recommendations derived from (applications of) economic theory premised on *homo economicus* are unlikely to generate the results that (applications of that) theory would propose. Mollifying the scorched-earth assumptions of neoclassical economic theory by mobilizing behavioural economics or even replacing them with frameworks enacting *homo psychologicus* would not make a qualitative difference, on this view. They still abstract from "collateral processes" – the fact that actions have to be completed by corporeal human beings and other entities which have to constantly negotiate encounters and contact with other corporeal entities in particular space-times.

Enter the diorama. As the text in English where this concept is first discussed, *DPP* informs us that the term is derived from ancient Greek *diora'n*, or look through, and "used for arrangements in museums which show animals and people suspended in their normal environments" (Hägerstrand 1982, p. 326). It was never quite fit for Hägerstrand's purposes, however. *DPP* already makes the proviso that the diorama's "essential characteristic does not lie in the visual property, but in the *thereness* aspect. All sorts of entities are in touch with each other in a mixture produced by history, whether visible or not" (Hägerstrand 1982, p. 326, emphasis in original). The published version of the Carl Sauer lecture suggests evolving thinking: "I have used the word "diorama", indicating the presence of human beings and their minds and tools in a natural setting. I am not sure this a good solution: it still accentuates the visual" (Hägerstrand 1995a, p. 93).

From the mid-1980s onwards, the concept of landscape eclipsed diorama and did much of the work – and more – the diorama did in *DPP* and the 1983 Madge Memorial lecture. In the early 1980s, Hägerstrand saw the diorama

as the local condensation of the landscape, somewhat akin to how place is often seen as a local (and meaningful) condensation of space. However, he subsequently ditched the diorama-landscape duality for an understanding of landscape as overlapping neighbourhoods – the title of the published Carl Sauer lecture – and ventured to reconceptualize landscape in various ways across texts published mostly in Swedish. Suffice it to say that Hägerstrand came to distinguish the *utsiktlandskap* or viewlandscape from the *förloppslandskap* or process landscape (see also Germundsson & Sangler 2019; Sörlin 2020). The former was more than a nod to Anglophone understandings and the 1980s' New Cultural Geography (e.g., Cosgrove & Daniels 1987), while its separation from the primordial *förloppslandskap* was an unabashed critique of the Anglo-American approach to understanding landscape. *Förloppslandskap* was deeply grounded in Geography's continental-European/Scandinavian tradition (Ratzel, Grånö and others) and thickened with Hägerstrand's characteristic refusal to abstract space from time.

Still, the diorama concept served an important function. According to the 1983 Madge Memorial lecture, the "diorama approach" foregrounded that "everything that is present in a bounded part of the world has to be recognized as playing a role there, and that the analysis has to be fine-grained enough to reach down to the level of populations of beings" (Hägerstrand 1984, p. 378) where dynamic topological interdependencies continuously generate processes of creation, survival and destruction. Hägerstrand (1984, p. 378, emphasizes in original) suggested that a "move towards a *theory of diorama transformation*" was needed to establish a different mode of caring for the planet, premised on alternative yet always reflexive practices of abstraction:

What we need is a way of thinking about the world in such terms that we cultivate the art of keeping in mind what we leave out. We must learn to see that the cuts we make conceptually as scientists or practically as actors are cuts in *one world*.

Nowadays we might not use the word "world" or foreground its oneness as the quotation does. After all, in post-Heideggerian

thinking in social theory, it is now common to speak of worlds, to foreground their multiplicity and always-becoming (e.g., Zygon 2018). Other strands of scholarship might prefer to refer to Earth or Gaia rather than world. Nonetheless, Hägerstrand's terminology and emphasis – *one world* – was deliberate. It signals both his interest at the time in complex socio-ecological systems, and his longer-standing concern for interdisciplinary attempts to transcend the schisms between the natural and social sciences. He would elaborate each point in relation to the climate crisis in later publications (e.g., Hägerstrand 1993, 1996).

THE DIORAMA CHANNELLING ABSTRACTION TOWARDS SYNTHESIS

DPP is only vicariously linked to reunification of the natural and social sciences, and the climate crisis does not feature explicitly. The article rather introduces the diorama in response to sympathetic critiques by Buttimer, Van Paassen and Gregory that time geography was too reductionist, physicalist and bereft of the subtler dynamics in intentionality, emotion and power that engagement with phenomenology or critical social theory would be able to foreground. Much of those authors' criticisms centred on early time-geography's concept of the project – "the total cluster of activities, individuals and items which must participate in the reaching of some defined goal" (Hägerstrand 1973, p. 78) – which Allan Pred had already reworked in ways that considered power-laden structuration processes (e.g., Pred 1981). Building on Pred's work and Van Paassen (1976), *DPP* can certainly be read as a historical-geographical analysis of an evolving mix of spatiotemporally coexisting personal and collective projects that compete and otherwise affect each other.

Other readings are nonetheless possible. A methodologically oriented reading casts *DPP* as an experiment in which the diorama concept serves to induce abstractions that "fuse horizons" – a phrase drawn from Gadamer's understanding of hermeneutics (Gadamer 2004 [1975]). Gadamer is even less *du jour* than Hägerstrand in

contemporary (Anglophone) Geography. Yet, the take on hermeneutics in *Truth and Method* (Gadamer 2004 [1975]) enables an understanding of how Hägerstrand uses the diorama concept to forge a mode of abstraction that seeks to integrate onto-epistemological approaches within Geography. For Gadamer, hermeneutics was a practice of cultivating experiences of truth – always local, provisional and situated insight and understanding. Such experiences entail the synthesis of the historico-geographically constituted and situated fore-conceptions that enable horizons and thus perspectives. Fore-conceptions are like embodied schemata that make sensing, communicating, interpreting and acting possible. In scholars enmeshed in one or more ecologies of scientific practices (Schwanen 2018; Stengers 2005), fore-conceptions constitute a “second nature” of internalized and embodied onto-epistemologies that help to reproduce those onto-epistemologies in and through research practices.

My *second* proposition, then, is that *DPP* is an experiment in doubly hermeneutical abstraction, striving to synthesize across two dimensions and enabled by the diorama as disciplining device. Not only did the article seek to fuse the horizons of time-geography’s outside observer and humanistic geography’s participating insider but it also sought to align events and practices during Hägerstrand’s youth in the 1920s with his fore-conceptions around 1980. This double process is channelled through a resolute focus on the unfolding collateral processes of/in the diorama. Local connectedness and momentary thereness are critical to those processes, but so are trans-local and longer-term connections.

For Hägerstrand, the diorama and *förlopps-landskap* were totalities of corporeal existents, mental processes and cultural products.² This understanding both justified and enabled the combined use of time-geography’s tools, including its diagrams and concepts, with autobiography – an analysis of the Asby district in the 1920s. It allowed a problematization of what each set of practices, horizons and perspectives abstracts away and thus renders unanalysable. As *DPP* explains, the insider

perspective afforded by autobiography enabled the “network of meanings that bind human inhabitants together” to be analysed and “the roots of projects [to be traced] back to their finer details” (Hägerstrand 1982, p. 326), while time-geography’s tools shifted the perspective towards the outsider who “might be able to perceive things which for the insider are simply too familiar to be of interest” (Hägerstrand 1982).

Nowadays many geographers think in less binary, more relational and complex ways about insider and outsider positions, owing to decades of feminist scholarship (e.g., Giwa 2015; Mullings 1999). This obviously complicates any attempt at assessing when “insider” and “outsider” perspectives are somehow “fused” and demands – at a minimum – an understanding of fusion of horizons as a spatiotemporally precarious and always contestable achievement. One of the least contestable instances of fusion in *DPP* is Hägerstrand’s narration of his younger self as *homo faber* seeking to construct all sorts of things, from water-turbine to telescope, yet failing to do so because “[a]vailable tools were too clumsy and materials at hand too clumsy” and “transcend[ing] any realistic possibility of [his] local world” (Hägerstrand 1982, p. 336). In other instances, *DPP* achieves at best a fragile coalition of onto-epistemological perspectives rather than a fusion of horizons. This is perhaps most evident in relation to *DPP*’s time-geographical diagrams, which remain somewhat detached from the surrounding text and the points they are meant to elaborate.

MOVING FORWARDS

Hägerstrand was well aware that *DPP*’s diorama approach “poses a tremendous problem for studies of the modern urban world, since the question of thereness is so confusing, particularly where the links between people and communication are concerned” (Hägerstrand 1982, p. 338). Yet it would be too easy to write off *DPP* as backward-looking or romanticist. Like many of his other publications, *DPP* suggests that Hägerstrand was ahead of his time and experimented with

ideas and notions developed more fully in geographical scholarship influenced by actor–network theory, more-than-human geography and post-structuralism more generally. Beyond it bringing together material and immaterial worlds at a time when there was little appetite for materiality in (anglophone) human geography, there are at least four reasons for *DPP*'s ongoing relevance.

Firstly, the mode of abstraction that emerges when *DPP* succeeds in actually fusing horizons highlights that action is always situated, not only in social or sociomaterial relations of gender, race, sexuality, religion, class, ability, etc. but also in the contingencies and messiness of encounter, of side-by-sideness, of touch, of juxtaposition. Studies of the past 15–20 years sometimes draw on Massey's (2004) evocative concept of throwntogetherness, but Hägerstrand's diorama (and landscape) can generate broadly similar effects. The diorama is about contingency, unpredictability, opportunity and friction, as much as the importance of non-availability and the need for room and protection of projects worth keeping or completing.

Secondly, the approach to abstraction *DPP* opens up is consistent with Whitehead's (1968 [1925]) rejection of the fallacy of misplaced concreteness and offers a civilized way (Stengers 2018) forward. That fallacy entails the substitution of abstract categories – capital, neoliberalism, climate change etc. – for the myriad, messy and situated happenings, encounters, practices and lived experiences that constitute places, worlds and systems as *explanans* of sociospatial processes, thereby obfuscating more than advancing understanding of those very processes. A famous Whitehead quotation holds that one “cannot know what is red by merely thinking of redness” and that one “can only find red things by adventuring amid physical experiences in *this* actual world” (Whitehead 1977 [1929], p. 253, emphasis in original). Hägerstrand would have agreed, and the diorama is both a site where such experiences are configured and a device to induce modes of abstraction foregrounding how such experiences emerge from collateral processes. The style of the diorama is not one of debunking and mere criticism but of invitation: let us see from different viewpoints and

experience through immersion what happens and emerges from focusing on this particular territory by bracketing and short-circuiting deeply ingrained onto-epistemological dispositions, however difficult and prone to failure that may be. This makes Hägerstrand's diorama a civilizing device that cultivates the art of relation-making (Stengers 2018) across epistemic communities and cultures.

While cultivating civilized encounters, Hägerstrand at the time of *DPP* had also – and thirdly – come to appreciate that interdisciplinarity requires new concepts and language if the power relations that shape contact across disciplines and epistemic cultures are to be challenged. *DPP*'s diorama-channelled attempt of fusing the horizons of insiders and outsiders sought to put *everybody's* fore-conceptions at risk, irrespective of their onto-epistemological orientations. It thus raises the bar for interdisciplinarity: selectively absorbing ideas, concepts and logics from one field into another will not suffice to create genuinely novel and discipline-transcending understandings and modes of abstraction.

Finally, even if views on the merits of the diorama as enabling civilized modes of abstraction that cut across onto-epistemological boundaries may differ, the ethos inspiring the concept's emergence – and subsequent displacement by landscape – in Hägerstrand's vocabulary is now more crucial than ever. In my view, understanding and effectively addressing the climate emergency requires modes of abstraction that allow for more than consideration of interconnected and multi-scalar socio-ecological systems. At a minimum, the messy yet historico-geographically conditioned happenings, encounters, practices and lived experiences in particular territories and places will have to be considered – if only to make the required changes in everyday consumption explainable and amenable to publics associated with those territories and places. It is at the level of everyday life in households, organizations and globally networked economic systems that ways must be found to “keep human projects and situations on tracks away of disaster” (Hägerstrand 1982, p. 338). The space–time constraints on doing so are now much more binding than they were at the time when *DPP* was published.

Endnotes

¹The discussion bears resemblance to Latour's (1999) discussion of the circulating reference and Stengers' (2000) elaboration of how Galileo's experimental set-up not only created a reliable witness that elevated his hypothesis over rival ones but also let him withdraw as the author of set-up and hypothesis.

²Hägerstrand's (1985, 2004) later worldview is heavily indebted to the three worlds approach proposed by Popper and Eccles (1977). He sees cultural products, from myths to mathematical theorems, as World-3 entities that are created by human minds and influence World-2 entities such as subjective understandings and emotions. Both are embodied in World-1 entities, including brains, limbs, technologies and other artefacts.

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