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Movement refrains of people with visual impairments: A post-phenomenological geography beyond space and place

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Abstract

The paper intervenes in current discussions within post-phenomenological geography. It analyzes the movement of people with visual impairments in order to develop an approach to post-phenomenology that emphasizes the in-betweenness of bodies in motion. Our perspective differs from phenomenological (and humanistic) geographies and from post-phenomenological geographies that are rooted in object-oriented ontology. They both rely on the differentiation between space and place, accept pointillism, treat places as points in space, time as exclusively chronological, and bodies as beings, not becomings. We analyze data from interviews with people with visual impairments. We first consider their movement through the perspective of humanistic (particularly phenomenological) geography. After acknowledging the limits of this approach, we turn to our actualized conception of post-phenomenological geography, which draws on Deleuze's concepts of movement, path, refrain, and involuntary memory. With this conceptual repertoire, we go beyond the space-place dichotomy and highlight the in-betweenness and virtuality of movement. We explore difference-producing repetitions, which are constituted through refraining into paths. Our approach conceptualizing movement as "refraining into paths" is instrumental to studying the movement of people with visual impairment: It helps to dispute ableism, and it enriches the current discussion about post-phenomenological geography in its insistence on relations and becoming.

Keywords: Refrain, space, place, post-phenomenology, visual impairment, Czech Republic

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1. Introduction

This paper is about movement. We conceive theoretically and conceptually the occurrence of movement, highlight the in-betweenness and virtuality of movement, and simultaneously we strive to overcome one of the most deeply rooted dichotomies in geography – the dichotomy between space and place. We build our knowledge from: a) a Deleuzean critique of the object-oriented ontology (hereinafter OOO) in post-phenomenology; b) theoretical uses of the Deleuzean concepts of movement, path, affect, refrain, and involuntary memory; and c) geographies of disability that focus on the movement of people with visual impairment.

The most recent and most popular form of post-phenomenological geography tries to go beyond humanistic and phenomenological geographies by anchoring itself in OOO (Ash, 2020; Ash & Simpson, 2016, 2019; Ash et al., 2018). Our approach tries to show that this is not enough because a proper advance beyond humanistic and phenomenological geographies needs to overcome the basic ontological dichotomy that is inherent to them: the dichotomy of space and place. Our approach shows that object-oriented ontology is not sufficient for our specific understanding of post-phenomenology, because its exclusive focus on the primary ontologizing of objects makes disappear the ontologies of movement, relations, and bodies, and

thus any ontologies that could revolve around the human. This relates to the problem of pointillism in geography, introduced by Marcus Doel (1999, 2000, 2001) upon inspiration from Gilles Deleuze. It is the critique of pointillism that disturbs the ontological primacy of objects (objects as pointillist entities) and highlights the ontological primacy of relations, processuality, and in-betweenness. It does so inside time as well as inside space.

Based on this knowledge we neither explore movement whose main pilot is the human body-subject (as in humanistic and phenomenological geography) nor explore movement that is only subordinated to the physical environment and its objects (as in object-oriented ontology in post-phenomenological geography). We are concerned with movement in-between, movement between subjectivity and object, between people and the environment, between space and place, between places, between past and future, between time and space, and between milieu and rhythm. We acknowledge the ontological primacy of what is between temporal moments and between spatial points – intervals, relationships, processuality, and in-betweenness. To be dodging in-between, and to emphasize the betweenity is a necessary principle of our study. The inter-relations that arise in our study are important: "the middle" is crucial (Deleuze, 1988b, 1994; Deleuze & Guattari, 1987).

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The difference between space and place as it was defined and conceived in humanistic geography has had a huge influence on the geographical imagination about these concepts until the present day – space as impersonal, meaningless, open and detached, out of which places can be made as subjectified segments in space, full of meanings, created by intentional subjects (Relph, 1976; Tuan, 1977). This distinction later found its way into new cultural geography, where places became texts to be read and interpreted, full not only of lone subjects' meanings, but also of cultural patterns, identities, and ways of life. As Anderson (2010, p. 38) puts it: "Place then is the counterpoint of space: places are politicised and cultured; they are humanized versions of space. It is from the empty abstraction of space that different cultures take and make place." Hence, places can be thought of as "carved out" of space by peoples and cultures that leave their traces in space and it is usually thought that "[p]laces have space between them" (Cresswell, 2004, p. 8).

Places are made and remade as, in a way, particular intimate points in a vast space because places are located. While in representational cultural geography places are conceived as made and remade by discursive activity, filled with symbolic and representational meanings, in non-representational cultural geography they are made and remade through sensuous and bodily living, filled with corporeal affects, practices and performances (for overview, see Adams, 2009; Anderson, 2010; Simpson, 2020). "To be in place [through affects, practices and performances] […] is to share some form of emotion with others at a visceral, embodied level" (Adams, 2009, p. 204). Our approach is intended to be non-representational, but we would like to break loose from the boundedness of affects, practices, and performances in places. We do this by presenting them to be lived in the in-betweenness beyond particular pointillist places and vast space, to be lived in paths and the movement itself.

To study movement, we examined the experiences of people with visual impairments. When studying the movement of visually impaired people in urban space, it becomes evident that data contains something that cannot be captured by humanistic (or phenomenological) geography, nor is the object-oriented ontology of post-phenomenological geography of much help either. Something that makes the in-betweenness of the body in movement more evident in their case than in the case of sighted people. The automatic movement in urban space, which we use to demonstrate in-betweenity, is constantly subject to change for people with visual impairment. If there is a change in the learned path (such as a car parked on the sidewalk that wasn't there yesterday), the visually impaired people do not foresee this change in advance, they have no time to prepare for it. Instead, they deal with it when they encounter it. The change is happening with each movement, and each time differently (they touch the wheels with their canes, then reach into the open space, then reach for the hood …).

Moreover, because both automatic movement and changes in space are less obvious for visually impaired people, they are able to talk about them more. By examining the experience of people with visual impairment, we do not intend to emphasize the abnormality of their experience, nor do we postulate distinctions between the movements of people with and without disabilities. We just believe that the visually impaired experience can better help us articulate what concerns all bodies, but for sighted ones, it is less accessible because we all live in cities built for sighted people.

Similarly to authors who have been addressing visual impairment in recent years in geography and sociology (Macpherson, 2009, 2017; Paterson, 2016; Porkertová, 2021), we also aim to contribute to a non-ableist understanding of the movement of visually impaired people. In addition to ableist design (Hamraie, 2017), which refers to design that accommodates only able-bodies, there is also ableist methodology (Castrodale, 2018;

Bitman, 2022; Porkertová et al., 2024), which describes methods that automatically account for only able-bodied participants or even infer discriminative knowledge from ableist methods. And similarly, we can consider the ableist theory. We can speak, for example, of a theory that understands disability primarily as a disadvantage, a deficit, a limitation, and fails to grasp it as enriching, enabling, inspiring (McRuer, 2006; Kafer, 2013). Ableist language, ableist discourse, ableist analogies or ableist metaphors reduce complexity, stifle nuance, and prevent understanding of the phenomenon (May & Ferri, 2005). Alternatively, theories that are too abstract, removed from concrete contexts, ideal or even idealized are also considered ableist (Knight, 2020).

In the case of geographic research on the movement of visually impaired people, we have already experienced both ableist methodology when Reginald Golledge in the 1990s from drawings of mental maps with visually impaired respondents, inferred their "transformed and disordered space" and "restricted and less complex" mobility patterns (Golledge, 1993), as well as ableist theory, when Laura Šakaja (2020) describes the movement of visually impaired people in urban environments using the visually derived concepts of urban planner Kevin Lynch (1960). The theoretical grasp of movement and disability is thus often constructed in opposition to each other, which nevertheless says more about the ableist production of theory than about the movement of people with disabilities themselves. Seen from this position, we can thus also speak of an ableist conception of mobility or movement (May & Ferri, 2005, p. 122). Our aim, then, is not to continue to reproduce an ableist theory of movement of visually impaired people but to offer a way to grasp their movement in a non-ableist way.

The paper starts with a discussion of different understandings of movement in geography. We begin with humanistic-geographical conceptions of movement that assume the ontological primacy of the human body-subject (Seamon, 1979, 1980; Seamon & Nordin, 1980). We then consider the post-phenomenological critique that is influenced by the object-oriented ontology, which assumes the ontological primacy of objects and thus avoids humanism (Ash, 2020; Ash & Simpson, 2016, 2019; Ash et al., 2018). Then we present a different (but also post-phenomenological) approach to study movement that assumes the ontological primacy of relations. Through the insight of Deleuzean philosophy, the refusal of pointillism, and the extensive application of diverse Deleuzean concepts, such as movement, path, refrain, or involuntary memory, we grasp what is post-phenomenological in our empirical data and what unsettles the place–space dichotomy. This approach is close to a little older geographical interest in post-phenomenology (older than the most recent post-phenomenological interest in OOO) that derives from non-representational theory (Harrison, 2007; McCormack, 2002, 2010, 2013; Rose, 2006, 2010; Simpson, 2015; Wylie, 2005, 2009, 2010). Unlike studies inspired by this kind of post-phenomenological geography which often engage movement as a methodological tool or perspective serving other goals and often consider the human body and movement only in its temporal becoming, we treat movement as the subject of research, draw attention to its intricacy and consider spatiotemporal becoming of the movement.

2. Post-phenomenological geography: Away from the human and back again

Post-phenomenological geography follows the development of humanistic geography during the 1970s and 1980s, reflects its critique from various paradigmatic positions, and tries to overcome these criticisms. The effort to reach beyond humanistic geography derives mainly from its confrontation with poststructuralism,

non-representational theory, or speculative realism, including its object-oriented ontology. In the following discussion, we explore the inspiration of post-phenomenological geography in object-oriented ontology as this form of post-phenomenology has recently asserted itself in the discipline most profoundly. We show how this form of post-phenomenology responds to the phenomenological geography created by David Seamon, who himself draws on the works of French phenomenologist Maurice Merleau-Ponty. We then intend to show the theoretical contribution of such a form of post-phenomenology, which transcends the pitfalls of object-oriented ontology and tries to focus on the relationality and processuality of movement, instead of focusing on objects only as the OOO does.

The geographer David Seamon (1979, 1980; Seamon & Nordin, 1980) further developed the phenomenological tradition within humanistic geography (Relph, 1976; Tuan, 1977), his most essential contribution being interest in everyday movement as an experience of the body. His understanding of the bodily experience of movement was inspired by Merleau-Ponty. Seamon took over his concept of body-subject to express "bodily intentionality – inherent capacity of the body to direct behaviours of the person intelligently, and thus function as a special kind of subject" (Seamon, 1980, p. 155). In his work Phenomenology of Perception, Merleau-Ponty diverged from Husserl and his followers and accepted the body as part of every knowledge, even as an instrument of our primary "comprehension" (Merleau-Ponty, 2002, p. 273). He refused to see the body as an object (Merleau-Ponty, 2002, p. 64), a mere passive receptor of external stimuli. On the contrary, the world is comprehended through the body. Everything is lived from a certain point of view (Merleau-Ponty, 2002, p. 354). Thus, for him, perception of such experience is not an act of some internal ego or reason, but of body. The "subject" of perception is not "mind", "ego", or "consciousness", it is the body.

According to Seamon (1980, p. 156), movement "indicates that the body is intelligently active and through this activity efficiently transforms a person's needs into behaviours." Thanks to the structure of the body-subject, we do not need to plan and decide on every single move. He distinguishes between body ballet, time-space routine, and habitual movements in larger-scale environments. These composed choreographies create places, which Seamon calls "place-ballet" or "sidewalk ballet" (Seamon, 1980, p. 160). Place is thus connected with movement, but it is understood as a part of space that humans create or relate to (the same as in the case of previous works of humanistic geography). For Seamon, the space-place dichotomy is apparent, and the body-subject has ontological priority over objects, thus "the 'dynamism of place' in Seamon's discussion comes primarily from the actions of its human inhabitants" (Ash & Simpson, 2016, p. 55).

In contrast, post-phenomenological geography stresses the role of non-human components and material contexts and thus calls for "an emphasis on the ways in which the body-subject undergoes constant processes of 'affectual composition' in and through its relationships with a material-agential world" (Ash & Simpson, 2016, p. 55). According to post-phenomenological geographers, the subject originates together with experience and the world, which further shapes the experience. Material objects emerge in the same way and the subject has no ontological priority over objects. Ash et al. (2018, p. 169) stress that "post-phenomenological approaches understand that objects both proceed and exceed human experience of them while also providing the grounds and means for human thought and cognition." The body-subject and the surrounding world are not defined in terms of the metaphysics of presence: body-subject = body-subject and body-subject ≠ background world. Instead, both become processual, and their situation is better characterized by the concept

"circumstability" (McCormack, 2017). McCormack (2017, p. 7) asserts that the circumstantial qualities of post-phenomenological life worlds refer to circumstances as "not only conditions lying outside and impinging on human life but [as] ongoing, loosely consistent structurings of influence on the capacities of diverse agencies to affect and be affected by other agencies."

However, not all post-phenomenology grants affects, agencies, and relations ontological primacy before subjects and objects. Even if rejecting the primacy of the body-subject, Ash and Simpson (2016, p. 59) claim that "post-phenomenological geography argues for a reinvigorated account of objects and suggests that objects present a starting point." Drawing on object-oriented ontology, they postulate that objects are of primary ontological value before unstructured matter or relations. Their proposition is that by "taking the autonomy of objects seriously, post-phenomenology can begin to investigate relations between non-human objects without reducing these relations to how they appear to human beings" (Ash & Simpson, 2016, p. 60).

This approach to post-phenomenology is criticized by Tom Roberts (2019a, 2019b), who notes that even if the primary position is not occupied by an undifferentiated body-subject who lives through intentional experience, it is occupied by the object, which is presupposed to exist abstractly before affects and relations, and thus the phenomenological passion for a stable, individuated entity remains here. This post-phenomenological conceptualization of objects echoes the division of space and place typical of humanistic geography, even if it aims to uproot the division. Although such versions of post-phenomenology deny that, for the existence of space, we need the body-subject–object relation, they replace the body-subject with another (second) object to surpass the body-subject.

Ash (2020, p. 185) characterizes such objects as individuated entities, and this post-phenomenological geography wants to explore "how entities comprehend one another, rather than being predicated on a cognitive human subject." Individuated entities subsequently create space. When constituting space, the object–object (or entity–entity) relation remains as stable as the body-subject–object relation. Such space is always secondary to entities, which exist a priori and are self-contained in the metaphysics of presence: entity A = entity A, entity A ≠ entity B. The space–place dichotomy remains; in a similar way as body-subjects were able to create places from space, now objects can create places. Yet, we believe that, to overcome the space–place dichotomy, we need to "free relations from the individuated actuality of things" (Roberts, 2019b, p. 548). This is something that earlier geographers who were inspired by non-representational theory and sometimes also called their work to be post-phenomenological try to do (Harrison, 2007; McCormack, 2002, 2010, 2013; Romanillos, 2008; Rose, 2006, 2010; Wylie, 2005, 2009, 2010). They try to give ontological primacy to relations.

What does the freedom of relations make possible? First, it facilitates the return of the human subject, though in a form different from that seen in humanistic or phenomenological geography. In this conception, the subject "is always a provisional relation that takes hold—or actualizes—within matter's intensive flux of impression and ideas. The subject is nothing more than this immanence of relation" (Roberts, 2019b, 551). The human subject becomes subjectification which is about the actualization of the relation from a virtual potential (Deleuze, 1988a, 1993; Simpson, 2017; Woodward et al., 2012). "Subjectification isn't even anything to do with a 'person': it is a specific or collective individuation relating to an event" (Deleuze, 1995, pp. 98–99). An event of subjectification always includes an encounter of bodies. "In the humdrum of our everyday lives we are always already enrolled in a range of affective, subjectifying relations with the

world. Bodies of varying shape, size, materiality, and vibrancy co-appear with us" (Simpson, 2015, p. 72). Thus, we are "in search of a subjectivity without subjectivism" (Wylie, 2010, p. 110), thus doing something that OOO, in our opinion, avoids.

Second, the "event" is important. The event is always virtual and extra-temporal; it exists outside chronological time in which points of time cannot be otherwise than actual (Deleuze, 1990, 1991). Unless relations are exterior to actualized entities and working virtually, processuality is not captured. It cannot be reduced to actual relations between entities at different times. In our theory, movement is not reducible to states of entities at different points of chronological time. Our conception of movement is of an unstructured body that constantly undergoes subjectification. On the way from phenomenology to post-phenomenology, not only does phenomenological space, composed of a priori body-subjects and objects, remain unbecoming, but so does post-phenomenological space, composed of a priori objects and objects (or entities and entities).

Events bring encounters, and "we cannot know a body's affective capacities independently of its encounters. Indeed, to begin with the encounters of bodies requires an ontological commitment to the primacy of relation itself" (Roberts, 2019a, p. 125). In questioning the unbecoming primacy of actual entities (or objects) in actual points of time, we are inspired by Marcus Doel's critique of pointillism in geography (i.e. the critique of comprehending things, phenomena, and time periods in their individuality or pointillity). Doel (2001, p. 566) believes that "all forms of pointillism are unbecoming and ill-mannered. Only relations, meantimes, and durations can have consistency." First, we believe that, by disavowing pointillism, we can work with real process, happening, movement, and duration (Deleuze, 1986, 1991), while distinguishing between pointillistic chronological time "and the real time of duration and becoming (what is still in the process of unfolding and being made)" (Doel, 2003, pp. 161–162). Bissell (2014, p. 1948) asserts: "Attending to the complex temporalities of practice that nonrepresentational theories spotlight offers an alternative way of considering mobility transformations that are unaccounted for by the chronological modes of evaluation." For example, the non-pointillistic "loop circumvents points of departure and origin and instead prioritises the passage, […] a much more embedded 'haptic' kind of navigation in movement" (Bissell, 2013, pp. 358–359). Second, by denying pointillism, we would like to grasp the moving body not as the body-subject, but as an unstructured body, fully open to affects, relations, and becoming (i.e. as the body-without-organs; Deleuze & Guattari, 1987; Doel, 1995).

> "The subject is the subject. Alone it stands. And in no need of skin, flesh, face or fluid. Body it never is. Bodies are the enemies of the subject. The subject is what remains when the body is taken away; it is literally in human (I am–dead). […] [T]he material fabric of the body may [in fact] frustrate the passage towards the place of the universal and abstract subject". (Doel, 1995, pp. 211–212)

Thirdly, we are convinced that by disavowing pointillism, it is possible to cast off the residual humanistic-geographical dichotomy of space and place, and appeal to more mobile, processual, expressive, and post-phenomenological concepts.[1] According to Doel (1999, p. 9), geographers should be wary of "the polarization of place and space, which hinges on the glaciation of events in perpetual process" and does not enable us to grasp truly becoming events of "spacing". Moreover, he maintains that "in the passage […] from the logic of identity to the rhythm of difference-producing repetition, space and spacing are (s)played out" (Doel, 2000, p. 120). This is the part where we try to deepen

post-phenomenological geographies that are inspired by non-representational styles of thought. Although the movement itself is often an important part of these geographies, it is not usually the subject of research itself.

Instead, it is conceived as movement between places or between points in space, even though it moves through non-representational landscapes (Wylie, 2005, 2009). The vibrating in-betweenness of moving is stabilized into bodies moving in actual places. We aim to grasp more fully the always-becoming spirit of the virtuality of movement. In our post-phenomenological perspective, "[t]here is only a becoming, and not a being to which the becoming (be) comes. There is nothing beyond betweenity" (Doel, 1999, p. 171). For these reasons, we draw primarily on Bergson (1911) and his interpretation by Deleuze (1991), in which exactly this spirit of movement is implied and which are commonly used for similar purposes in geographical research on other topics (Massey, 1999; Bissell, 2014; Williams, 2016, 2022).

Through our focus on bodies with visual impairments we realize that movement relations of betweenity caused by non-seeing and the accentuation of haptics must be in a way different from relations where the sense of sight prevails. This makes our post-phenomenological perspective to get in touch with current debates in critical phenomenology where the problem of different bodies (than, for example, abled bodies) is highlighted. Among these debates, Eden Kinkaid (2021, p. 308) is critical of post-phenomenological geography (however, mainly its variant that is rooted in the OOO) and claims that "advocates of post-phenomenology are quick to critique a 'transcendental subject' […] and in its place do not advocate for an attention to historically concrete individuals. Instead, they forgo the question of the subject altogether" even when this question is shaped by political issues of gender, race, sexuality, or disability. We are aware of this important notice and agree with critical phenomenologists Simonsen and Koefoed (2020, p. 17) who seek "an approach that anticipates elements now associated with poststructuralism and post-humanism but which maintains a more robust sense of politics, experience and agency."

Although we do elude the idea of intentionality and the individual as starting points for analysis, we emphasize that relations to be made through the difference in the sense of sight are influenced by the politics of ableism, as our cities are usually systematically conceived for seeing bodies. We agree that "sidestepping subjectivity as an issue or matter of concern [in post-phenomenology] does not mean that we can escape the power these processes exert on social and material orders" (Kinkaid, 2021, p. 312). Politically, for critical phenomenologists, "a differential activation of perception, including vision, makes new spaces and social relations possible" (Kinkaid, 2020, p. 179). From the perspective of queer phenomenology, there is a need for disrupting spatial norms that tame differential embodiments and relationalities so that the accentuation of new spatial possibilities of perception is possible (Ahmed, 2006). "This search for a different way of seeing cannot be separated from practices of inhabiting space otherwise, experiments in queering space" (Kinkaid, 2018, p. 438). This is why we would like our post-phenomenology to also be a critical geography.

3. Phenomenologically conceived movement of visually impaired bodies

We are interested in processually conceived movement, which is always becoming. As we stated in the introduction, for this study, we chose the movement of people with visual impairments. Using semi-structured interviews, we interviewed 14 men and women

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[1] From a post-phenomenological position, Gibas (2019) explicitly strives to overcome the humanistic-geography dichotomy of space and place. We offer a different perspective that is, in our opinion, more thorough.

with visual impairments who lived in the Czech Republic's urban milieus. They were sought and approached through personal contacts and further by using the snowball method. When selecting them, the only condition was the declaration of one's own visual impairment. Among the communication partners, there are people of various ages, educational backgrounds, and professions, both visually impaired from birth and later in life. Before we explain how Deleuzean post-phenomenological geography gives us a better understanding of the movement of people with visual impairments, we focus on what we can (and cannot) say about this movement through phenomenological concepts of the body-schema and "dynamic" measures of space. The phenomenological body-schema presents a holistic conception of the body and knowledge about the mutual relationship of its individual parts. Principally, the body-schema is the body-subject. It includes parts of which we can be aware in a moment (Merleau-Ponty, 2002). Merleau-Ponty (2002, pp. 165–166) speaks explicitly about the incorporation of a white cane into the body-schema of people with visual impairments. The body incorporates tools and, when learning new habits, it "perceives" and "understands" them as an enhanced body-schema, an enhanced phenomenological body-subject.

> Interviewer: "Do you feel that you orient yourself according to what the cane transfers to your hand in the spot where you are holding it or where it touches the ground?"
>
> Communication partner: "The part that touches the ground, the end, this is somehow transferred to my brain…" (F, 34, 09.07.2014)

Use of the body-schema at the level of manipulated objects enables us to understand the adaptation of a body with visual impairments as it moves in space. To learn more about movement, we studied body-schema extensions that reach further into space than the level of manipulated objects. We then encountered something interesting. Until a certain scale, the literature talks about incorporating whole places into a body-schema (e.g. a table, a room, a building). However, when this scale is transgressed, we discover only examples of incorporating routes: walking to the garage, to a mailbox, from lunch, and so on (Seamon, 1980, p. 148). It seems that we can experience movement within a place only up to a certain scale.

Edward Casey (2009, pp. 326–327) created a "dynamic" topology of scale for this purpose. The first scale corresponds to a body that remains in place (e.g. writing on a desk in a study), the second corresponds to the scope of movement within one place (e.g. walking around the study), and the third corresponds to movement between places (e.g. going from the study to the kitchen). The body may either be static or move within a place or move between places, but what about this movement "between" places? The routes may be incorporated into the body-schema but not through a place. In phenomenology, place is created from space through a body-subject into static points. These static points mean that the concept of place describes the relation to space through rootedness or dwelling but not through movement (i.e. movement between places) where the "between" could be more important than the places. The space–place dichotomy is apparent here. For overcoming this dichotomy, the movement "between" is crucial.

> "What does it mean to learn a path? Well, I know that when walking from my flat, from the building, I need to go straight. I tap my cane, everything is simply by heart; one learns to do it from memory… that after some time there will be a recess, and then what? A sign, for example? You learn everything by heart. It's not a matter of imagining space or anything, it's all memory." (F, 35, 28.01.2014)

Our communication partner mentions specific elements that they remember (e.g. a recess and a sign), and what is in-between, played down, and not expressed, as if these elements are not part of the movement. They appeal to a scale of moving between places,

and we learn about the places but not what is in-between. They use different language to describe movement between places through action (e.g. go, walk, and tap). The description thus falls apart into places and bodily action in between places. While the former are time constants, the latter concerns unspecified durations. Parts of movement are expressed by actions that do not have any spatial representations; they cannot be represented temporally apart from their doing. They are outside places, in-between places, and so outside language, in-between words. We can only mention their order, a certain time schedule – what (moment 1) comes sooner and what (moment 2) comes later – a linear structure of memorable sequences. In other words, we remain with the space-place dichotomy and this perspective requires us to observe movement through places where something happens or changes; it omits the space where movement continues. To move beyond the dichotomy, we need to move from the analytical perspective of this pseudo-dynamic phenomenological geography to a real dynamic of post-phenomenological geography.

4. Post-phenomenological perspective: Movement, path, and refrain

The phenomenological perspective conceives of space as impersonal, meaningless, and homogeneous, and the intentional experience of the body-subject as creating subjectified and meaningful places within this space. Because of the chronological conception of time, the perspective conceives of movement through the body-subject–object relation, which changes at individual time points. In this temporal chronology, body-subjects internalize certain objects at certain time points and create places through this internalization. In this section, we would like to offer an alternative perspective.

4.1 Movement

Our post-phenomenological perspective emphasizes relations, which are necessary to actualize becoming into embodiment and the materiality of moving things and bodies. First, we explain Deleuze's Bergson-inspired understanding of movement. Rather than understanding movement as involving just moments, as when a chronological point 1 suddenly switches to chronological points 2, 3, 4, and so forth, movement has its own quality that does not belong to actual chronological time and its moments because "not only is the instant an immobile section of movement, but movement is a mobile section of duration" (Deleuze, 1986, p. 8). Importantly, movement expresses change through the whole constellation of events, yet movement itself does not belong to chronological time but to Aeon in which various durations exist that connect the past and future and cannot be reduced to another, given their different qualities. Movement is pure action, an event. Time is always, on the one hand, pointillistic and chronological and is filled by moments, states, and "now-points".

On the other hand, "it must be grasped entirely as an entity infinitely divisible into past and future, and into the incorporeal effects which result from bodies, their actions and their passions" (Deleuze, 1990, p. 5). The other time, Aeon, "is the time of the pure event or of becoming, which articulates relative speeds and slowness independently of the chronometric or chronological values" (Deleuze and Guattari, 1987, p. 263). Hence, movement may be understood not only as the actualization of subjects and objects at time points but also as virtual betweenity. If the happening of moving "is extended to infinity in the past and the future, it is because it concerns first of all the living present that in each instance presides over their division" (Deleuze, 1993, p. 70).

Movement is a change that is virtual but necessary for material and bodily actualizations – it precedes the actualizations in a nonchronological way. Movement does not change one thing

into another; it transforms the wholes of things and phenomena by transforming the relations between diverse phenomena and things: "As long as movement is defined as 'the successive existence of a moving body in different places,' we apprehend only an accomplished movement, and not the inner unity to which it refers when it is in the act of moving" (Deleuze, 1993, p. 55). Relations overcome individualities and create wholes. Hence, the whole is not given beforehand, and "if the whole is not giveable, it is because it is the Open, and because its nature is to change constantly" (Deleuze, 1986, p. 9).

To the extent that our post-phenomenological perspective understands relations as exterior to objects (Roberts, 2019b), we distinguish movement as the qualitative change of the whole through changes in relations. This conception of movement enables us to fully grasp subjectification as the actualization of virtual potential. Constitutive virtuality as movement is the locus where encounters happen. Encounters are connected to affects, and a body undergoes affection: "[I]t is these virtual tendencies that ensure that bodily movements become increasingly removed from the realm of cognitive effort" (Bissell, 2015, p. 131). This body is not the body-subject because affections have nothing to do with intentional experience. Instead, this body is an unstructured body that really moves – a body in the very act of movement that escapes the present – but always actualizes some affections in the present (of chronological time). Understanding a body in this way implies "a devaluation of consciousness in relation to thought: a discovery of the unconscious, of an unconscious of thought just as profound as the unknown of the body" (Deleuze, 1988b, pp. 18–19). Movement expresses mainly an unconscious change that cannot be fully expressed by words, and when it is expressed by words it vibrates between what is said and what is not.

"Because even if I have mastered it, and I know the way, but suddenly...how to describe it?" (F, 34, 09.07.2014)

"As if it was imprinted, I don't know which type of memory it is. [...] I tell myself it's best not to think about it, and my legs just do it for me. The body, simply, or the memory of the movement is much more precise than I would be if I tried to define it in my mind." (M, 29, 28.02.2015).

Our communication partners do not knowingly describe how their bodies move. Their body in movement is there but only unconsciously and without interpretation. "How shall I say it...? This falling short is not something which befalls representation rather [...] representation which has fallen short bears witness to that which it cannot contain" (Harrison, 2007, p. 603). Their perspectives about what happens when their bodies move show that something is elusive – something that should be the movement itself escapes the present. Such "viewpoints do not resolve themselves in presence or manifestation, but rather hold presence–absence in an ongoing suspension" (Woodward, 2013, p. 239; cf. Wylie, 2009). Movement as a continuous becoming is not actualized through its affirmation or through its negation; it remains unconscious and virtual. Movement is not someone's something. It is neither a matter of the subject or object nor composed of subjectified places. Movement in this sense is neither present nor anything that is but is rather a change that is happening constantly. In movement, the past meets the future. The body has mastered the movement, yet it does not have actual, present knowledge. The body has performed the movement and has absorbed its relevant affects in the past so to actualize corresponding affections in the future. The movement "will have been". The past, wrapped in memory or imprint, makes it possible to actualize this step and no other. This

movement is absent not only in words but also in actual attention, mind, intentionality. Former passages present virtualities saved in involuntary memory (Deleuze, 2000, pp. 52–66), actualizing steps that direct the movement. Legs do it for us. Movement becomes. The virtual possibility of movement in space is thus actualized in steps that connect past passages, which the body has performed before, with future passages that are yet to be actualized.

4.2 Path

The movement of people (and not only those with visual impairments) happens in paths. Paths are not point-to-point transitions: space-point 1 to space-point 2 to space-point 3 and so forth. If they were, it would be easy to make impersonal, meaningless, homogeneous space into personal and meaningful places: place 1 to place 2 to place 3, and so on. Paths are created through the interconnection of the virtual and the actual. They are dependent on movement and are open to continuous change just as relations during movement change. Paths belong to haptic space, which differs from phenomenological space, out of which the body-subject creates places. Haptic space is "filled by events or heacceities, far more than by formed and perceived things. It is a space of affects, more than one of properties. It is haptic rather than optical perception" (Deleuze & Guattari, 1987, p. 479).

In our usage, the term "haptic" is not only about the necessity of non-visual perception or only about the inability to see, although non-seeing bodies are able to live through haptic space more expressively. We distinguish the haptic from the optical because it "is a better word than 'tactile' since it does not establish an opposition between two sense organs but rather invites the assumption that the eye itself may fulfill this nonoptical function" (Deleuze & Guattari, 1987, p. 492; cf. Doel & Clarke, 2002). Haptic space enables and, simultaneously, is enabled and constructed by paths. "It is the construction of space, fragment by fragment" (Deleuze, 1986, p. 108). "Its orientations, landmarks, and linkages are in continuous variation; it operates step by step" (Deleuze & Guattari, 1987, p. 493). It is a nomadic space, a space of continuous change and reconfiguration, a space in which affect constantly induces affection.

"The nomad has a territory; he follows customary paths; he goes from one point to another; he is not ignorant of points (water points, dwelling points, assembly points, etc.). But the question is what in nomad life is a principle and what is only a consequence. To begin with, although the points determine paths, they are strictly subordinated to the paths. [...] A path is always between two points, but the in-between has taken on all the consistency and enjoys both an autonomy and a direction of its own. The life of the nomad is the intermezzo." (Deleuze & Guattari, 1987, p. 380)

Haptic space is a space of paths. It is neither a pointillist space because paths have ontological primacy over points, nor a space where the body-subject creates places as points that receive primarily experiential and epistemological value. Paths bring affects and are manifested in the body as affections that move the body along a path. Haptic space as a space of paths is also the space where the (visually impaired) body moves. Step by step, the body is affected through diverse events that happen along a path, which step-by-step transform affections that the body experiences. "It is a tracing out of a spatiality that, on account of a radical incompletion and *glissement* in spatial experience, negates the sense of a grasped, mastered, and named space" (Romanillos, 2008, p. 805). Some affects are more expected than others, thus the body must be open to things it has never experienced.

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[2] Readers are likely familiar with the concept of "path" from time geography, where it is primarily used for graphical representation of an individual's movement through time and space (Hägerstrand, 1970). The Deleuzean concept of 'path', which we explain in this article, does not directly relate to time geography and uses the concept in a different sense.

"People often imagine that if we have learned a certain path that we can ease off, be simply walking, relaxing, thinking about totally different things. Well, sometimes I can, and sometimes I do it, but it is far from ideal. It is good to focus on the route as much as possible, because it really can happen that something that wasn't there yesterday can suddenly appear. For instance, it can be a ditch, there could be a sign in the way, anything, that's why I really try to maximally focus on the path." (F, 35, 13.02.2015)

"Sometimes and I often do that and I call it autopilot, that you walk basically assured in places you know, and you think about something else. And the more you can be surprised if there is some unexpected thing, because you actually are not focusing on the way so much. But for a visually impaired person this is a matter of rather strong concentration, and many visually impaired people say that their journey to work is more exhausting than the work itself." (M, 29, 28.02.2015)

Haptic and nomadic space emphasize not only the spatial in-between but also the temporal meantime. The openness of in-between enables the unpredictability of movement through time and space. Despite its former passages and remembered paths, both of which facilitate an almost automatic movement in which the body can "ease off", anything can happen. There are numerous possibilities, each with unpredictable actualizations. Our communication partners responded to this unpredictability with focus, openness to change, and readiness for the appearance of certain affects. Movement along paths presents an interesting encounter of actualizations of former passages and actualizations of moving bodies. While the former appears in the autopilot form, which is actualization of movement without any points or moments, the latter is mentioned as an "unexpected thing", "ditch", "sign". Their description indicates that affects arise from changes in the urban milieu to which movement opens in its becoming.

4.3 Ritornello/refrain

Recalling Bergson's theory of memory, Deleuze (1991, p. 55) claims that "[w]e have great difficulty in understanding a survival of the past in itself because we believe that the past is no longer, that it has ceased to be. We have thus confused Being with being-present". This means that the past has not ceased to exist but that it has always existed because it has existed in memory, as virtual. The entire past is part of "involuntary memory" (Deleuze, 2000, pp. 52–66).[3] Memory may not be actual in a human mind and consciousness. When it is not actual, being part of involuntary memory, it "has no psychological existence. This is why it is called virtual, inactive, and unconscious" (Deleuze, 1991, p. 55). Its existence as virtual is not individual and psychological, but ontological: "There are no fewer things in the mind that exceed our consciousness than there are things in the body that exceed our knowledge" (Deleuze, 1988b, p. 18). Yet it takes effect, even if non-actual, in its virtuality.

Virtuality of movement and memory connects a particular affect with particular affections: "The practical competencies normally understood to be know-how possessed by a body [...] can instead be understood as the incipient movement tendencies that possess bodies" (Bissell, 2015, p. 131). Thus, the body moves by itself, led by affects, and experiences the affections of movement. Movement creates the refrain (ritornello) of affects and movement affections, which constantly arise along passing respective paths.

McCormack (2010, p. 202) asserts that "the processuality of world [...] is always affirming its own becoming through the refrain of something which can be sensed in experience while always exceeding the actuality of this sensing." Deleuze and Guattari (1987, p. 312) explain "[t]he role of the refrain has often

been emphasized: it is territorial, a territorial assemblage." The refrain marks out territories during becoming and tends to bring small, productive repetitions. These repetitions are rhythms that define a territory out of milieus, but they never fully determine what can happen in a territory in which specific affects would appear. The refrain is composed of milieus and rhythms. A rhythm "is that component of the concept of the refrain which gives consistency to the relations between heterogeneous milieus" (McCormack, 2002, p. 476). Rhythms are virtual elements that carry the possibility of actualization and always draw on (virtual) involuntary memory. A milieu is undifferentiated matter – the various unstructured bodies and materialities – that await for subjectification and structuration as movement happens. In milieus, action and affection actualize. Only when rhythm connects with a milieu is a territory actualized. In this established processual play of virtualization and actualization, rhythm and milieu give rise to territories that are maintained for some time. The interplay of these components is called "refrain". Hence, we "get ritornellos [refrains] in any territory, marking it out; and then others when you're trying to find your way back to it" (Deleuze, 1995, p. 146).

Territories are diverse. They can be rigidly territorialized, as might be places of humanistic geography, but they can be less rigidly territorialized. "Territories, in this sense, populated as they are by refrains, are always generative of incipient tendencies toward deterritorialization" (McCormack, 2013, p. 133). Some territories are closer to vectors of deterritorialization than others. Paths as nomadic territories are like this (Deleuze & Guattari, 1987, pp. 380–387). Territories and paths are linked with certain refrains, which draw on movement rhythms, respective affects, and scenes (McCormack, 2002, 2013). Therefore, refrains may be understood through the "rhythmanalysis" of affects, affections, and actions (Doel, 1999, pp. 193–196). Refrains do not imply a return of the same, they rather express a "difference-producing repetition" (Deleuze, 1994; Doel, 1999, 2010). "Refrains hold bodies in certain worldly arrangements at the same time as they open up other ways in which bodies can generate worlds" (McCormack, 2013, p. 204). McCormack (2010, p. 213) insists that refrain "is a pragmatic concept for thinking through relational processuality of experience, for thinking through transition".

The concept of the refrain captures the movement of bodies with visual impairments, which move along paths in virtue of their (virtual) involuntary memory. This path movement is created by particular affects that actualize particular affections, which in turn are followed by particular actions. Paths are open to actualizations of new, different, and diverse affections and actions, and as such are open to deterritorialization. Paths are tied to relations and affects, which are lived by bodies in movement. Our perspective thus goes beyond the stability of phenomenological dichotomy of space–place. Paths are neither tied to chronological time, insofar as refrained affects and relations are continuously becoming, nor subjected to a chronological repetition of "now-points": "Here, Time is not an a priori form; rather, the refrain is the a priori form of time, which in each case fabricates different times" (Deleuze & Guattari, 1987, p. 349). The becoming of the refrain along a path may create new time because a new passing of the refrain is not the return of the same. A different passing of the refrain may actualize different happenings.

"For instance, last year it happened to me – an obstacle. We have lived here for 30 years, or 35, and I walked from the tram past the building. And I had never realised at all that there is a staircase there leading to the basement of the building. And in those 30 years, I'd never brushed against it, right? So, I'm walking

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[3] Bissell (2014), inspired by Bergson and Deleuze, calls a very similar phenomenon 'habit memory'.

along the wall, and suddenly I'm flying down the stairs. […] Not paying attention, I was not checking whether the stairs were there. I didn't count on them at all." (M, 68, 30.04.2014)

A path enabled our communication partner to capture the everyday repetition for 30 years. Yet, one day he fell down the stairs. A possibility was actualized that had never happened before, but it had always been real in the virtual. The staircase had been there all along. Our communication partner said that, although he had been passing it, he had just never noticed the stairs before. We do not learn what exactly happened – whether it was raining or something else – so that another step was actualized, a new affection that resulted in the fall. The rhythm connecting the affect of a straight sidewalk, the affection of a following step, and the action of passing the staircase was replaced by the affect of the stair, the affection of stepping into a void, and the action of falling down the stairs. Even a path of 30 years, which is seemingly well known and accessible through involuntary memory, is constantly becoming. This actualization of milieu and rhythm possibilities gives rise to the refrain, which is and is not the same. On the one hand, it is a repetition that actualizes the same possibilities; on the other hand, it is not just the return of the same. The repetition that makes it possible to go through the same path is at the same time a change, one that makes falling down stairs possible. The refrain facilitates meetings: of repetition with change, of memory with milieu, of autopilot with the fall, and of our communication partner with the stairs.

> "Well, I have it automatized, which means I don't need to sit down, look it up on the internet or somewhere, and imagine the path, I have it engraved in my memory. So, it is partly automatic. When I'm walking, I am not imagining what will happen in a while…I am more sensitive to what's around me, people flashing by…" (M, 21, 04.03.2015).

The refrain does not just make possible the capture of spatial change in becoming. It also captures the temporal change of becoming – not a change within one conception of (chronological) time but a change in the form or duration of time. Every refrain reterritorializes into different paths and into different times and durations. In movement along a path, the continuously occurring time of automatized leg movement meets the time of being ready for sudden, unexpected encounters. This readiness is expressed by the thought that "I am more sensitive to what's around me" or perceiving that "people are flashing by". As Bissell (2014, p. 1953) writes, "[t]hrough repetition, active movements become increasingly automatic, […] thereby becoming more passive; whereas passive impressions from the environment are incorporated by the body, […] thereby becoming more active". Different times, conscious and unconscious, meet in the refrain. The refrain is becoming together with the becoming of new times; the time of repeated steps may encounter an unexpected thing or person. Each refrain brings along other times, other durations, and other refrains and illustrates connections between various passing times.

5. Conclusions: Refraining into paths

This text can be read at three interconnected levels: empirical, theoretical, and ontological. At the empirical level, it concerns the question of capturing the movement experience of people with visual impairment. In our interviews, we noticed a certain disparity between the role movement plays in their lives and how they describe the movement. We were looking for ways to capture this discrepancy. While the description of movement is structured into places, the concept of place is not sufficient to comprehend the movement of visually impaired people. Hence, why we were seeking another tool that would help us capture movement in a non-ableist way. Through humanistic-geography concepts of place, body-ballets, place-ballet or sidewalk ballet,

body-schemas, and dynamic scales, we ended up with Deleuzean post-phenomenological geography and its concepts of movement, path, and refrain/ritornello.

Using the refrain, we managed to grasp how the movement of people with visual impairment connects a repeatedly experienced passage with the continuously becoming territorialization of a path. The refrain enabled us to describe the seemingly opposite experience of automatic movement and unpredictable changes that people with visual impairment so often face. Repeated movement brings eternal return, but it is also constantly becoming and thus produces difference. The refrain helps to comprehend the movement of visually impaired people not as something special and contradictory, i.e. ableist, but as something completely normal, obvious, and thus equal.

At the theoretical level, the text asks how to theoretically conceive movement and the happening of movement. Geographers most frequently appeal to the concepts of meaningful place and impersonal, meaningless, homogeneous space. While the former describes the movement through the 'rooting' in place and is thus more about rootedness and dwelling than about movement, the latter is about movement but describes it as a trajectory without any meaning. Neither concept characterizes the in-betweenness of moving or the 'rooting' into routes. How to conceptualize movement in its changeable meaning? How to grasp something that happens between places, the rooting into routes, in-between, in changes? To answer these questions, we conceptually reworked space into spacing and rooting in places into "refraining into paths". We understood "refraining into" as the continuously becoming difference-producing repetition, which repeats as well as changes paths.

Furthermore, "refraining into" enters "into paths" not only in the sense of entering or rhythm but also in the sense of moving a body through space. This solution abandons the space–place dichotomy and conceives space as haptic and nomadic – that which is becoming. In such space, the past meets the future, and their connection always actualizes something. However, the metaphor of "refraining into paths" is not primarily meant to overcome the space–place dichotomy but to problematize its adequacy for the study of movement and moving bodies. "Refraining into paths" is a critique of place and space from the position of post-phenomenological geography, which reveals the conceptual closedness of the former towards (nonpoint) becoming and at the same time a critique from the position of disability geography that reveals the ableist use of this conceptual pair for research on the movement of visually impaired people.

The third, ontological level of the text criticizes the object-oriented ontology prevailing in current post-phenomenological geography. Humanistic geography has imposed ontological primacy of the body-subject over the object, which perceived everything as human intention. The recent and most influential post-phenomenological geography responded to this critique by drawing inspiration from object-oriented ontology. On the one hand, the problem of the body-subject was solved, but a new one was created because the ontological primacy of objects over everything – the subject, the body, the relation – was emphasized. We tried to "return" from the disproportional focus on material objects back to the relationality and processuality of embodiment, i.e. back to the body. Inspired by Deleuzean philosophy, we conceive both subjectivities and objects as continually created through relations and affects. The in-between has ontological primacy. Similar to replacing places with paths and rooting with refraining, we replace body-subjects and stable pointillistic objects with affects, affections, and relations. Affects and relations do not happen to objects; both subjects and objects are constant actualizations of relations – subjectification and objectification.

Thus, movement neither comes from humans, as humanistic geography claims, nor does it come from objects in space, as object-oriented ontology would likely claim. In movement, the body meets milieu, former passages actualize into future ones, and repetition produces difference. Refrains render the subjectification of who passes as well as the territorialization of the path. The body and the path are not something that exist before the passage, but they happen within the event of movement. "Only the event can 'know' what a body can do" (Woodward, 2010, p. 331).

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