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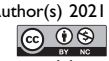
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Auditory and visual sensory modalities in the velodrome and the practice of becoming a track cyclist

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Abstract

The aim of this paper is to explore track cycling through visual and aural sensory modalities. We draw on Pink's work on *emplacement* and of the researcher serving an *apprenticeship* by engaging through first-hand experience and learning track practices and routines in which we reflected on our visual and aural senses to account for understanding the body and the transformations it undergoes when riding track. This speaks to Hockey and Allen-Collinson's call for a 'fleshy perspective' by reintroducing the body into sporting practice. Undertaking an auto-ethnographic method, we use diarised notes drawn from six track cycling sessions to account for sensory experiences by reflecting on aural and visual senses in the context of the skills we acquired during track sessions. In this, the emergent narrative situates the body as a place of contestation and transition, whereby our visual and aural modalities are the senses by which we narrate our improving aptitude, and attained physical capital, on the track.

Keywords

track cycling, auto-ethnography, physical capital, emplacement, sensory grammar

Introduction

In this paper, we use auto-ethnography to think about ways to account for sensory practice in track cycling. We do so by reflecting on our aural and visual sensory modalities recorded in our fieldwork diaries following several track cycling sessions, to explore progressively embodied track skills. It is worth recognising that although the body has been brought back into the fold academically, such as Crossley's call for a 'carnal sociology'

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(Crossley, 2005 cited in Pink, 2011: 346), for our interest in cycling, the body as 'fleshy' and 'feeling' is not generally considered. Therefore, we further wanted to contribute to this range of academic work, using auto-ethnography to explore a sensory perspective in a sporting routine that has come to privilege metrics. It seems somewhat counter-intuitive to make this statement, when in cycling the winning time is the decisive metric. Nevertheless, we think about how the body *gets there*, and reflect on our efforts so that we begin to explore the body as a focal point of transition in sport, but accounted for through our senses.

As we began to make sense of our capabilities, we noted our sensory modalities, what we hear, smell, see, for example, during track cycling sessions and acknowledge sociological accounts that are situated in the experiences of the lived body. 'The researcher's own corporeal involvement in the research process' (Hockey and Allen-Collinson, 2007: 116) underlines the researcher's role in taking a phenomenological position, from which we may narrate the emerging sensory aspects of track cycling. Therefore, using fieldwork diaries collected during six track sessions each, the most challenging aspect of this research has been how to articulate our sensory experiences. Our concern then lies in how the senses appear to be marginal, even eradicated, in understanding the material body, and the physical changes it goes through when cycling a velodrome track. Moreover, we can also think about how this might contribute to our understanding of the competitive body through engagement of the sensory experiences in the development of physical capital.

An exploration of track cycling and the senses: beyond the quantified self

The popularity of track cycling in Britain received a sizeable boost following the success of Chris Boardman at the 1992 Olympic Games in Barcelona (Hutchinson, 2017). The investment into British track cycling is shown by significant medal hauls at successive Olympic, World and European events in the time that has followed. However, what remains most interesting about Boardman's success in 1992, we would argue, is not so much the peaked interest in competitive track cycling, but the underpinning preference for metrics, and therefore, the extent to which it is typified in the metrification of the body. For instance, this can be illustrated by wider use of Big Data in sports (Deloitte, 2013), and further related technologies for monitoring physical activity (Passfield and Hopker, 2017) for the purpose of increasing competitiveness. Metricising of the body perhaps has a foundation in ideas around the 'quantified self' (Lupton, 2016; Bode and Kristensen, 2016; Till, 2014; Swan, 2013) that bears broader resonance in everyday life, not only sport. Lupton (2016), for example, examines the variety of ways in which, via self-tracking, it is possible to record and monitor many aspects of our lives with digital technologies that 'optimise' the self (Lupton, 2016: 101). Lupton distinguishes between different modes of self-tracking such as *private* (e.g., smart watches), *pushed*, found in health promotion and self-care, which are digital technologies that 'nudge' people into behaviour change. Additionally, Lupton mentions *communal* self-tracking with data sharing, such as Strava, and *imposed self-tracking*, which have impetus in the workplace for the purpose of increasing productivity (Lupton, 2016),

common in academia and shown in citation metrics, research assessment frameworks and teaching 'excellence' agendas. To this extent, advancing metrification found in sport and the discourse that underpins augmenting sporting performance using digital technologies have arguably marginalised the corporeal body.

In this setting, we acknowledge Hockey and Allen-Collinson's (2007: 116) appeal for sports to take a more 'fleshy perspective'. This draws a scholastic attention for our research, because it solicits consideration in developing a phenomenology of sport based on sensory experiences, and is therefore the focus for our understanding of the track cycling *field* and our emerging track cycling identities. This has a basis in Merleau-Ponty's proposal that the body is the subject of perception; 'there are sensations which are the subject's states or manners of being and, in virtue of this, genuine mental things. The perceiving subject is the place where these things occur' (Merleau-Ponty, 1958: 240). Similarly, Young's (1980) phenomenological feminist discussion explores how *feminine* bodily comportment is socially situated (using the analogy of throwing a ball), whereby the body is malleable, and subject to its environment as much as its physiological composition. These ideas are apparent in theories of embodiment, particularly emergent towards the end of the 20th century, and notable for dissolving 'the distinction between the sensuous experiencing body and the rational mind' (Pink, 2011: 345). This premise underpins a variety of literature that centres the body in its discussion. For example, Wacquant (2004) reflects on how the boxer develops an 'eye' for making decisions about positioning in the ring, to the extent that vision is a strategy on which to make competitive actions. Moreover, Jump's (2017) ethnography of a North Town boxing gym explores *pugilistic capital* and masculinities to show how the body is an instrument of learning, it is; 'an instrument, a weapon, and crucially something boxers deeply invest in to enhance their ability to succeed' (Jump, 2017: 23). McNarry et al. (2018) observed performance in a British university swimming programme, reflecting on immersion in the field from the position of a former competitive swimmer and voluntary coaching assistant. In this, as we begin to think about our own fieldwork, we take from these readings that reflection is central for the participant sociologist and that the environmental context reveals itself through sensory modalities because the body is situated as a focus for learning in sport.

For Hockey and Allen-Collinson (2007: 123), movement (locomotion) is key 'in the sporting environment, social and physical, it is not perceived from a static position, but a moving one'. Placing ourselves in situ, we aimed to understand what it takes to meet the demands of a sport by corporeal participation, recording understanding of the sporting body from the theoretical abstract to the lived experience. This position acknowledges the immediacy of the bodily experience by which an athlete acquires physical capital through practice and repetition transferring into embodied knowledge. For example, sense of balance is taken for granted, but when riding a bicycle in an unfamiliar environment, such as on the track, we draw attention to the multisensory activity as a way of learning; 'a fall can teach more than hours of discussion' (Acosta-García, 2018). In this case, we understand that the sensory skills used by cycling activists (sic) to develop balance and negotiate 'crowded, aggressive and poorly signalled streets' (Acosta-García, 2018), are accomplished by the cyclist interacting with their physical environment and then explained through movement and balance. Although Acosta's

focus is on urban mobility, for our method, this is a valuable insight as we explore how the accumulation of multisensory experiences combines for the rider, acquiring physical capital that helps negotiate the track, and perceived from the lived, subjective, involvement of the cyclist.

Reflecting on the environmental context then, track cycling is particularly consistent in terms of the setting, as opposed to road riding for example. For both researchers, when we cycle on public roads, the social encounters that present themselves are very different. On the track, we are free from encounters with car drivers, pedestrians, segregated cycle lanes and street furniture, instructions in the form of signs and signals. Thus, the response of our senses, and consequently our body, is very distinctive. For example, because of the absence of the usual distractions we encountered on the road, we had a greater focus on how our bodies felt and used our senses differently. It felt more rhythmic, cyclical, consistent in speed and duration (although noted that there are different disciplines within track cycling). While developing our timing, we reflected on how our visual and auditory senses connected directly to our physical body, i.e. the strain on our leg muscles when trying to maintain a consistent speed, explains the physical effort as we made choices based on what we heard and what we could see. Narratives around pain further illustrate the relationship between sensory modalities and the body. In extreme sports, the 'quest for sensation' immerses the individual in pushing physical boundaries (Le Breton, 2000), and Lev (2020) discusses how triathletes 'talk' to their pain. In doing so, they develop an intimate relationship with their pain and heightened awareness of 'self'. Showing pain in public elicits the gaze of spectators, contributing to the personal narrative that supports the 'self-identity' of the athlete (Lev, 2020: 4–5). This is an interesting idea because it gives power to the body, its receptiveness to the public gaze, and additionally, that we are situated in social and cultural environments. Similarly, in sports settings, the body, via pain, becomes a subject rather than an object. Pain is not passively endured and the body is active, phenomenologically understood as a place of transition, struggle and resistance (Finkelstein, 2013 in Lev, 2020: 8). Before undertaking this research then, we first asked ourselves, how sensory experiences could be embedded into an account of track cycling.

We took an auto-ethnographic method, therefore, in order to depict a sociological account of what the body undergoes when cycling around an indoor track. Hockey and Allen-Collinson (2007) and Allen-Collinson (2008, 2013) have previously posed the question around training for long-distance running in order to portray the relationships between the distance running 'mind', reflected in emotions, sensations, knowledge and its embodied activity, by using auto-ethnography to access and illustrate that relationship. For ourselves as track novices, we are apprentices using auto-ethnography to explore how skills are developed by engaging in first-hand experience (Pink, 2015). This path to knowledge in learning track practices and routines, involved work and time to attain understanding, and although both researchers are accomplished cyclists on the road, track cycling presented a new set of situated challenges. In this, we think about *emplacement* 'the sensuous interrelationship of body–mind–environment' (Howes, 2005 cited in Pink, 2011: 344). The body is not passive, but as much a part of the environment offering 'us the opportunity to think of the body as an organism that changes biologically in relation to the diverse components of its environment' (Pink, 2011: 347). For our own

research, we initially reflected on how this could be exemplified in track cycling, as opposed to our familiarity with everyday cycling. Downey (2007: 223) encourages us to think about this 'what kinds of biological changes might occur when learning a skill?' in accounting for difference perceived through the senses, to then think about the sporting body.

Drawing this out further, Spinney (2009: 825) talks about sense-scapes and converses with participants about their experiences of the landscape in which they cycle. As Spinney (2009: 830) explains, 'for the bicycle rider, speed is productive of the meaning of place because to produce it requires muscular effort from the body'. In this sense, we think about the cycle track as a transitory space whereby the body is negotiated through a sensory experience. In short, the cycle track is a space where changes to the body happen, and a space where those changes and the physical progression of the body can be understood in a way that is not accounted for in metrics. What is it like to become a track cyclist, and in a broader sense, how does one's body adapt in the progression of becoming competitive? To respond to these questions, we documented a series of personal accounts of cycling sessions at a velodrome. From these accounts, we began to think about capturing our sensory experience as it connected to our bodies, underpinned by the idea that this can have utility for supporting, or complementing, the more prevalent metrics. We may conceive of a 'sensory grammar', mapping sensations such as aural and visual (as we discuss later), and in what way this connected to the physical effort in our bodies. This might be as obvious as making decisions about when to move up or down the track, based on aural or visual information, or a combination of the two. In short, exploring our engagement on the track by reflecting on the sensory experience, an emergent grammar, through which we can come to understand our *felt* bodily progress.

Notes on methodology: auto-ethnography in fieldwork

As we considered how to account for the change in the physical body other than to quantify our track cycling 'self', we asked ourselves how could we understand the acquisition of physical capital and how might this be articulated by recording the senses in a way that can contribute to our understanding of the interplay between the body, bicycle and track? Hockey and Allan Collinson (2007) outline the possibilities of designing such a piece of research, one that takes into account the sensory dimensions of sporting practices, using examples of movement and rhythm, the visual and the olfactory senses, as the basis for developing categories (Hockey and Allen-Collinson, 2007). This was a useful starting point for us, and we include examples taken from our own diarised accounts of track cycling experiences as a foundation for beginning to understand sensory practices in track cycling.

The technical skills of track cycling for the novice require that one serves the apprenticeship in order to acquire a newly experienced degree of skill, agility, speed, or more simply, how to ride a 250-m indoor cycle track safely. Such an apprenticeship involves the ethnographer learning how to sense the environment and then document the sensory aspects of our sessions. In our notes, we wrote how our bodies felt, and which sensory modalities we came to trust. For example, what we could hear, our breathing, what senses do we use before we moved up or down the track, and from these reflections,

generate a picture that accounted for the interplay of the senses/multisensory practices (Pink, 2015). Both researchers took part in several track cycling sessions, making an entry into a field note diary for each, while becoming acquainted with the track, and began to think about at what point, when we had attained a level of achievement (a Level 1 track cycling certificate for instance), we could identify ourselves as a *track cyclist*. We wrote about the skills that we acquired in sessions, such as following another cyclist, and discussed the sensory experience as a memorandum to consider how, or whether, this 'felt' different in our bodies over the span of fieldwork. In reflexive sociological practice and analysis of field notes, collaboration is key. To capture the evolving track cycling experience, we placed ourselves as a conduit by which the world of 'the track' can be understood and note the collaborative effort between the researchers (Ngunjiri et al., 2010). Therefore, during fieldwork, collaboration between researchers assisted in identifying aspects of field notes that related to sensory modalities. In this, the task of the ethnographer is how to make explicit that which is implicit (Buscatto, 2016), a provocation that underpins this sensory analysis in that we should be clear about documenting our skills, and progress as track cyclists, in order to illustrate the relationship with sensory modalities. Writing about what we could hear for example, as we learned particular track skills, which might be as mundane as passing another rider, or allowing another to pass us, but learning to trust our auditory senses to let us know whether it was safe to move up or down the track. Sensory information in this analysis shows how it came to inform the decisions that we made. With both researchers comparing notes, there emerged a narrative around particular sensory modalities. An example of text when we were discussing our physical fitness and comparison with cycling on public roads:

> The pattern of respiration was indicative of the dynamic of cycling around the track and an indicator of my lack of *appropriate* physical fitness, 'Keep pedalling', my instructor bellows at me, 'I can't, I'm knackered', 'That's because you're trying too hard', they retort. And they weren't wrong, my tendency to cling steadfastly to the handlebars and propel as fast as I am physically able, whilst lungs are unable to take in the oxygen that my body so desperately needs. My mouth is gaping, which does not alleviate the anxiety of not being able to breathe one bit. My lungs feel so inadequate, that I slow and try to relax my upper body to enable greater intakes of air. There is no flow to my breathing, it is disjointed as if I am having to learn how to do it all again, but a sensation that is equally indicative of how much work that I will have to do if I am to maintain the effort of cycling track (Themen, Log 3, September 2019).

In this example, we reflect on the attention to breathing because of the requirement to keep pedalling, felt by physical effort of which we were unaccustomed. This being the case, it is worth noting here that both authors are accomplished cyclists, but new to track cycling. Ordinarily, despite riding a single-speed cycle with a freewheel on the road, this was '*out of my comfort zone*' (Themen, reflective notes, 2020). The fixed-gear cycle (a single-speed cycle with a fixed drive train mechanism, the drive sprocket is threaded or bolted directly to the back wheel and is mostly used in track cycling) demands different physical efforts because of the requirement to pedal constantly, and to slow and stop the machine by pushing backwards on the pedals. Moreover, when we reflected on our comparisons of track riding and road riding, we noted that the priority

senses are different. Our *cycling identities* then, altered on the track and revealed how mindful we were of different risks when on the road, but when riding on the track, our bodies were concentrated on different senses; 'one commute into work takes me down a main arterial road into the city centre. The journeys are often punctuated by some sort of incident involving a car, whether a close pass or other such dangerous manoeuvre' (Themen, reflective notes, 2019). Contrastingly, on the track, our focus is drawn to how the body feels, we become all too aware of the required physical effort. For Cosmin, who has been cycling regularly as a commuter and cycle tourer for many years, while relatively fit and used to intensive effort,[1] the level of fatigue experienced following these sessions is comparable to that resulting from 2 h of cycle touring, but the muscle pain was located in different areas of the body. Furthermore, a 1 h session on the track; 'made my body feel so languid. Afterwards, there are parts of my body, at least I can feel parts of my body, that I had not been so aware of before, indicative of how much more necessary physical work I had done' (Themen, reflective notes, 2019). These examples illustrate a way of learning through emplacement (Pink, 2015), which we might not learn by only speaking to people about the experience, and which draws on researcher biography to elicit a narrative because it tells us about the social world that is familiar (Riessman, 2003).

Finally, the decision to use auto-ethnography was informed by reflection on the method after conducting three informal interviews with regular track cyclists. We asked them to explain how, or what they felt when cycling (Interview, 5 March 2019). This did not always readily provoke conversation and reveals to us how, when understanding of one's performance is usually expressed in metrics (of cadence and power output), asking someone to articulate their sensory experience of riding was challenging. One reason might be that verbalising sensory experience requires a collaborative understanding between participant and interviewer. In an immobilised situation that is sat down, this was a difficult task. Therefore, one way to find out about the sensory perspective was to become mobile (Hockey and Allen-Collinson, 2007), and for the purposes of illustration in this article, the two main themes that emerged from a collaborative discussion between researchers and comparison of field notes, are those of *visual* and *auditory* senses. In the following two sections, we firstly discuss how our visual senses connected to our rhythm and timing, particularly noting our reflections on the physical effort of riding fixed-gear rather than freewheel. Secondly, we discuss how our aural senses informed the decisions we made about moving around the track and note the emerging theme that connected what we heard to our opening field of vision. That is, learning to look ahead and around the track, rather than down at the front wheel.

Visualising and listening to the track environment: Rhythm and timing

We found that track cycling and its rhythm engaged our bodies in a number of ways. In comparison with the challenges of cycling on the road outlined earlier, the indoor environment is particularly consistent because the landscape of the indoor 250-m track, around which one cycles anticlockwise, is not scattered with road furniture or vehicles. In these terms, we consider that sensory modalities are used differently and connected to

engagement of the body when frequently having to adjust in order to maintain a rhythm. For example, relating to the acquisition of track skills, timing when making decisions of when to move up or down the track, requires the use of cognitive abilities, and these connect directly to the body with practice and proficiency, so that embodied skills can be instantaneously put to use. In this way, *emplacement* and the theoretical dissolution of a mind/body dualism show us that the body is active, and the focal point of analysis. As much as the body is part of its environment, and changes in relation to this (Pink, 2011), the body as subject – meaning, intention, action, reflect in cognition, we learned through immersion in repetition and habitual training (Hockey and Allen-Collinson, 2007). Moreover, Leder (1990) proposes that timing and rhythm become embodied in response to sensations that emanate from the body experienced through the movement of ligaments, tendons and muscles. The stresses placed on our bodies, which we were not accustomed to being velodrome novices, highlighted our rudimentary appreciation of the demands placed on the body when cycling in such a space, e.g. 'my own inability to maintain consistent speed' (Themen, Log 2, September 2019).

As noted, both researchers cycle on a regular basis, but we highlight the differences between the sporting cycling body and the cycling body in the context of city mobility. For example, our experiences of track cycling captured by what we could see showed us how we retrained our vision from cycling in the city to lapping the track because the two environments are substantially different. On the road, Popan (2020) observes that vision is often constrained to focus on immediate obstacles, constantly checking the rolling surface for holes, bumps or other obstacles, therefore reducing, what Gibson (1938) calls, the 'visual field of safe travel'. On the track, its smooth surface, the rolling speed of a bike with no brakes and the relative velocity of other riders, we recalibrated visual perception to look more often beyond what lays ahead of the front wheel and, eventually, over the shoulder of the rider in front. One way that we adapted, shifting in the seat, for instance, drew on visual sense to inform the choices we made as we became more acquainted with the physical demands of the track. That is, what were our visual senses telling us? Take this example:

> As our visual senses demand, the information on how we negotiated the track gives information about balance, and positioning. The angle at which our bodies connected with the machine, a quick glance over the shoulder giving the necessary information whether it was safe to move upwards or down the track (Popan, Log 1, September 2019).

Before making such a movement, inside or outside when overtaking, the visual trigger was the sensory activity from which we made choices about whether to move or not. In this, we thought of cadence and the sensory aspects of this experience by which we made further decisions about pedalling at the correct tempo. This is especially present in the skill of following, which is one of the activities done during the Level 1 cycling test, and which told us a lot about our visual sense.[2]

> A guy told me that he and his two friends are doing a paceline (riding in a single file, at very close distance) and that I am welcomed to join. I don't remember much of the ten minutes spent in the paceline, as I was too focused keeping an appropriate distance from the cyclist in

> front of me. For most of the time, I was so scared I would crash onto him that I hardly raised my eyes from his bottom (Popan, Log 5, October 2019).

The rider must match the speed of the rider(s) in front and maintain a distance of close proximity. This is a lot harder than it sounds when one does this for the first time, as there is the tendency to be going faster or slower, and the rider must adjust cadence accordingly, felt in the thigh and calf muscles, sometimes moving slightly off-line from the rider in front to avoid collision when our speeds did not match. In this way, the visual sense becomes embodied, and assists with our timing and rhythm as our bodies adjust in order to regulate speed. As we visually assess our position on the bicycle as well as on the track, we have highlighted the understated link that vision has to other senses such as balance and proprioception (a sense of movement as the body perceives it especially through the muscles), namely the awareness of the position and movement of the cycling body.

Vision is thus embedded in multisensory practice as 'look is coordinated with skilled movement, with rapidly changing points of view, or with other senses, such as touch' (Grasseni, 2007: 4) and the visual informs our rhythm and timing. The development of skill as 'expert timing', is defined by Goodridge (1999: 44) as 'the act of determining or regulating the order of occurrence of an action or event, to achieve desired results', we differentiate between levels of skill and competence illustrated in the activity of following (other cyclists). Our struggles with timing are reflected here:

> When track cycling, becoming too close, I have to slow the cycle, pushing back to resist the upstroke of the fixed gear, which is felt in the leg muscles accordingly. For the novice rider, like myself, I feel parts of the leg that have not been used in such a way. The tension in my quads, not felt as pain, but aching for days after a ride, affecting my gait (walking like a gunslinger as I once referred to it). In this way, the physical action of cycling, and the connection of the rider to the machine, is audited in the visual senses. The visual information directs whether to move faster or slower, and on the fixed gear of the track bike, really felt in the leg muscles when pushing forward (to increase speed) or pushing back (to slow down) (Themen, Log 1, September 2019).

With the visual sense, we are learning how to see the sporting area, whatever that may be, a football pitch, a boxing ring, an indoor cycle track, and it is felt physically. With the locomotion (Hockey and Allen-Collinson, 2007) of the cycle, acceleration and deceleration of the fixed-gear machine, we try to expand our visual field. Our tendency in early sessions was to look at the front wheel, so we only partially 'see' the track, possibly because of nerves or the noted physicality of fixed-gear riding and aching muscles. Moreover, we might distinguish between two types of visual ecology that highlight the iterative and cumulative experience. There is a visual ecology that is immediate; our bodies and bikes and the cyclists in our direct proximity; and one that is more remote, that is the broader space of the velodrome, our vision is coached through emplacement (Pink, 2011).

> As I was getting more and more confident handling a fixed gear bicycle and reaching balance on the steeply banked oval tracks, the horizon of my visual perception expanded slowly, but gradually. I started by looking past the front wheel of the bike, a few metres ahead of me, while setting up imaginary targets: 'Now you will cycle along that line, cutting in half that

> **<TRACK SIGN 1>** word on the banks, then the **<TRACK SIGN 2>** one. 'This is it'. As I keep a straight line, I let the legs do the pushing and steering, the hands are there just to touch lightly the bars, to remind them there is also an upper body involved in cycling. With this expansion of the visual field, details that I previously missed started to become apparent. The tiny numbers on the track measuring the distance: 10 metres, 20, 30 and so on, for the entire lap, until the 240 metres mark, then the 250 one. I also remembered there was a clock hanging just above one of the bends, which I could check from time to time. Most importantly, with the expansion of my field of visual perception, I felt confident turning my head around the track, trying to figure out the position of other cyclists. There were six others, spread across the oval, some riding in pairs, others even practicing their drafting (Popan, Log 4, October 2019).

As these excerpts suggest, our skills and physical capital in their execution, gradually improved from session to session. It demonstrates transitions in our visual acuity for reasons of keeping oneself safe, i.e. being aware of other cyclists in our direct proximity, and gradually became more accomplished. By progressively acquiring the necessary track skills, our expanded visual field helped us manoeuvre this direct environment (several sessions later at the time of writing, and I have still yet to collide with another rider [Themen, reflective notes, 2020]). Gibson used the concept to understand the process of driving a car and it is useful for our discussion. Defined as 'the field of possible paths which the car may take unimpeded', whereby the 'field of safe travel' is seen as 'a sort of tongue protruding forward along the road' (Gibson, 1938: 454), which expands and contracts according to the obstacles and opportunities presented by the road environment. However, Gibson was using this concept in a rather restrictive way, by dissociating seeing from the other senses, nor does it take into consideration the different degrees of skills among drivers. On the contrary, our experience has indicated that our increasing competence in handling the track, demonstrates how we negotiated the physical demands, but also that the 'field' of the track itself is also dynamic in this way, a space that is negotiated and reconfigured with our emergent track cycling expertise and our track cycling identities.

The dialogue also illustrates the adaptation of the body by acquiring physical capital in a process of intersections between the tasks in hand that is almost relearning how to ride, and the visual that informs self-evaluation of our abilities. Reflecting on this visual proficiency, the socio-material context produces social relationships, and our 'apprenticeship' (Pink, 2015: 104) shapes the ways we use vision as track cyclists.

> Being a novice, I am sometimes uncertain about making decisions even from what I can see. On the track, making choices about whether it is safe to move up the track has to be made by partial visual information because I have to look behind. The visual field when making decisions i.e. when there might be two or three sets of cyclists following, and the necessity to make informed decision when I am the one who is leading a following train, is made on incomplete visual information. I am the cyclist who has to move up the track to let the following cyclists move underneath me and I tuck in at the back. If there are several different sets of cyclists on the track, then this becomes more complicated. Invariably I am in the slower train, so we ride the black line, but there is a faster train riding higher on the track who pass us every 10 laps or so. I would often look across to see where they are i.e. maybe half a lap and make a choice as to whether I have sufficient time to move out, seeing and acting upon spaces. How do I understand my proximity

> to other riders by way of what I can see? Synchronization and timing are a corporeal experience, I have a spatial proximity to other riders, and this is maintained by adjustments that I make in my legs based on visual information (Themen, Log 3, September 2019).

In this discussion, we have so far highlighted that the visual sense on the track is not detached from the rest of our perceptual system, but instead becomes acquainted with and adjusts to other senses, in particular balance, to help us get into an adequate rhythm and ultimately develop timing. We have similarly shown that this very process of becoming 'experts' on the track (not that we became expert, but we felt a definite transition in our bodies and have since taken part in several sessions [reflective notes, 2020]) is assisted by 'skilled vision', but also serving an *apprenticeship* (Pink, 2015), in effect learning one's environment through participation.

Aural: Auditory soundscapes when learning the rules of the track

Although during the initial cycling sessions we were more concerned with the peripheral soundscapes of the velodrome, gradually we began listening to the more intimate and imperceptible sounds of our bodies and machines. Unlike vision, in the velodrome space hearing was the sense that it became apparent that we had less control over; we cannot just 'shut down' our ears in the same way might do with our eyes for instance. As Hockey and Allen-Collinson write, 'auditory feedback can provide embodied evidence upon which to base decisions in relation to performance' (Hockey and Allen-Collinson, 2007: 120). The track rules prohibit us from using headphones or any other devices or tools that eliminate or even alter the auditory perception. Furthermore, there is also a common understanding that 'individuals' relation to sound in the everyday spaces of the city tends to be one of distraction rather than attention' (Tonkiss, 2003: 304). Yet, the space of the velodrome is much less prone to noise pollution than the road environment. Thus, we have discovered that, in contrast to Tonkiss' argument, our ears are not quite distracted in the velodrome, but, instead, they are paying very close attention. Furthermore, LaBelle's (2010) concept of 'acoustic territory' captured the audibility of the velodrome by which we gauge proximity and, consequently, the space in which we have to move up and around the track. Is there another rider there, will our wheels clash if I move up the track, is it safe, do I have the confidence to or shall I keep to my line? Such processing of information based on what we can hear and by which we make decisions is accentuated in the acoustics of the cavernous velodrome space.

Similarly, as with the discussion about vision, we can focus on the iterative and accumulative nature of the auditory; we start by hearing the velodrome noise, but then we learn the skill of listening to the sounds that our bikes and bodies make. Auditory scapes operate inversely to their visual counterparts, that is, we began hearing at a distance and then narrowed the field. In our visual modality, only with practice did we have the confidence to look beyond our immediate proximity. We note the contrast between our experience of cycling on busy urban roads and that of cycling on the track. We are familiar with sounds that alert us to danger in the way the eyes do not

and have fine-tuned the adequate response: steering, braking or accelerating (Popan, 2020). In contrast, in the relative quiet space of the velodrome we note that we used our hearing in much more diverse ways (than merely to avoid dangers):

> The auditory sensations are a signal of track positioning, and when to move and when not to move i.e. if I am being passed by another cyclist. I have learnt not to rely only on sight but use in combination with what I can hear (auditory senses to indicate potential hazards). *Listen, identify, act.* The aural sensations of the cycle rolling over the hardwood tells me how competent I am at handling the machine i.e. the first few sessions when I am anxious, looking down at the track rather than ahead, and the crackling of the hardwood underneath me, as the front wheel twitches and I have difficulty maintaining a true line. In this way, the emotion is embodied as my muscles tense and the practice of handling the machine is ragged, despite being a cyclist of 40 plus years (Themen, Log 1, September 2019).

Reflecting on these notes, from the familiarity with soundscapes of urban cycling, we note that there is a symbiosis between bodies and machines, which 'generates an enveloping sound membrane'. The resulting sound is 'of a resounding body voicing the effort through audible heartbeats and alert breathing, and of a machine engaged in circular movement, its scratchy tires, the snoring chain and the clicking free-wheel' (Popan, 2019: 123). Our hearing does not operate in a vacuum and in particular, the sound of the hardwood when the front wheel is twitching on the track, unveils the intimate connection between hearing and balance. The louder sound made by the air hissing past one's ears indicated the subtle link between sense of movement and hearing.

> On the straights, where the speed is higher, the sound made by the air hissing past my ears is louder than on the bends. On the other hand, on the bends I can even catch some of the words uttered by the trainer to the other people on the velodrome. Moreover, when on the bends, I can also hear the sound of the fixed gear, a feeble, monotonous mechanical sound made by the chain running through the teeth of the cog and the chain ring (Popan, Log 6, December 2019).

In this, the velodrome produces a distinctive 'soundscape', where sound is not an object of contemplation, but rather an engagement with the setting in order to attain a rhythm: 'the sound of my own breathing and the loudness of the air hissing past my ears can be effectively used to assess my bodily progress in track cycling. A regular breathing pattern can be a more valuable sign that I have achieved a good cycling rhythm than, for example, the way in which I feel the effort in my legs. The latter are involved in a constant pedal rotation imposed by the fixed wheel, over which they have little agency' (Popan, Log 6, December 2019). Rodaway argues further, 'the body has its own auditory presence, both explicitly through the vocal cords, and implicitly in the friction of its movement' (Rodaway, 1994: 91). During track sessions we have learned to negotiate and interpret what can be defined as 'fast soundscapes', resulting from a peculiar engagement between bodies, bicycles and the velodrome at higher speeds. These understated sounds, which we could hear only after a few track sessions offer essential cues regarding the development of our own sporting bodies: 'I noticed I have a pattern of two successive short expirations, which I can distinctively hear,

followed by a longer inspiration. More generally, the hearing inside the velodrome is not uniform, as I have initially thought' (Popan, Log 6, December 2019). Auto-ethnographic participation, therefore, was essential in looking for ways to research the relationship between sensory modalities and the body. This takes us back to *emplacement* (Pink, 2007), and that from our notes, we might consider it to supersede that of embodiment and go beyond the limits of a body–mind relationship. Spinney's (2006) practice of talking to road cyclists while riding alongside, for example, shows how our whole bodies can be props in a way to narrate, perform and communicate the materiality of the environment. Documenting sensory experience through auto-ethnography situated our understanding as we sought to represent and reflect on experiencing that there is a relationship between environment and what we did in that environment.

Conclusion

In this paper, we explored track cycling as a sensory practice, using auto-ethnography to look critically at the popular mantra that privileges metrics. In this, we have explored the researcher's role as a participant, placed in situ as a perceiving body (Merleau-Ponty, 1958), and drew from our field notes and reflections on our cycling sessions to situate understanding of the sporting body from the theoretical abstract to lived track cycling experiences. In doing so, exploring the visual and auditory aspects of our track cycling sessions, we acknowledge the immediacy of the body in this context, and the process by which we accumulated physical capital, through practice and repetition, whereby such physical 'knowledge' becomes embodied. More often, in track cycling, we note the authority of the *metricised body*, which measures and assesses cyclists' competitive abilities with a view to isolating variables for improving performance. Yet we found that this was very different from the lived, subjective, experience of cycling in a velodrome, especially when paying closer attention to sensory modalities. Although, after a few sessions, we chose to begin recording our lap times (wearing an electronic receiver placed around the ankle), these times only tell a partial story. Our track times improved, but from our field notes there was an emergent narrative of improving track skills assisted by paying attention to our auditory and visual sensory modalities. For a sensory auto-ethnography, therefore, by placing ourselves in this sporting environment, we found how different and challenging it was to adjust to the physical demands of track cycling. As noted, both researchers are accustomed to cycling on roads, to and from work or for leisure, but the stresses of riding on a track led us to use parts of our body that were, simply, underused. In this way, our bodies tell the story, the heaviness in our legs, for instance, meant that following our early sessions, the impact of physical effort continued for the few days that followed. In the same way, with Lev's (2020) accounts of pain in triathletes, the sensation was a good indicator of where we were, or were not, in terms of our competence as track cyclists.

We further drew on the concept of 'emplacement' (Pink, 2011) in order to depict the relationship between the body, bicycle and environment, and so we acknowledge that we are part of the research context work by engaging in the first-hand experience, learning track practices and routines by participation as the path to understanding. For example, we shared the reflections that our proficiency improved over the course of fieldwork,

through practice and repetition, coming to trust what we could hear. As Hockey and Allen-Collinson (2007) observe, with practice the body makes choices on the basis of sensory information, and our aptitude on the track improved, if not competitively, we paid greater attention to our senses in adapting to and negotiating this setting. Embodied rhythm developed into muscle memory, such as the audible sensations that helped with track positioning, we learned to use a combination of sensory modalities. Finally, we reflect on method, and auto-ethnography for capturing sensations with which to make them explicit (Buscatto, 2016). In doing so, we ascertain how sensory modalities connect to the physical body. The routines of maintaining a straight line helped us to explore this provocation, whether cycling individually or following other riders, emplacement (Pink, 2015) and locomotion (Hockey and Allen-Collinson, 2007) are key. As Pink writes, 'I propose an emplaced ethnography that attends to the question of experience by accounting for the relationships between body, minds and the materiality and sensoriality of the environment' (Pink, 2015: 25). In this, by acknowledging our senses have corresponding actions performed by our bodies (such as in the practise of following in a line of cyclists, with aching calf and thigh muscles while we tried to maintain a constant speed) showed up in our reflections on field notes, revealing commonalities in our improving skills becoming more attuned to aural and visual senses. Such dynamic experience translated further into our greater familiarity with urban cycling. Taking a more advanced road position for instance (at least a metre from the kerb when not in a segregated lane), but also increased auditory awareness for safety, such as the proximity of motor vehicles, and more frequent use of visual cues particularly in hazardous situations. With this final reflection on, and comparison between our road and track cycling senses, we illustrate that the visual and auditory sensory experience is a complex, dynamic, embodied and negotiated practice that contributes to our progression as track cyclists and our everyday cycling.

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Notes

1. During the 50 min track sessions, an average speed of 32 km/h was reached, higher by about 10 km/h than the regular speed achieved during cycle tours, this is still less than half of that of a professional cyclist.

2. A credit structure with a qualified trainer to build skills and advance track cycling. Initial training has four stages. Accredited riders structured quality training for accredited riders aged 15+ years. They test fitness and prepare cyclists for various types of racing.

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