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From behaviour to birdsong: reorienting the object of physical activity intervention

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ABSTRACT

Physical (in)activity is a seemingly intractable public health problem that has spawned decades of behavioural research and intervention. Globally, efforts to improve physical activity levels have been largely unsuccessful, prompting researchers and practitioners to revisit the representativeness and scope of their methods. The present work extends this revisiting beyond method to consider the object of our inquiries itself. Empirically, physical (in)activity is classed as behaviour, so physical activity interventions are largely behavioural in nature and subject to the capacities and attributes such an object affords. Using Deleuze and Guattari's concept of *refrain* in a postqualitative inquiry, I encountered intergenerational physical activity as a reoriented object that was less like behaviour and more like birdsong. Three refrains territorialised an abode for intergenerational physical activity, holding it in assemblage much the way a trilling call or an upturned leaf mark a bird's territory. Through consistency and repetition among their diverse elements, the refrains became distinctively expressive as Architect, Zephyr, and Sower portraying lively and responsive landscapes of intergenerational physical activity. Because of the kind of answer *refrain* is, physical activity intervention requires a different response, one that joins with the multiple, rhythmic connections of the refrains and fabricates lines of flight. Lines of flight are speculative and generate unexpected connections, but they are also politically and ethically risky when intentionally pursued. Onto-epistemologically reorienting the object of physical activity intervention requires speculative experimentation. Researchers and practitioners are invited to response-ably explore what interventions actually do and the plurality of ways to create difference.

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Introduction

'Since 2001, there has been no improvement in global levels of physical activity' (The Lancet 2021). A fact that has career researchers and practitioners asking,

Another Lancet series, another painful admission of failure. Our most celebrated researchers publish a paper every 2–3 days and handle millions in public funds. But 'physical inactivity remains a global pandemic'. I wonder: When does time run out? When should we politely bow out? (Ekkekakis, 2021)

Decades of research have provided a warrant for physical activity intervention (PAI) and an evidence-base focused on individual behaviour and the range of determinants and mechanisms that influence it. By 2012, major public health bodies acknowledged that focusing on individual behaviour would

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not be enough to move the global physical activity needle. Das and Horton (2012) advised that changing physical activity (PA) behaviour was more of a cultural challenge requiring ‘social revolution towards an active physical and mental life (1)’ and that the first step in achieving this was to gather the best experts and evidence to establish key facts about the relationship between human health and PA. Twenty-sixteen saw the focus shift to investment, partnerships and the need for cross-system/sector collaboration. This time Das and Horton (2016) advised governments and ministries of health to take PA seriously by increasing funding and resources based on the growing evidence that effective intervention could contribute to the longer-term goal, ‘the integration of physical activity into our daily lives’ (1).

In 2018, this journal published a special issue (Volume 10, Issue 4) challenging the assumptions of ‘healthism’ underlying these public health messages by questioning, among other things, who counts as an expert and what counts as evidence; whether exercise is inherently good for everyone; and whether the social mandate of inactivity actually necessitates intervention (Cairney, McGannon, and Atkinson 2018). Unsurprisingly, these critical perspectives showed that experts and evidence rarely included the individuals targeted for intervention (Williams and Gibson 2017). Exercise is not, necessarily, benign and good for everyone (Williams et al. 2018; Adamson et al. 2018), and when it comes to intervention, there has been insufficient scrutiny of the instrumentalisation of therapeutic exercise (Nicholls et al. 2018). These perspectives suggest that the integration of unambiguous PA into everyday life may not only be impossible but also undesirable. Mainstream positioning is attempting to correct this course by calling for holistic understanding of PA (e.g. Piggin 2020) that focuses less on its technical characteristics and more on the social, pleasurable, and contextual features that contribute to overall wellbeing (Dumuid, Olds, and Sawyer 2021), though not all lessons on offer here have been learned. Even this marginally more holistic understanding has yet to fully penetrate the PAI guidance which Dumuid, Olds, and Sawyer (2021) proffer should now consider ‘what PA replaces’ suggesting the object of PAI should be a healthy balance of daily behaviours (e.g. PA, sleep, sedentary activity, etc.), which they assert can be achieved through more studies that capture 24 h activities in large-scale samples, use low-burden, high-fidelity surveillance instruments, and focus on globally underserved populations.

Twenty-three years of research on the problem of inactivity, and we are still asking how to change behaviour and fitting our practices to behavioural objects. When one works with answers as interventionists do, ‘it is easy to forget the original questions: What did the world ask of us, and could there be other possible answers (Rautio 2017, 723)?’ There is an integral link between what we take to be the object of our interventions and our intervention practices (Salvatore and Valsiner 2014). Indeed, the relationship between them provides a metaphor for our work that affects the questions we ask and how we act to solve them (McKenna 2017). Many sport/PA/exercise/health scholars have begun revisiting their animating questions. Inspired by new materialist theories (see Giardina 2017; Fullagar 2017; Monforte 2018; Markula 2019), they are opening their intervention research to reoriented objects, e.g. material \leftrightarrow semiotic environments (Monforte, Perez-Samaniego, and Smith 2020); Fitbit-motherhood assemblage (Clark and Thorpe (2020); relationally adaptive know hows (Camiré 2021); PA worldings (Beggan 2022) and finding new practices in answers that decentre the knowing subject, diffuse control, and accept uncertainty. In what follows, I add to this growing literature by considering what PAI might become when its empirical object is onto-epistemologically reoriented. Using Deleuze and Guattari’s (D&G) concept of *refrain*, I encounter intergenerational physical activity (IgPA) as an object of inquiry wholly different to behaviour, one that asks different things of the world and that asks PAI to respond curiously.

Contrasting images of thought

In his provocation to post-qualitative inquiry, Giardina (2017) highlighted the emerging ‘ontological turn’ in sport, exercise, and health and encouraged researchers to embrace its struggle with philosophical domains such as ontology and epistemology as part of qualitative inquiry’s continual

growth and renewal. Monforte's (2018) accessible introduction to *new materialism*, a headline domain in the ontological turn, explicates its firm rejection of the logical empirical premises that: matter and meaning are ontologically independent; agency is exclusively human; and inquiry is a self-contained process. Underlying these features is the unsettling alternative, anti-dualist premise that there is no hierarchal order of material world, knowing subject, and field of representation; all is entangled, continuous becoming (St. Pierre 2016a). St. Pierre (2017) remarked that the shock of the altered status of language and human being reverberating from the ontological turn has yet to be fully felt because it changes the entire structure of thought. Such 'images of thought', to use Deleuze's (1994) term, are the presupposed, classic, or dogmatic images which determine our goals when we try to think. Dominant thinking in PAI remains dualist having evolved from concurrent scientific developments in exercise science, public health, and physical education across the twentieth century (Kohl, Murray, and Salvo 2020) which advanced a largely positivist image of thought and took individual behaviour and its determinants as a central object of inquiry (Rhodes et al. 2017). Developing right alongside this objective view, qualitative research advanced a predominantly humanist image of thought concerned with interpreting the subjectivities of the social world. PAI in this image concerns language-in-use (e.g. McGannon and Spence 2010; Budden et al. 2021), narrative and discursive resources (e.g., McGannon and Smith 2015, Gonsalves and McGannon 2020), embodied experiences (e.g. Griffin 2017; Laurendeau 2019), and praxis (e.g. McMahan, MacDonald, and Owton 2017; Smith et al. 2022), among others.

These interpretivist framings of PA have been highly influential on PAI. Not only did they show the insufficiencies of the presupposed, positivist image of thought, but they are largely the reason that lifestyle behaviours like physical (in)activity are considered 'wicked' problems (van Sluijs et al. 2021). Updated UK Medical Research Council's guidance for complex interventions notes that purely experimental research, particularly for evaluation, is inadequate for answering questions beyond effectiveness and requires support from qualitative and mixed methods approaches (Skivington et al. 2021). Currently, multidisciplinary and multistakeholder work (Buckley et al. 2022, Sivaramakrishnan et al. 2023) using complex systems thinking (Hall et al. 2021) represents best practice for intervention because dualist perspectives (e.g. mind/matter, nature/culture, subject/object, etc.) continue to provide its prevailing logic which, from the outset and at the minimum, requires a knowing subject with normative, individual characteristics in a given sociocultural context embodying a range of available resources. Recent thinking in PAI questions the underlying assumptions of these dogmatic images (e.g. Beggan 2022; Camire 2023), and instead embraces the ontological turn and its alternative image of thought, not necessarily as critique or correction, but as something different entirely.

A 'new empirical' project

Poststructuralist, posthumanist, new materialist and feminist theorists have inspired *new empirical* projects across a range of disciplines by introducing non-foundational objects of inquiry such as networks, assemblages, intra-actions, and worldings (e.g. Latour 2004; Deleuze and Guattari 1984; Deleuze and Guattari 1987; Barad 2007; Haraway 2016). New empiricisms (NE) address the concern that social theory and its research practices were too quick to dismiss alternative formulations of mind-matter mixtures, leading to an impoverished understanding of socio-materiality in empirical inquiry (de Freitas and Truman 2021). To better understand what such alternatives offer, both to inquiry and to PAI, it is helpful first to briefly contrast old empiricisms with the new.

The old

Traditional empiricism says we cannot claim to know anything not given to our experience, and this is achievable because there is an inherent separation between the knower and the known, a world of determinate 'things as they are' and an intellect that can generate facts

about them using neutral methods (St. Pierre, Jackson, and Mazzei 2016). This reasoning spawned versions of realism fixated on correspondence theories of truth which suggest that the purpose of inquiry is to seek singular, well-justified representations of a largely passive reality (Pratt and Rosiek, 2023). Its methods can be both subjective and objective. Subjectivity operates in a context of discovery by identifying problems and is necessarily descriptive, qualitative, and pre-scientific. Objectivity is achieved in a context of justification via measurement which generates evidence that is unaffected by theory and in no need of further interpretation (Tesar et al. 2021, St. Pierre 2016a). Methods of logical empiricism claim to explain both natural and social worlds and allow prediction based on efficient causality. However, the emphasis on certainty and singular representation is more a prevailing cultural/ideological influence than a limitation of logical forms. Significant historical and current scholarship operates outside these boundaries by employing pluralistic, speculative, and generative logics while retaining consistent, identifiable, even formalisable patterns (Pratt and Rosiek 2023).

The new

NE are tantamount to an intervention into the scientific method by doing their conceptualising without pre-existing objects, subjects, or a substance that grounds perception and by being speculative with matter, affect, and time-space (Clough 2009). It is not possible to definitively summarise NE, but St. Pierre Jackson, and Mazzei (2016, 100) recommend that it is helpful to start from the conditions they enable, offering two as particularly important: ‘an *ethical imperative to rethink the nature of being* – this is an ethico-onto-epistemological project – and a *heightened curiosity and accompanying experimentation*’ (emphasis in original). In practical terms, NE invigorate attempts to remix physical and social sciences in unconventional ways, e.g. using quantum theory to make sense of behaviour, thinking feminism through pharmacology, merging geology with Indigenous knowledges, etc. (de Freitas and Truman 2021). A common characteristic across these examples is that the unit of analysis – the object of inquiry – is fluid. It is put into motion both materially and metaphysically (Pratt and Rosiek, 2023), opening NE’s first enabling condition. According to Barad (2007) this remixing is possible because of the principle of *entanglement* (lacking an independent, self-contained existence) which assumes no determinate boundary between the object of observation and the agencies of observation. Any unit of analysis is only determinable by the conditions specified by the measurement *apparatus*, itself a particular material-discursive arrangement. The apparatus *intra-acts* (mutually constitutes specific entanglements) *phenomena* (her basic unit of reality). There are no independent objects, “Distinct” agencies are only distinct in a relational, not an absolute, sense, that is, agencies are only distinct in relation to their mutual entanglement; they don’t exist as individual elements’ (Barad 2007, 33). Because distinct agencies do not precede intra-action, what comes to matter is an ethical concern. Our technico-scientific practices participate in manifesting objective existence, so what results is a question of accountability for what matters and what is excluded from mattering (Davies 2018).

In just these few sentences, it is possible to see a new image of thought forming that is not based on a priori categories. For Deleuze (1994, 136), this new image of thought does not recognise the ‘established was always established from the outset’, but instead it ‘strips thought of its “innateness”, and treats it every time as something which has not always existed’, enabling NE’s second condition. *Curiosity* denatures the familiar, giving way to that moment of not knowing what to do next. Method, in the old empirical sense, establishes and recapitulates the ‘known’, precluding wondering experimentation. Whereas, method in NE is an act of creation whose generative components have no pre-scripted beginning, middle, or end (St. Pierre, Jackson, and Mazzei 2016). Importantly for PAI, this means the knowing human subject can no longer be the default point of departure for inquiry or intervention. Haraway (2016, 127) contends there is virtue in cultivating curiosity because it leads

one off the well-worn path and retunes one's ability to sense and respond – *response-ability* – 'and that way lie stories'.

A post-qualitative preface

In this article, I perform an example of new empirical work as post-qualitative inquiry (PQI), which is to say it had no methodology in the traditional 'old empirical' sense (St. Pierre 2019b). It found one as it went along, and this is its story. This statement is as much substantive as it is poetic and signals our starting place for understanding method as an act of creation.

PQI rejects traditional methodologies and research designs as the proper starting place for inquiry, preferring to begin with the onto-epistemological arrangement of theories and concepts (St. Pierre 2019b). Products of PQI are unique, one-off and not amenable to reproduction by applying an approach (St. Pierre 2019a), but St. Pierre (2016b, 86) recommends specific practices that

increase our odds of accomplishing something 'new' in new empirical [...] inquiry: refusing qualitative methodology, reading, beginning with theory/concepts instead of methodology, and trusting ourselves in not knowing.

NE are committed to ontological pluralism meaning every 'I' is multiple, and every act of constitution cascades the inevitable refusal of other possible relations and realities (Rosiek 2021, Smith and Monforte 2020). 'I' am the author of this work and its narrating voice, but after Deleuze and Guattari (1987), I am several so 'it's already quite a crowd'. I write as 'I' because 'it's nice to talk like everybody else, to say the sun rises, when everybody knows it's only a manner of speaking', (1) but the purpose of writing is to get to the point 'where it is no longer of any importance if one says I' (2).

I was one of the multiple forces enacting strategies in this research encounter. Strategies are contingent endeavours that generate the research apparatus by forming its 'outside' (Deleuze and Guattari 1987). The space of encounter formed by this work was a multi-phase project to encourage IgPA. Set within a Scottish milieu of environments and socioeconomic circumstances, the project aim was to develop an intervention to increase PA in early years children and their families. The goal of the first phase reported here was simply to encounter IgPA, defined as *any PA that adult and child undertook together*, through a co-produced research apparatus revealed in fragments along the way. It is important to understand that this goal was a boundary-making device enacted by a range of forces that included myself, our working definition of IgPA, four practitioners from a Scottish Leisure Trust and NHS Health Improvement; 19 parents and 15 children aged 3–5 years; the institutional ethical approval process; and Deleuze and Guattari's (1987) concept of *refrain*. Within this space, we undertook actions of inquiry inspired by narrative and the material-semiotic 'coming together' it affords (Smith and Monforte 2020). These involved reading, writing, reflecting, note-taking, and storying; talking with parents and practitioners; creative workshops with parents and children, respectively; and observation of and engagement with participants' environs.

Following St. Pierre's (2016b) recommendation, I began my part by reading, and the importance of this cannot be overstated. It is useful to first get lost, to wander off in imagination and thought, and doing so helped me dislodge my habits and history with PAI and experiment with generativity (Gale and Wyatt 2017). In such wandering, we encounter shocks to thought (Massumi 2002), something that forces us to think (Deleuze 1994) and around which we form concepts that orient our thinking and practices. Colebrook (2008) calls this using 'concept as method', and for this work, *refrain* afforded the required experimentation. St Pierre (2019b) explains it is not enough to simply add a concept like refrain to research and achieve PQI. The concept must be wrestled with and understood with enough depth to be able to think with it, much the way a multi-lingual individual comes to think in more than one language. This is often a challenge for academic writing where it is unfeasible to recount the depth and breadth of theoretical concepts without turning them into oversimplified bywords (Smith and Monforte 2020). This work focused on the performative power specific to the concept *refrain*, but it is important to acknowledge that it is linked to other of D&G's

concepts such as desire, plane of immanence, assemblage, rhizome, abstract machine, etc. Consumers of this work will either find affinities of understanding and/or be encouraged to cultivate a deeper acquaintance with D&G's wider system of thought (St. Pierre, Jackson, and Mazzei 2016).

Thinking with birdsong

The foregoing discussions bring us to my point of not knowing. Working with NE told me IgPA did not pre-exist. I would not be able to come upon it, walk around it, and describe it. I could only know by entering, and to do that, I would map it using the concept, *refrain*. The refrain (*ritournelle*) is Deleuze and Guattari's (1987) concept denoting the rhythmic function that brings order out of chaos. The refrain takes diverse, heterogeneous elements and territorialises them, making temporary configurations that become expressive. It can also deterritorialise and reconfigure them into something else. 'The refrain is rhythm and melody that have been territorialized because they have become expressive – and have become expressive because they are territorializing' (Deleuze and Guattari 1987, 317). It is helpful here to revisit these seemingly familiar terms.

As refrain is often associated with music, Deleuze and Guattari (1987) distinguish it as that which prevents or forgoes music; rather, music exists because the refrain exists. Refrains are repetitious patterns of sound and movement that stakeout and hold a territory. Their repeatability makes refrains portable; hence, music (or other modes) can take-up their content as a form of expression and carry it somewhere else. A basic example D&G (1987) use is birdsong. Territorial birds sing to signify and distinguish their territories from other birds, demarking a 'home' from the milieu of the forest. The repeated refrain holds the territory by creating a motif in the landscape that can be carried to other milieus where it can also territorialise as it is expressed, even as it undergoes continuous variation. In this way, the refrain is an ontological force (Jackson 2016). The refrain's expressive qualities are 'auto-objective', that is, they 'find an objectivity in the territory they draw' (Deleuze and Guattari 1987, 317).

Rhythm is key to understanding the territorialising function of the refrain because 'rhythm is the creative act of making connections with and within (and between and among) milieus' (Jackson 2016, 186). A milieu can be understood very simply as surroundings, but not the literal things of its composition; rather, 'the completely relational and functional idea of a "surrounding" – elements that overlap and interlock to form a functioning whole' (Rautio 2017, 726). A territory emerges when a milieu shifts from being merely functional to becoming expressive (e.g. when an upturned leaf becomes expressive of a bird's territory), and this movement is accomplished by rhythm. Periodic repetition encodes a milieu with patterns like a ticking clock or a metronome. For D&G (1987), these movements are metered rather than rhythmic. Meter (or measure) assumes a coded, noncommunicating form, whereas rhythm is 'the Unequal or the Incommensurable that is always undergoing transcoding. Meter is dogmatic, but rhythm is critical' (315). Rhythm ties together, changes direction, and resides in the space between milieus; rhythm generates difference.

Melody works with rhythm to generate 'auto-development', and together they create the 'territorialising factor', the becoming-expressive of the refrain through which proper qualities emerge (Deleuze and Guattari, 1987, 316).

Territorial motifs form *rhythmic faces or characters*, and territorial counterpoints form *melodic landscapes*. (...) There is a rhythmic character when we find that we no longer have simple association (...). The rhythm itself is now the character in its entirety (...). Similarly, the melodic landscape is no longer a melody associated with a landscape; the melody itself is a sonorous landscape in counterpoint to a virtual landscape. (318)

Melody's particular function in this relationship is to express relations through impulses that seek and explore potentialities in the interior and exterior milieus (counterpoint). Melody then selects code (periodic repetition) from within and without the milieu in the free margins of the territory where there is perpetual transcoding, creating a disjunction between territory and code that generates the *new*. This opens the 'virtual landscape' noted above in that the generative movement

of rhythm (motif), and melody (counterpoint) amplifies difference to the degree that the territory exceeds its capacities and opens onto another plane.

What just a minute ago was a constituted function in the territorial assemblage has become the constituting element of another assemblage, the element of passage to another assemblage (Deleuze and Guattari 1987, 324)

Consequently, the territory unleashes something that surpasses it, reorganising different functions and forces with new territorialising marks (motifs and counterpoints).

Though the territory aggregates a variety of refrains (optical, gestural, motor, etc.), D&G (1987) privilege sound. Sonorous elements precede their performance and recording and are orchestrated (sonorized) by nonvisible forces. This shifts the essential relation from matter/form, substance/attribute to material-forces. Expression of a continuous, a priori intelligibility of matter (e.g. a behaviour) is now superseded by a material of capture, the rendering visible of forces, densities, and intensities discernible by their degree of consistency in holding a territory. The refrain is that material of capture.

Three refrains

Three refrains territorialised an abode for IgPA. An abode is the fixing of a fragile centre point around which a calm and steady pace organises (Deleuze and Guattari, 1987). Their rhythms and melodies held these distinct assemblages of IgPA through consistency and repetition among the diverse elements captured by the research apparatus. The poetic forms respond to calls for concentrated academic products that translate between body and word (Washiya 2021). They are named for the sensibilities their melodies evoked, and they are presented using poetic diction to feature their sonorous qualities, hence, the reader is encouraged to speak them aloud. The refrains should not be considered 'findings'. They do not provide knowledge *about* IgPA like a mirror (Fullagar, et al 2021); rather they are living confederations of material contents and discursive expressions *doing* IgPA (Avner et al. 2021).

Architect

To build you better than I have become
I must entrust you to the expert ones
Productive futures are not born but made
Control today tomorrow's risky trade

*For this could be my triumph turning
Energies, sedentaries to learning
Skills for health are good for earning
Years, reducing tears, that's what they say*

The way I did it is no longer right
Called home at day's end by the streetlights
'These wand'ring waifs are now no longer safe'
Our labels keep each in their proper place

*I wear them too their limits chaffing
Parent, partner, playmate – all weighing
Weary I recall my training
Let the marketplace lead*

These ends I chase are for collective good
The means employed will shape you as they should
Esteem in these achievements we will share

Despite the role I model I can't wear

I perform the deeds my role is due
You will be<>do as I do for you

Zephyr

I cannot today
Play
I hurt today
Pain
You ask today
Guilt

I can today
Play
I manage today
Pills
You do not ask
Missed

You came to me with struggle and through loss
So precious, so central to my being
I am simply happy to be with you, to follow your flow

I had goals once, strivings for an ideal life, even an adequate one
But my body betrayed me, my circumstances despised me
And I cannot escape the (de)moralising strings of what I am not, especially of what I am not for you

There is only now, 'What would you prefer, Wee Chicken?'
If I can't, maybe mummy-daddy-grandad-grandma-sibling can

Play
You stand close
See
I catch your eye
Climb
You won't fit

TV
You turn it off
Huff
I don't want to
Walk
You take my hand

I'm hungry again. You are cleaning. You let me help. Five more minutes?
That's too l o o o o n g
I'm still hungry. Hasn't it been five minutes? Okay, I'll play on my tablet
Was I hungry? I am busy now

You don't feel well today, I can tell
 The shops? Can I get sweets? Yes, I can behave
 I don't want the pram – I want to run! Do we have to take a taxi home?
 Dinner time! My own bunch of pasta. I cook it in my *special* pots
 You need to sit down now? Okay, but I'll pick the film

Sower

The sky was grey the day Ella came
 Her sadness deep and churning
 'Gran', she said, 'Shadows have my head'
 She sat still and staring
 No, no, no! This will not do, my beautiful angel, Ella
 I have just the thing for you, remember well this telling

Sow seeds and watch them grow
 Time will return them
 Hand in hand, yes, we shall go
 Our together-walk

Dragons chase and faeries fly
 We'll remake our own story
 Now hop to the red car, skip to the third pole
 I'll go as you're going
 For every game we make and do, I am putting-in to you
 Moments meant to see you through life's uncertain weather

Sow seeds and watch them grow
 Time cannot still them
 Thread through me and then through you
 Our together-walk

Years have passed, a gran herself,
 Ella shares the memory
 My gran did as I do now
 She sang a song of talking shoes
 Danced around with hula-hoops
 And made sure that I knew the truth
 You get what you put in

Sow seeds and watch them grow
 Time's ties will bind us
 I live on each time you take
 Our together-walk

The kind of answer refrain is

The refrains portray three territorialisations of IgPA. As noted above, they are not findings; they are assemblages of *affect* – autonomous, unqualified, nonconscious, pre-subjective forces that shape (Massumi 2002). The portrayals do not bear the same burden of explanation as 'findings', which give power to determinism and prevent polyphony (Despret, 2021). For this reason, I do not offer a formal

interpretation like an analyst. In her more-than-human exploration of shared human-pigeon lives, Rautio (2017) uses birdsong to ‘find [her] way to different questions’ (725). For her, refrain is an answer that ‘directs our attention to what is dynamic, unpredictable, productive, and nonindividualistic’ (725), and that asks us to respond to *the kind of answer the refrain is*. Refrains invite a backward sensibility like an answer anticipating a call. To respond to them, we must work backwards to find the questions to which they are answers (Rautio, 2017). So, how was I to respond to this re-oriented object that was more like birdsong than behaviour?

Initially, I had to actively resist the traditional empirical impetus to ask the ‘what is it’ question and identify IgPA (recognise it by its a priori definition) and objectify it (assign it qualities and quantities). For example, some instantiations of IgPA had identifiable patterns of frequency, intensity, and duration that conformed to PA recommendations to greater or lesser degrees. It also would have been possible to fix the refrains as ‘types’ of IgPA that could prescribe selves, roles, and contexts, allowing some subjectivities of IgPA to be venerated or pathologised (e.g. Fullagar, 2017). Given the research milieu, participants did this almost instinctively and began referring to one another using one or other of the three refrains, even expressing the wish to be, in whole or in part, like a different one. This is an example of Haraway’s (2016) admonition to be response-able – to ‘hold the unasked-for pattern in one’s hands’ (29) and stay with the ethical and conceptual discomfort of becoming-with other lives. So, it was with some challenge that we endeavoured to attune and respond to a reoriented IgPA.

Attuning

If one visualised a map of the refrains, one would not find expanses of space that belong neatly to the Architect or the Zephyr or the Sower. There are myriad incursions that crisscross territories such that borders form liminal zones of Architect<>Zephyr, Sower<> Architect, etc. In these spaces, the materials, meanings and timescapes of IgPA were relationally dynamic yet distinct, allowing the territories to be held with motifs recognisable as variations on the three main themes. From within these territories, it was possible to attune with diverse features. I could discern metered (coded) patterns of affect expressed variously as conforming, competing, struggling, surviving, overcoming, investing, loving, growing to name a few. Melodies (selected code) amplified different expressions of these patterns generating different landscapes of IgPA such that specific environments (gardens, parks, clubs), objects (balls, trampolines, streetlights), and individuals (parents, children, pets) became visually, texturally, historically, etc. distinguishable as constituting IgPA, but by relation only. Rhythm generated these relations within assemblage, which, itself, was partially enacted by the research encounter. So, the unspoken, uncoded force of affect¹ became rhythmic within the research assemblage generating connections that performed multiplicities of IgPA: grandparent<>child<>-streetlight<>growing; parent<>coach<>child<>conforming; child<>parent<>bodies<>coping; etc. In encounter, I could attune – feel, hear, see, be-with, think-with IgPA, not as an a priori object (e.g. a behaviour), but as it was multiple(ly), material-discursively, immanently rendered. IgPA met me halfway, mutually transforming knower and known (Pratt and Rosiek 2023) and producing a phenomenon that could not be determined in advance (Markula 2022).

Responding

As an object of both inquiry and intervention, the *answer that these refrains are* transforms the ontological character of IgPA, and thereby, the appropriateness of intervention as a response to it. Refrains oblige a response grounded not in accuracy of representation or analysis, ‘but in the qualities of the present and future relations made possible’ (Pratt and Rosiek 2023, 6). For intervention to become an appropriate response, it requires knowledge not of what is essential, but of what might be enacted or enabled. Making change in refrains is about generating difference akin to jazz-style improvisation; one must join the multiple, rhythmic connections and fabricate lines of flight.

A line of flight is a 'deterritorialization according to which they [multiplicities] change in nature and connect with other multiplicities' (Deleuze and Guattari 1987, 9). Insofar as a refrain draws a circle around its territory, it creates the region that will open as its future. Lines of flight are drawn of matter, imagination, and social reality along which forces flow (e.g. affect, power, energy, information, etc.). These pass through the already known (Davies 2021) to territories beyond the refrain where new mixtures and distinctions can be made and new lines drawn (Deleuze and Guattari, 1987). So, the question becomes, 'How do we take up these refrains and create difference that might include PA?'

Even this new question is fraught with dangers because our practices create and appropriate. 'Politics precedes being', and our practices actively participate in instrumentalising objects and relations (Deleuze and Guattari, 1987, 203). Lines of flight, themselves, bring concerns for confrontation, reproduction, entrapment, and despair. Lines have different characters, some rigid and aggregate, others supple and segmentary (Deleuze and Guattari 1987). Rigid lines enact the well-defined, overcoded normative apparatus we find familiar, one that defines bodies, systems, morals, logic, etc. When a supple, segmentary line of flight deterritorializes, it must confront the reassuring rigid line and risk either reproducing it or being reterritorialized by it. Any movement towards deterritorialisation can be nullified by the resonance of metre lingering in the margins of the refrain, and a danger remains that, having fought a way through, the line of flight meets silence rather than augmenting connections, a way out turned to despair. This is why Stengers (2008) cautioned against the fabrication of lines of flight as an aim in itself:

No force is good or bad. It is the assemblage that comes into being when one encounters a force and is affected by it, which demands experimentation and discrimination, because capturing a force, being modified by a force, 'forced' to think, and feel, and experience, is never without danger. (44)

Concluding and reorienting

Returning to Ekkekakis (2021), I proffer that his justifiable frustration detects a limitation in our understanding of physical (in)activity and what is problematic about it. The reorientation of IgPA as birdsong posited here redresses this limitation by affording a revised object for PAI, and thereby, an alternative metaphor for its practices, one that speaks in new empiricisms. Despret (2021, 6) describes the shift, 'There are explanations which end up multiplying worlds and celebrating the emergence of an infinite number of modes of existence and others which seek to impose order, bringing them back to a few basic principles'. In our efforts to gain control of a behavioural problem predominantly understood by its consequences (pathology), we may have too quickly concluded what the world is asking of us, eschewing the plurality of available answers. If PAI is to respond from birdsong rather than behaviour, we require new empirical experimentation that is prepared to rethink methodology and reimagine outcomes.

The refrains show the methodological difficulty in intervening from a priori knowledge of what PA is. Normative structures pre-frame what we wish to change before we actually encounter it and without taking accountability for our part in its materialisation. An initial step towards rethinking methodology in PAI is to unlearn methods, assumptions, and especially linguistic descriptions (Fullagar et al. 2021). Washiya (2021) calls this 'subtractive inquiry' in which knowing relies not on the accumulation of academic end products (words), but on the performativity of research to enact our knowing. Markula (2022) adds that for PA research, specifically, we require knowing that thinks natural and social scientific research practices *through* one another, diffracting them to mutually produce 'socio-natural' analyses of the moving body over multidisciplinary work that maintains a realist/representational divide. Since it is an orientation and not a methodology, PQI is especially suited to these demands because it is a 'means of engaging with the world that challenges the status quo to manifest difference – generating a series of relations that have *yet to be*' (Kuntz 2021, 217 emphases added). PQI rejects method as a closing-off of what might be (St. Pierre 2021), but it is not

bereft of resources for engaging in speculative experimentation (e.g. assemblage analysis (Feely 2020); object interviews (Thorpe et al. 2022); autopsy (Carey et al. 2022); schizoanalysis (Horton, Knijnik, and Clarke 2014); diffraction (Camire 2023); etc.).

Experimenting with these 'yet to be' relations changes everything about the outcomes we can expect from PAI. The three refrains were real, dynamic, and importantly, unfinished. To encounter them at all required attunement to their rhythms and melodies. Like birds holding their territory, the refrains invoked sensations, objects, persons, gestures, etc. that held an abode for IgPA as much as an upturned leaf or a trilling call. IgPA as birdsong required a response for which I became response-able, so to apprehend or control it, even for a time, is not without risk (Stengers, 2008). Behavioural interventions produce (in)capacities and (un)intended consequences beyond their immediate implementation, so a vital first step is to examine what interventions actually *do* (Fox and Klein 2019). A reimagined PAI would not seek lasting behavioural change as an outcome nor struggle with relapse. It would join life's continual unfolding (Andrews and Duff 2020) creating multiplicities of difference through what Manning (2020, 28) calls 'the creative advance', the ineffable made felt and its speculative potential made operational. The product of this advance is multiple alternative ways of (un)becoming, allowing PAI to be judged by the lines of flight it limits/enables (Avner et al. 2021); the value of which is not in what actualises but in how it affects ongoing experience-in-the-making (Manning 2020). PAI needs speculative experimentation that responds to reoriented objects like birdsong and is willing to remix onto-epistemological entanglements with response-able ethics, attentive to losing possible outcomes as much as affirming others.

Note

1. Once in assemblage, affect is referred to as *desire* by Deleuze and Guattari (1987). Desire is a connecting force and rhythm is its expression. 'Desire is always assembled; it is what the assemblage determines it to be' (Deleuze and Guattari 1987, 229).

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