

‘Speaking the Data’: Renegotiating the Digitally-Mediated Body Through Performative Embodied Praxis, Sound and Rhythmic Affect

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Abstract

This article explores an alternative autoethnographic methodological approach, using embodied praxis and sound, for critically re-thinking contemporary subjective health practices of digital ‘self-tracking’; popularized in recent years through the rise in wearable biometric fitness devices, and online socio-cultural movements such as the *Quantified Self* and *Strava* platforms, which enable subjects to “share” their quantifiable body-data metrics. Through a performative praxis case study titled *Speaking the Data* (2017), the author renegotiates the “voice” of subjective agency within the quantitative data-discourse, “speaking the data” that her body is producing in “real-time” on a digital smart-bike machine. This embodied renegotiation, recorded using a sound “data-stream,” produces an alternative subjective data-set which is extended to the reader, who is invited to become “listener” in the theoretical/experiential praxis space. The sound “data-stream” thus proffers an affective expansion to our perceptions of what “body-data” can be, extending the possibilities for the digitally mediated body beyond biometric forms of quantification, through other sensorial registers of embodiment, using sound, rhythmic affect and lived experience.

Keywords

praxis, autoethnography, embodied methodologies, sound, rhythmic affect, digital health practices, technologies of the self, self-tracking

Introduction

The rise in contemporary subjective digital health-tracking practices in recent years, facilitated by the affordability of wearable and mobile digital devices, has indisputably proliferated a culture of measurement in relation to our bodies and our physical health-related pursuits, through “an intensive growth of systems of measurement and an increasing integration of data processes into various spheres of everyday life” (Ajana, 2017, p. 1). This culture of “self-tracking,” in which individuals are encouraged to self-monitor and self-regulate their everyday embodied behaviors using digitally networked biometric wearable fitness devices, is reinforced by biopolitical and biomedical governmental health recommendations; such as the “10,000 steps” daily walking “goal” which is pre-programmed as a baseline quantifiable metric in the *Fitbit* wearable activity trackers (Rosenbaum, 2019). The term “biometrics” within the context of this article refers to the materialities of our biological bodies which can be translated into quantifiable data-numerics by digital wearable sensing-technologies which “track” our embodied activities, for example, heart-rate, aerobic-capacity (“VO2

Max”), cadence, speed, location (“GPS”), and so on. The growing popularity in digitized “self-tracking” practices has also given rise to socially networked cultural movements such as the *Quantified Self* (Kelly & Wolf, 2007) and *Strava* (Gainey & Horvath, 2009), which provide online digital platforms and communities for individuals to “share” the biometric outcomes of their personal data-tracking activities for motivational purposes; toward “improving their wellbeing and productivity or charting their fitness progress” (Ajana, 2017, p. 1). However, while the cultural popularity and subjective appeal of digitized “self-tracking” practices appears to be on the rise due to the aptitude of contemporary digital devices to enlighten individual users with “self-knowledge through numbers” (Kelly & Wolf, 2007), the adverse physiological and psychological effects of

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self-monitoring behaviors are beginning to be discerned. In a research article entitled, “The Hidden Cost of Personal Quantification” (Etkin, 2016), psychologist Jordan Etkin (2016) asks, “might the new tools people are using [for] quantifying life- rob them of some of the benefits of engaging in those activities?” (p. 967). Etkin’s (2016) study reveals that while the initial enthusiasm of “personal quantification” using a digital wearable data-tracking device can motivate and stimulate individuals to increase the amount of physical activity that they engage in, “it can simultaneously reduce how much people enjoy those activities” (p. 967); with measurement consequentially “undermin[ing] intrinsic motivation” (p. 967). Etkin (2016) writes,

By drawing attention to output, measurement can make enjoyable activities feel more like work, which reduces their enjoyment. As a result, measurement can decrease continued engagement in the activity and subjective well-being. (p. 967)

As Etkin’s study suggests, the cultural prevalence and emphasis which is placed on the measurable biometric “data-outputs” of our physical embodied activities in post-digital culture is superseding the potentials for our subjective experiential enjoyment from engaging in physical health-enhancing pursuits. The increased socio-cultural incentives to quantify and share the “data-products” of our subjective health experiences, through a plethora of socially-networked online platforms, digital communities and apps., are arguably diminishing the empirical, sensorial and self-reflexive qualities of our lived embodied experiences. Furthermore, the ever-expanding integration and use of digital wearable and mobile devices in our everyday lives, reinforced by cultural practices of quantification and “data-sharing” which Ajana (2017) considers “biopolitical processes and approaches to body and health” (p. 2), entangle our “data-bodies” into complex networks of “big-data” capture and analytics, over which we have limited subjective control. As Ajana (2017) writes, our body-data, whether subjective or aggregated into a homogenized “big-data” mass “are by no means disembodied or immaterial” (p. 13), as growing processes of “data-capture” and data-driven categorizations inform socio-political decision-making which directly “affect the material experiences of individuals and groups and shape their life chances” (p. 13), in real-world contexts.

Methodology

With digital health practices and wearable biometric “self-tracking” devices increasingly permeating our everyday lives, this article explores an empirical subjective autoethnographic (Adams et al., 2015) case study into the practice of “self-tracking,” which uses a sound “data-stream” to introduce the performative “voice” of subjective agency into

the participatory theoretical/experiential praxis space. In *Strategies of Qualitative Inquiry* (2008), Norman K. Denzin and Yvonna S. Lincoln (2008) write that qualitative research practices are “a generative form of radical democratic practice,” resistant to the modes of “neo-positivist, evidence-based epistemologies” dominating discourses of “scientifically based research paradigm” (p. viii), in fields such as biomedical research. This article suggests that these are the very modes of biopolitical epistemologies, dominating the fields of biomedical sciences and technologies, which have produced the conditions of emergence through which cultural practices of datafication toward the biological body prevail (as enacted through processes such as “self-tracking” and biometric forms of “data-capture”). In a globalized and digitized world in which national research organizations are increasingly turning toward quantitative epistemologies of data-collection and algorithmic analysis, Denzin and Lincoln (2008) write that “it is necessary to reengage the promise of qualitative research as a form of radical democratic practice” (p. viii). Though this enquiry suggests that the qualitative, embodied, and sensorial dimensions of our digitally-mediated subjective experiences are afforded less cultural prevalence in “post-digital” culture, this article attempts to resist reaffirming existing polarized socio-cultural perceptions between the qualitative/quantitative and bio/digital spheres of lived experience. As such, this enquiry explores the development of a critical theoretical/experiential paradigm of synthesis which uses the space of praxis for re-thinking how current prevailing quantifiable perceptions of our digitally mediated “data-bodies” may be renegotiated subjectively, to include the empirical and sensorial dimensions of lived embodied experience.

In an essay entitled *Artistic Research: A Performative Paradigm?* (2016), Barbara Bolt (2016) puts forth a theorization of the “performative paradigm” as a heterogeneous third alternative to the homogenizing limitations imposed by dominant quantitative and qualitative research paradigms. Bolt (2016) writes,

While in the scientific quantitative paradigm the validity of research lies in repetition of the same, the performative paradigm operates according to repetition with difference. This is the generative potential of artistic research.

For Bolt (2016), established qualitative methodologies also belong to the dominant research paradigm, through their dichotomous binary relation to quantitative methods, whereby both “provide the default modes of research in the academy.” Bolt develops her theorization for a performative paradigm from Brad Haseman’s (2006) *A Manifesto for Performative Research* in which Haseman, adopting a conceptualization of the term “performative” from J. L. Austin’s “speech act theory” (Austin, 1962), argues for “a third paradigm” (Haseman, 2006, p. 98); a research paradigm more

sympathetic to the “practice-led” methodologies formulated by researchers in the fields of arts practice. Defining “performative researchers” as “those researchers who carry out practice-led research” (Haseman, 2006, p. 100), Haseman (2006) argues for the performative paradigm as produced from the tensions faced by practice-led researchers to find “serviceable methodologies within the orthodox research paradigms of quantitative and qualitative research” (p. 98), methodologies which have long established a “positioning of practice as an object of study, not as a method of research” (Haseman, 2006, p. 99). For Haseman (2006), the performative research paradigm differs from quantitative (“scientific method”) and qualitative (“multi-method”) paradigms, through its expression of non-numeric data “in forms of symbolic data other than words in discursive text [including] material forms of practice, of still and moving images, of music and sound, of live action and digital code” (p. 103), thus opening out its research scope as a “multi-method led by practice” (p. 103). For performative researchers practicing within a methodological sphere of the “performative paradigm,” Haseman (2006) makes explicit the centrality of practice for driving the research; “The ‘practice’ in ‘practice-led research’ is primary- it is not an optional extra; it is the necessary pre-condition of engagement in performative research” (p. 103). Haseman (2006) writes,

Practice-led research is intrinsically experiential and comes to the fore when the researcher creates new artistic forms for performance and exhibition [. . .] Practice-led researchers construct experiential starting points from which practice follows. They tend to “dive in,” to commence practising to see what emerges. (p. 100)

The case study *Speaking the Data* (2017), which will be considered in this article, is not “practice-led” in the established context for artistic research that Haseman outlines in his essay, though instead uses the performative space of “praxis” to further develop the theoretical paradigm. In *Speaking the Data* (2017), the author performs the methodology for synthesizing the abstract theoretical concern of bio/digital and qualitative/quantitative “data-tracking” polarities, through the pragmatic process of lived subjective experience; which is made-audible to the reader/listener through the sound “data-stream.” As such, praxis is used as an approach to destabilize the dichotomy between theory and practice. As Finley (2008) writes,

Praxis refers to the interplay between reflection and action [. . .] In praxis-based research, the purpose is to use the act of doing research as a means to revise stereotypes, habits of mind, and deeply held meanings that guide people’s thinking about social and political issues and to encourage actions that demonstrate these changes in theories or worldviews underscoring the ways in which people live in society. (p. 98)

Through a performative, experiential embodied intervention, which was documented in real-time using a sound “data-stream,” the author renegotiates a subjective “data-set” which includes embodiment. “Data-captured” through the sound-recording function on a digital smartphone device, the author’s performative embodied intervention thus proffers an alternative empirical subjective approach to existing methods of quantitative biometric “self-tracking” practices. In *Speaking the Data* (2017), the author extends this alternative methodological participatory praxis approach for “doing autoethnography” (Adams et al., 2015 1), to the reader/listener, using the sound “data-stream.” This assemblage of processes applied within the case study (performative embodied praxis, sound and rhythmic affect), could thus be considered within the “performative research paradigm,” as a “multi-method” based in praxis, rather than “led by practice” (Haseman, 2006, p. 103). For Bolt (2016), the performative paradigm is a research methodology “characterised by a productive performativity where art is both productive in its own right as well as being data that could be analysed using qualitative and aesthetic modes”. This is a method of practice which, for Haseman (2006), requires any evaluation of the research outcomes to be experienced “in direct (co-presence) or indirect (asynchronous, recorded) form” (p. 101). In *Speaking the Data* (2017), the author uses these practice-based methods and processes of bio/digital mediation, using the digital device’s sound-recording function, to “perform” the participatory proposition of engaging reader/listener subjectivities through the lived experiential “act of doing research” (Finley, 2008, p. 98). Therefore, the purpose that her experiential methods and processes of “practice” (which include embodied interventions, sound “data-streams” and the potentials of rhythmic affect, which will be explored in relation to the case study), serve within this enquiry is toward further developing a methodological paradigm of embodied inclusivity in the performative space of ‘praxis’; toward a theoretical/experiential synthesis of embodied knowledge in relation to our digitally-mediated experiences. *Speaking the Data* (2017) thus arguably functions within the performative methodological framework that both Haseman and Bolt shape, as it attempts to develop a third, “bio/digi-rhythmic” performative space of praxis, which includes the reader/listener, as it works toward synthesizing existing binaries (between the biological/digital, the experiential/theoretical, the qualitative/quantitative, the virtual/actual, and the mind/body).

Furthermore, Henri Lefebvre’s (2004) theory of *Rhythmanalysis* is applied within the case study as a metaphor and methodology for extending the affective potentials of rhythmic thought in relation to our bio/digitally-mediated embodied experiences. This enquiry proffers to develop a framework for a “bio/digi-rhythmic” synthesis (the neologism applied within the case study for considering the

affective mediation of our embodied interactions with digital devices), toward converging the “bio-rhythms” of our sensorial experiences with the “digi-rhythms” of our digital interactions and practices, in the “third” experimental space of praxis. The author’s attempts to re-negotiate existing binaries in relation to our digitally mediated embodied experiences, subjectively, using the empirical potentials of embodied praxis, sound, and rhythmic affect, can be accessed by the reader/listener via the *SoundCloud* streaming link embedded in the body of the text.

Speaking the Data (2017): A “Bio/Digi-Rhythmic” Sound Event

This performative “bio/digi-rhythmic” intervention, which extends its rhythmic and affective capacities through the sound “data-stream,” was performed by the author in the Swansea University Sports Center’s student and public gym facilities, in Summer 2017 (prior to the COVID-19 pandemic and ensuing U.K. lockdown). The Swansea University Sports Center, an indoor health and fitness facility including a gym, large sports hall, and various fitness courts and studios, forms part of a larger “International Sports Village.” Additional facilities include a number of outdoor field and athletics tracks and pitches, and the Wales National Pool Swansea, an Olympic size 50-m swimming pool which is used for both public recreational health pursuits and competition sporting events.

For the embodied performative intervention *Speaking the Data* (2017), which is the focus of this praxis case study, the author attempted to verbally articulate the biometric data-stream that her body was producing in “real-time” as she tried to maintain a “bio/digi-rhythmic” cadence of 100RPM (“revolutions per minute”) for an extended duration, on a *Wattbike* (Wilson, 1996). The *Wattbike* is a digitized stationary “smart-bike” designed to replicate the embodied physiological “feel” of outdoor road cycling; posited on the company’s website as an “indoor cycling experience” which is endorsed by the British Cycling governing body, and used by elite athletes for training purposes, as it proclaims to generate “the world’s most accurate power, technique and performance data” (Wattbike.com, n.d.) in relation to the cycling body. The “body-data” generated by the *Wattbike* is “shaped” in different ways, recording an individual’s cadence, speed and pedaling technique, to deliver “actionable insights to riders in real time” (Wattbike.com, n.d.). The cyclist’s ability to “see” the quantifiable biometric data-stream that their body is producing in real-time, which unfolds through the changeable data-metrics displayed on the *Wattbike*’s interactive digital screen-interface, enables the rider to adjust their embodied movements, toward personalized health and fitness goals. This enquiry suggests that the presence of the *Wattbike* “smart” cycling machines in the context of a public gym environment, signifies the extent to

which once “elite” data-tracking technologies (used to optimize and condition the bodies of athletes), have increasingly become incorporated and adopted into our everyday lived practices in contemporary culture, as “technologies of the self” (Foucault, 1988).

For *Speaking the Data* (2017), the author/cyclist “speaks” the biometric data that her “bio-rhythmic” bodily movements are generating (visible to her on the *Wattbike*’s facing digital screen, which is positioned in the center of the smart-bike’s handlebars); in an attempt to “make sense” of both the process of bio/digital-mediation as it unfolds in real-time, and the resulting “data-products” that her body is producing. The author/cyclist synchronously recorded this bio/digi-rhythmic embodied “event” through sound as she performed it; using the audio-recording “Voice Memos” function on her digital smartphone device to produce a sound “data-stream” while cycling and “speaking” the data. The sound “data-stream” is proffered by this enquiry as an alternative empirical, material process of bio/digital-mediation, which attempts to better “capture” the subjective embodied sensory experience of engaging in bio/digi-mediated activities. The ability of sound to capture the processual “unfolding” of the performative embodied “event” in flux, as well as its rhythmic and affective material properties, is why sound is proposed by this enquiry as a method to synthesize our “bio-” and “digi-” rhythmic dimensions of lived experience. While the *Wattbike*’s digital screen-interface reveals the oscillating biometric “RPM” cadence data as a processual “actionable insight [. . .] in real time” (Wattbike.com, n.d.) (along with other body-metrics, which include calories burned, distance “traveled,” and the body’s power output measured in watts), the resulting data-metrics from each “ride” are averaged and presented to the “rider” as a “data- product” on screen at the end of the indoor cycling experience. This enquiry suggests that, as a numeric structural system, the quantifiable biometric data paradigm is inadequate for “voicing” the embodied phenomenological “bio/digi-rhythmic” experience of cycling indoors on a digital smart-bike.

Instruction- Play Sound Data-Stream:

<https://soundcloud.com/user-658364094/speaking-the-data>

Lefebvre suggests that the task of the rhythm analyst is to identify social arrhythmia and transform the way it impacts social life. The approach also carries an aesthetic function; to feel, perceive and be moved by rhythms, the rhythm analyst must also focus on the sensible values of rhythms. (Alhadeff-Jones, 2017)

In *Speaking the Data* (2017), the biometric language that the author/cyclist’s body is generating in a “real-time” dialogue with the digital “smart-bike” device, is given a subjective ‘voice’; the cadence data-metrics spoken out loud by

the author, in an attempt to subjectively process and renegotiate the data-language as “sensible” (Lefebvre, 2004, p. 25). As the embodied bio/digi-rhythmic “event” unfolds through the sound data-stream, the multiplicity of sensing (Lefebvre’s use of the polysemous term “sensible” denotes the sensory registers of embodied experience) at play in the author/cyclist’s performative interrelation with the *Wattbike* machine is arguably elucidated; The digital “sensing” process required to translate the body’s movements into a coherent biometric data-stream on the device’s screen interface, the author’s physiological biorhythmic sensory-system (breath, heartbeat, movement, etc.), and the cognitive process required for “making-sense” of the unfolding numeric “body-data” language, by the author. The “white noise” of the cyclical “spin” revolutions produced by the author/cyclist’s pedaling motions, forms a steady and constant rhythmic backdrop to the quickening vocal cadence of her speech. As the author/cyclist strives to “keep up” her verbal response to the shifting digits on the screen, while regulating her physical embodied movements in her endeavor to maintain a stable pace of 100 RPM, the arrhythmic tension between the “bio-rhythms” and “digi-rhythms” of the body arguably begin to materialize through the sound data-stream. In *Speaking the Data* (2017), the author/cyclist performs the polarity between existing binary perceptions of the “bio/digi-mediated” body, as the instability of her attempts to perform an unchanging biometric language between body and machine in “real-time” (to maintain a stable rhythmic cadence of 100 RPM) are revealed through the sound data-stream. As the quantifiable biometrics, that the author/cyclist’s body is simultaneously generating and verbally articulating, audibly oscillate between “98, 100, 98, 100 . . .” (Hughes, 2017), the temporal pauses between numbers quickly decrease. Interjected with short, sharp inhalations and exhalations of breath, the rhythmic cadence of her speech audibly accelerates at moments where the spoken digits are rapidly strung together, sometimes exhaled out “through” the breath. Conversely, when the author/cyclist pauses “speaking” and takes extended breaths, there is the suggestion of her temporal embodied “bio-rhythmic” difference with the digital machine; as the brief absence of speech indicates how “rhythm is noticed through the difference its absence makes” (Lyon, 2019, p. 80). Further applying Lefebvre’s (2004) lexicon of rhythmanalysis, this enquiry suggests that the current polarities between our bio/digi-mediated dimensions of subjective experience perform an “arrhythmic” disruption to our sense of embodiment, which is in need of renegotiation. In *Speaking the Data* (2017), the author/cyclist becomes “rhythm analyst,” identifying the “social arrhythmia” inherent in our existing bio/digi-mediated interactions (which she performs by “speaking the data”), at the same time as she allows her body “to feel, perceive and be moved by [bio/digi-] rhythms” (Alhadeff-Jones, 2017). The incongruousness of the

numeric data-stream, spoken in exertion by the author/cyclist as she strives to sustain a steady rhythmic cadence while synchronously regulating her breathing, arguably denotes how our biometric body-data are rendered illogical outside of the quantifiable structural systems of “data-capture” which uphold their value and significance. In *Speaking the Data* (2017), by re-materializing the biometric data-stream into verbal language to “perform” the data, the author/cyclist interjects the spoken “voice” of subjective difference into the prevailing homogenizing processes of biometric “data-capture.”

Instruction- Play Sound Data-Stream:

<https://soundcloud.com/user-658364094/speaking-the-data>

differences as novel deviations, cuts, or breaks running across actual spatiotemporal experience. Numbers, digits, code hold no absolute, precise, and predetermined truth, and are open to contagion. (Ikoniadou, 2014, p. 86)

Lefebvre (2004) applies his “rhythm analytical” theoretical approach, in *Rhythmanalysis* (2004), to contextualize a deeper understanding of how our embodied actions are affectively conditioned in relation to our societies and cultures, through the concept of “Dressage” (p. 38). “Dressage,” for Lefebvre, denotes the practices and conditions through which our embodied behaviors are “moulded” and habituated to fit prevailing socio-cultural value systems; a process of “training,” or “bodily entrainment” (Lyon, 2019, p. 27), which becomes absorbed through “repetitive gestures” (Lefebvre, 2004, p. 43) over time. While Lefebvre’s concept of “dressage” shares much commonality with Foucault’s theorizations on disciplinary practices of biopower and the production of “docile bodies” (Foucault, 1975), Dawn Lyon (2019), in *What is Rhythmanalysis?*, writes that Lefebvre was ‘critical of Foucault’s emphasis on “systematized knowledge [. . .] at the expense of the experiential”’ (Lyon, 2019, p. 27). This article suggests, however, that Foucault’s later theorizations around “technologies of the self” and practices of “self-surveillance” (which this praxis has applied to contextualize contemporary digital “self-tracking” behaviors), acknowledges the subjective, experiential dimensions of enacting such techniques. The High-’rpm’ (revolutions per minute) indoor spin-cycling method that the author/cyclist is attempting to perform in *Speaking the Data* (2017), is a physical training process used to condition the cyclist’s body to sustain a constant durational cadence of over 100RPM; while developing an efficient cycling technique of “spinning” both pedals in identical circles. This is a physiological indoor training method popularized in contemporary culture, as it enables cyclist’s to maintain their year-round health and fitness pursuits, despite the potential obstacles of the inclement, cyclical seasonal rhythms of the weather. While indoor “spin-cycling” is often included in

cyclists' training-programs, as a safe and useful injury-preventing alternative to outdoor cycling, the rise in popularity of road cycling as a recreational sporting activity, including its prevalent role in popular triathlon "multi-sport" events, has extended this embodied practice into the "bio/digi-mediated" realm in post-digital culture. The socially-networked *Strava* application, for example, which uses GPS tracking-data to "connect" cyclists and runners through its online platforms, facilitates bio/digi-mediated "virtual" races, in which individuals compete through the biometric data "results" of their physical activities, which are uploaded to online leader-boards. Similarly, the increasingly popular socially-networked indoor cycling application *Zwift* converges the "virtual/actual" experiential worlds of cycling using game-design; offering indoor cyclists elaborate virtual landscape environments where "Weekend athletes now race each other virtually" (Neff & Nafus, 2016, p. 1), their "races" streamed through a digital screen-interface for a monthly subscription fee. This article suggests, however, that these popular digitally-mediated fitness platforms reinforce problematic virtual/actual, bio/digital, qualitative/quantitative and cyclical/linear dichotomies toward our subjective embodied experiences. Using techniques of "gamification" to motivate users to participate in the strenuous physical endurance activity of spin-cycling by experientially mediating the cyclist's body between the "virtual/actual" realms, this enquiry suggests that the biometric data-tracking language remains prevalent. As indoor cyclists are actively "nudged" (Thaler & Sunstein, 2009) to striate their biorhythms to the linear time of the clock, cadence speed and GPS data-metrics, their virtual avatars compete to "win" visual representations of embodied biometric achievements; for example "badges," "medals," points, and top leader-board positions such as "'King of the Mountain', for the quickest time cycling up a particular hill" (Till, 2014, p. 451). In *Speaking the Data* (2017), the author/cyclist attempts to articulate how such data-tracking processes serve to "striate" our biorhythms, recalibrating the tempo of the subjective body and bodily experience within a limiting paradigmatic context; which Sharma refers to as "mobile immobility" (Sharma, 2014, p. 132). Through the performative bio/digi-rhythmic "event," the author/cyclist synchronously endeavors to regulate and condition her physiological biorhythms to the "100RPM" training recommendation; while emancipating her bio/digi-mediated body from the impractical rigidity of this biometric system by "speaking" the processual unfolding of the numeric data-stream on screen. This praxis uses the sound "data-stream" as an alternative empirical processual method of embodied "data-capture"; for renegotiating dominant biometric models which arguably serve to "visualise" our bio/digital bodies using quantifiable and representational data paradigms. In *Speaking the Data* (2017), the author/cyclist verbally performs the tension arising from her endeavors to "striate" the

body in this way through the subjective intervention of the performative speech act, toward a synthesis of the "bio/digi-rhythmic" body. As she synchronously moves and speaks, the "Rational, numerical, quantitative and qualitative rhythms" which Lefebvre (2004) posited "superimpose themselves on the multiple natural rhythms of the body" (p. 9) can be heard audibly changing and altering the author/cyclist's bio/digi-rhythms, through the sound data-stream. This bio/digi-rhythmic embodied "event" thus reveals the mutually affective dialogic interplay between our bodies and digital devices in contemporary culture, collapsing notions of "bio/digital" or "virtual/actual" polarity through a rhythmic synthesis, which is extended to the listener/reader in the "sound-space" of praxis. This praxis proposes that the sound data-stream elucidates the body's movements in flux, the dynamic embodied effort and process that goes into generating and producing the 'data'; whereas biometric paradigms arguably present the resulting, representational "data-product" as an end goal.

Instruction- Play Sound Data-Stream:

<https://soundcloud.com/user-658364094/speaking-the-data>

Against the Western habit of yearning to measure and calculate everything, time appears as ethereal, inexpressible, impossible to quantify or treat numerically. Time acquires a rhythmic quality that tests the edges of perception and pushes experience into an abstract zone made for slow and small events. In this zone, time as we know it collapses, one's sense of self is lost, and the [experience] opens up to the contingency of its own materials. (Ikoniadou, 2014, p. 84)

The embodied "virtual/actual" bio/digi-mediated practice of spin-cycling indoors on a static machine is a very different sensory experience to road-cycling outdoors, in the context of the external environment. Though cycling is an embodied rhythmic practice which habituates the body's rhythms through the cyclical, repetitive movements of the legs (regardless of the cyclist's relational situatedness to indoor/outdoor settings), this article proffers that indoor cycling requires the body to acclimatize to a different set of corporeal sensory capacities. For example, the body's heightened visual sense-perceptions and physiological reactions which are stimulated to keep the road cyclist safe from unpredictable external environmental factors (such as oncoming traffic, bad weather or changes in the landscape, and topography), are not needed for the indoor cycling experience. As a result, when we engage in indoor exercise activities on stationary machines, our cognitive spatio-temporal perceptions can be "slowed down"; as the attentional focus required for outdoor efforts is not stimulated as intensely within the body's nervous system (perhaps evident in the popularity of virtually experiential "gamified" digital platforms like *Zwift*, which stimulate the visual

sensory register in indoor contexts). This enquiry proposes that the indoor cycling experience is shaped through other sensory, affective, rhythmic differences in the body, “felt in the micro- level rhythms of each ride” (Lyon, 2019, p. 53). In *Speaking the Data* (2017), becoming a “bio/digi-mediated” cyclist in rhythmic interrelation with the *Wattbike* machine requires the author/cyclist to renegotiate the multiplicity of on-going, different processual rhythms which are unfolding synchronously; as she works toward synthesizing her internal/external bio/digi-rhythms between the body, machine and digital screen. The author/cyclist’s performing “bio/digi-rhythmic” body is also arguably synchronized in “real-time” to the external embodied rhythms of the other gym users in this public space; whose movements can be discerned through the occasional “clanging” sound of barbells which punctuate the sound “data-stream.” Through *Speaking the Data* (2017) the subjective “renegotiation” of bio/digi-mediated experience which the author/cyclist attempts to perform (extended to the listener/reader through the sound “data-stream”), arguably positions her sensory body as the affective rhythmic interface between “self,” environment and digital device.

Instruction- Play Sound Data-Stream:

<https://soundcloud.com/user-658364094/speaking-the-data>

All becoming irregular [. . .] of rhythms produces antagonistic effects. It throws out of order and disrupts; it is symptomatic of a disruption that is generally profound, lesional and no longer functional. It can also produce a lacuna, a hole in time, to be filled in by an invention, a creation. (Lefebvre, 2004, p. 44)

For Lefebvre (2004), while “*Dressage* [. . .] bases itself on repetition” (p. 39), repetition “gives birth” to and produces differences; “*Sooner or later it [repetition] encounters the event that arrives or rather arises in relation to the sequence or series produced repetitively. In other words: difference*” (Lefebvre, 2004, p. 7). In the bio/digi-rhythmic “event” *Speaking the Data* (2017), as the author/cyclist performs this contemporary form of “*dressage*” to her body, she simultaneously attempts to introduce the subjective “voice” of difference into the existing bio/digital data-tracking binary, between the physically moving body and the technological biometric device. Lefebvre acknowledges, in his writing on “*dressage*” and how we articulate our subjective selves through a multiplicity of embodied “gestures,” that “Each segment of the body has its rhythm. These rhythms are in accord and discord with one another” (Lefebvre, 2004, p. 38). This praxis suggests that Lefebvre was not trying to establish a binary separation between our multiplicity of embodied biorhythms, rather elucidate that our internal/external, qualitative/quantitative, different/repetitive, theoretical/experiential registers of experience are always operating in affective interrelation to our subjective “being-in-the-world” (Lefebvre, 2004, p. 44). In

Lefebvre’s understanding of the multi-layered inner rhythmic environments of our “bio-rhythmic” bodies, our inter-relational physiological functions perform in “polyrhythmic” synchronicity; with different internally constituted rhythms interacting at the same time to coproduce and maintain a balanced state of “*eurhythmia*” (e.g., our heartbeat, digestion, neurological rhythms, and breath). Our embodied bio/digi-mediated interactions with biometric “self-tracking” devices require us to move our physical bodies repeatedly for a particular duration, to enable the digital sensing device to produce a quantitative data-set. In *Speaking the Data* (2017), the author/cyclist’s attempt to articulate the numeric cadence that her physical bodily movements are producing in “real-time,” to “make-sense” of the data that her body is generating in synchronicity with the machine, reveals the embodied effort necessary for sustaining a stable “bio/digi-rhythmic” tempo. “Speaking” the quantified differences in cadence as the digits visibly oscillate in “real-time” on the device’s screen interface, the author/cyclist’s breath shortens and speech quickens, as she tries to maintain a steady, repetitive embodied pace. The rhythmic tempos of breath, biometrics, and speech rise and fall in and out of sync, as the rest of the body works to maintain a steady cadence (audible in the continuous, repetitive ambient “white noise” of the cyclical machinic revolutions). The author/cyclist performs the physiological difficulty of maintaining a consistent biometric cadence, while her oxygen intake and respirations of breath are simultaneously being used to “speak.” The “polyrhythmic” multiplicity of these competing embodied bio/digi-rhythmic temporalities are “made-audible” and extended to the reader/listener through the sound “data-stream.” Where this processual and performative embodied “becoming” (which, for Deleuze, is “the real time in which changes occur, and in which all changes unfold,” Stagoll, 2010, p. 27) is “re-materialised” as a new embodied experience for the reader/listener in the theoretical/experiential space of praxis, through the sensory and affective “bio/digi-rhythmic” properties of sound.

Conclusion

In conclusion, this article has demonstrated that our existing perceptions of “body-data,” as the quantitative representational biometric ‘data-product’s’ of our experiential digitally-mediated subjective activities, can be renegotiated and expanded to include embodiment. Through the autoethnographic case study *Speaking the Data* (2017), this enquiry has attempted to perform the proposition for a subjective renegotiation of the “data-body,” to include embodiment and introduce the “voice” of subjective experiential inclusion into the “third” bio/digi-rhythmic space, through praxis. The “bio/digi-mediated” embodied intervention performed by the researcher in *Speaking the Data* (2017) and synchronously “captured” through her digital smartphone device using the sound data-stream, circumvents the conventional use of the

data-tracking device as a quantitative ‘technology of the self’; generating an alternative subjective “data-set” which destabilizes conventional “quantitative/qualitative” and “bio/digital” data dichotomies, using sound. Sound has thus been utilized as a processual, empirical method of data-capture, for recording the author’s embodied intervention as a “data-process” in flux, unfolding in “real-time.” *Rhythmanalysis* (Lefebvre, 2004) has been applied as a methodological approach for synthesizing an understanding of our “bio-rhythms” and “digi-rhythms” through the theoretical/experiential potentials of rhythmic affect, in the “third” space of praxis.

Through the case study, this article has synthesized a discourse for expanding our theoretical/experiential perceptions for what the “data-body” can be, to include the subjectively empirical and sensorial dimensions of embodiment. This enquiry has proposed and developed a subjectively embodied autoethnographic methodology for “thinking through” the body, using praxis as a method and process for critiquing existing bio/digital, qualitative/quantitative, mind/body and virtual/actual polarities in relation to contemporary biometric “self-tracking” practices. Praxis has enabled this article to extend the proposition for “thinking through” embodied experience to the reader/listener, who through the subjective act of listening, corporeally “re-experiences” the bio/digi-rhythmic sound “event” in a synthesized “third” space. This approach has also facilitated an extension of the role of “rhythmanalyst” to the reader/listener, who has been invested with the embodied agency to register rhythmic and sensorial bio/digital affects through the sound data-stream; thus “re-territorialising” the data experience to include embodiment and proffering a response to Lyon’s (2019) question as to “whose body registers which rhythms and what this means for the production of knowledge” (p. 76). Furthermore, this embodied research approach which extends the experiential bio/digi-rhythmic sound “event” to the reader/listener, offers the reader/listener a new way of negotiating their own subjective bodily rhythms and movements. Toward disrupting existing quantitative “self-tracking” cultures of measurement which are enacted through self-scrutinizing reductionist methods of “data-capture,” by extending the scope for the empirical embodied “data-set” beyond the disseminated experiences of the researcher (the self), to the reader/listener (the body of the “other”). This empirical enquiry has thus proffered the emancipatory potentials for “re-imagining” our subjective embodied agency in relation to “data-tracking” practices, toward freeing our digitally-mediated subjectivities from the perceptual and experiential limitations of existing quantifiable biometric systems of “data-capture.” This enquiry has demonstrated that a subjective renegotiation of the “data-body” has the potential to both expand our perceptions of what embodied “data” can be (as experiential, sensorial, processual, dynamic, inter- relational, rhythmic

and affective) and collapse existing bio/digital polarities through a theoretical/experiential “bio/digi-rhythmic” synthesis.

While Lefebvre (2004) recognized, through his theoretical substantiation of *Rhythmanalysis*, that embodied subjectivity is integral to our ontological perceptions of “being-in-the-world” (p. 44), he also anticipated the potential criticisms to his phenomenological philosophical approach; as the “standpoint of an all-too-conscious ego, a phenomenology stretching up to the ends of the road” (Lefebvre, 2004, p. 18). In turn, this article acknowledges that while the inclusion of a plurality of other subjective “data-sets” was beyond the parameters of this particular autoethnographic case study, there is scope to extend the empirical methodological approach developed within this praxis to further extensive research study, in the future. The methodological adaptation of Lefebvre’s “rhythmanalysis” as an “embodied” research approach, has been adopted in a variety of manifestations within research areas of the Social Sciences and Cultural Geographies in recent years, for developing qualitative empirical studies in relation to socio-cultural lived experiences. However, as Lyon (2019) contends, despite the theoretical inclusion of embodied research practices and processes within these disciplines, the presentation of such methods and findings rarely foreground ‘a reflexive consideration of the researcher’s body doing research’ (p. 81); continuing to “privilege the cerebral despite [. . .] acknowledgement of the corporeal” (p. 81). This praxis has developed an alternative subjectively embodied “autoethnographic” approach which proffers a response to Lyon’s observation; that the researcher’s “body” is often absent from the research process and from data-findings, within other fields of practice. For Lefebvre (2004), it is only by corporeally attuning to embodiment that the “rhythmanalyst” becomes “the agent” (p. 18); who, harnessing their subjective embodied agency, “listens-and first to his body; he learns rhythm from it, in order consequently to appreciate external rhythms. His body serves him as a metronome” (Lefebvre, 2004, p. 20). This article has proposed that by using a methodological assemblage of performative embodied intervention, sound data-streams, and a theoretical/experiential application of “rhythmanalysis” to consider rhythmic affect, the affective inter-relationality of our “digital-experiential” subjectivities can converge in the “bio/digi-rhythmic” space of synthesis. The sound data-stream, as an experiential process of “data-capture” which accounts for the researcher’s moving, dynamic bio/digi-mediated body “doing research” (Lyon, 2019, p. 81) in the particular spatio-temporal context of the *Speaking the Data* (2017) case study, has enabled this article to synthesize a proposition which is “founded on the experience and knowledge of the body” (Lefebvre, 2004, p. 67); toward collapsing distinctions between the virtual/actual, bio/digital, qualitative/quantitative, mind/body, self/other and corporeal/sensorial dimensions of experience. The “bio/digi-rhythmic” space of synthesis has been posited through a “theory of rhythm as the force of the middle”

(Ikoniadou, 2014, p. 13), for attuning, recalibrating and integrating our internal embodied “bio-rhythms,” with the external “digi-rhythms” of our digital-social experiences; always in contextual, affective and fluid inter-relation to our “being-in-the-world” (Lefebvre, 2004, p. 44).

While the sound data-stream has been used in this praxis as one potential method, materiality and process for renegotiating a synthesis of existing bio/digital polarities, this enquiry recognizes that advancements in digital-sensing technologies will give rise to other processual, empirical potentialities for “capturing” the dynamically embodied dimensions of our “digital-experiential” lives in the future. As such, through future technological expansions the corporeal materialities of our subjective embodied experiences may be “captured” through different forms of “data” (as the digital-cultural “shapes” of our data-bodies inexorably shift); and will inevitably raise more pressing ethical, moral and biopolitical research concerns surrounding the digital biometric, wearable, and mobile technologies of the future. Although this enquiry was conducted prior to the COVID-19 global health pandemic, it recognizes the increased emphasis upon digitality as a “technology of the self” (Foucault, 1988) during the current world crisis. Thus, a deeper cultural understanding of “data-capture” in relation to our present, intensified lived everyday bio/digitally-mediated experiences is perhaps even more pressing and significant at this time.

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