

Anatomical Imaginaries:

Relational embodiments of anatomical discourse in contemporary dance training

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Abstract

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in contemporary dance training

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In this thesis I explore how contemporary dancers' 'sense-abilities' and movement are shaped by anatomical discourse in dance training. Part 1 introduces the problem of how anatomy risks reducing conceptions of the body and asks how we may foster expansive relationships to anatomy. Part 2 exposes a troubling number of binaries that are upheld through the tendency of anatomy to universalize the body into foundational truths. Part 3 details a sensory ethnographic method that foregrounds the practice of relating to anatomy in contemporary dance. My Practice as Research project, "Anatomical Imaginaries", invited five anatomically trained professionals to compose an audio description of the head-tail relationship. I then provided a context for contemporary dance artists to engage with these imaginaries through movement exploration while attending to their unique sensorial experiences. Part 4 understands my project thinking with: contemporary anatomy which offers an abundance of methods and models; sensory anthropology that understands culture to have influence on sense-abilities; and feminist science and technology studies that foregrounds how practices are culturally informed and informing; all of these fields trouble universalizing ways of knowing. I conclude by encouraging a proliferation of the models we dance, weaving together sociocultural and feminist theory as a means of unravelling the binaries upheld through scientific effects of truthfulness.

Keywords: contemporary dance training, contemporary anatomy, feminist science and technology studies, sensory anthropology, praxiography, somatics, metaphor

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PART 1: Introduction

I am a professional contemporary dance artist and teacher based in Tiohtià:ke/Montreal, a land which I acknowledge as unceded Indigenous territory, now home to a diverse population of Indigenous and other people. My parents first signed me up for dance class when I was three years old and now, forty years later, I am still dancing and curious about the dance class. From childhood I pursued dance with increasing seriousness, majoring in dance at an arts high school followed by attending a renowned professional training program, *Les Ateliers de Danse Moderne de Montréal*, now known as *L'École de Danse Contemporaine de Montréal*. Upon graduation I was fortunate to immediately begin working as a dancer while maintaining a disciplined training regimen which led me to in-depth training and certification in an innovative approach to movement education, the Axis Syllabus, entailing many adventures to both take and teach workshops all over the world including in Belgium, Italy, France, Spain, Turkey, Czech Republic, Hungary, Finland, Israel, Brazil, Benin and the US. Since 2008, I have been increasingly rooted back in Tiohtià:ke/Montreal and invested in contributing to the local ecology of dance and movement training. I am a well-reputed teacher here, and, along with teaching at pre-professional (e.g. *Université du Québec à Montréal* and *Concordia University* dance departments) and professional training institutions (festivals, artist service organizations, dance companies), I organize an annual event called the *Movement Educator's Forum* that gathers educators across fields of movement practice and related disciplines (e.g. Somatics¹

¹ I capitalize 'Somatics' when referring to somatic approaches to movement as a field. I employ the term synonymously with Somatic education. Somatics is distinctly marked by "the experience of bringing attention to the living body while in stillness or movement" (Eddy, 2016, p.16) and emphasizes self-perception as a primary tool in learning.

and manual therapies) to exchange, reflect and re-inspire their teaching. Even with the adventurous curves and the broad travel that my training and career have made possible, my work has a predominantly White Western lineage, throughout which I have maintained an affinity for an anatomical understanding of the body in movement.

In my professional training I responded strongly to dance pedagogues who provided anatomical references. These teachers' movement propositions were tangible and served as a segue for me to access a sensorial profundity which has been invaluable to me.

The study of anatomy has helped me to achieve nuanced, expressive and pleasurable movement. For example, through an anatomical understanding of the hamstrings, my vision of them has matured from simply the muscles at the back of the leg, to the specific relations they make between the *ischium* (sit bone) and the lower leg via the three hamstrings — the *biceps femoris* (lateral), *semi-membranosus* (middle) and *semi-tendinosus* (medial) — as they are named. More important than knowing their names has been my experience of sensing their differentiated forms, textures and relations through movement. While names in anatomy are often shamed for dividing the body into isolated parts, they are famed for providing a kind of map to the vast terrain of the body. “Anatomy helps to say where things are: it is an important topographical language for talking about bodies” (Mol, 2002, p. 48).

Through my Practice as Research² project, “Anatomical Imaginaries”, I explore how

² I capitalize Practice as Research (PaR) as it is a widely used genre of research methodology that was popularized by Robin Nelson, author of *Practice as Research in the Arts: Principles, Protocols, Pedagogies, Resistances* (2013). PaR foregrounds a ‘doing is knowing’ model which values engagement in practice (e.g. arts) as a means of knowledge production.

relating to anatomy influences our ‘sense-abilities’³ and movement, and what is both gained and at stake in doing so.

An anatomical way of knowing has not only helped me to move with more finesse, but it has also helped me to adopt movement coordinations that have saved me a lot of money in Osteopathy and Physiotherapy — two therapeutic services that I was very dependent on as a dancer in my twenties. While I still value and use these services, through an embodied awareness of anatomy, I have learned strategies for self-care through movement that help me to both ward off and to manage injury. The ‘big injury story’ is a common one in which a significant injury serves as a pivotal moment that motivates change. I often see that for dancers, major injuries lead to slowing down, learning more about the body and retraining faulty movement patterns. The extent to which this story is common is reflected by the many somatic approaches to movement education that have arisen from ‘big injury’ stories, such as, the Alexander Technique motivated by F.M. Alexander’s loss of voice (Alexander, 1942, p. 7), or Moshe Feldenkrais’ debilitating knee injury motivating the Feldenkrais Method (Eddy, 2016, p. 27), Elaine Summer’s diagnosis of osteoarthritis that seeded Kinetic Awareness (Eddy, 2016, p. 55), to name a few. Unsurprisingly, this was also my experience when a herniated disc in my low back threatened to end my career early, I had to either throw in the towel or go back to the basics. With the help of several health professionals and anatomically oriented approaches to movement, I spent countless hours attending in tedious detail to how I was receiving and

³ In tandem with feminist physicist Karen Barad’s use of the term ‘intra-action’ to describe the participatory action of exchange in an interaction (Kleinman, 2012, p), and Donna Haraway’s use of ‘response-ability’ to imply an organisms ability to respond (Haraway, 2015, p.48), I employ the term ‘sense-ability’ quite literally — to describe what we are able to sense.

propelling my weight through my foot, ankle, leg, knee, pelvis and spine while I retrained my gait. Through this kind of work, not only have I warded off back pain for nearly two decades, but I have expanded my capacities and pleasure in movement beyond what I ever dreamt imaginable.

So far, anatomy seems great, right? Obviously 'yes!' and less obviously 'no!'. It is this less obvious 'no!' to which I would like to turn my reader's attention. While I recognize the inestimable value of the ways in which science advances anatomy, as well as the ways in which relating to anatomy may support the development of the dancer, as it has for me, I have recently become curious about which habits of thinking are routinized through anatomical orientations in dance training. This thesis, therefore, is directed towards understanding the normalization of anatomical discourse in contemporary dance training contexts and the ways in which it enacts a particular way of worlding — a kind of imaginary — that dancers learn and embody.

1.1 Identifying the problem

Through my teaching in professional contemporary dance training programs, I have observed that dance pedagogues and pedagogies that use anatomical references are quick to be granted a truth authority thanks to their use of a scientific framework. The problematics addressed through my research are that: **anatomy risks inviting a troubling number of binaries into the realm of practice, narrowing conceptions of what the body 'is' and what the body 'can do'; and orienting towards anatomy pulls along with it an inherent set of exclusions which de-signify and/or erase sociocultural influence on the body.**

While I acknowledge the popular critique of anatomy to ‘dis-member’ the body into isolated parts, I assert that this problem is well-accounted for in contemporary anatomy⁴ and movement culture. Each of these fields is now populated with researchers and practitioners who are vigorously invested in what I call ‘re-membering’ the body as a vital whole. **My research addresses the more dimly lit issue of how anatomy severs the body from sociocultural influence.**

Returning to my experience of meticulously training my way out of a bad, faulty, inefficient or dysfunctional way of transferring my body weight from one foot to the next, in favour of a good, healthy, efficient or functional way of moving, I came to notice a paradox. As a pedagogue, I found myself routinely giving corrections — suggesting a particular alignment over another. While well-intentioned, I began to wonder if I was not participating in a kind of moralization of movement? While I had thought to be engaging in a politics of movement education that was neutral, founded in science, and ‘good’ in that it veered towards the promotion of health and away from the imposed aesthetics of earlier traditions of modern dance, I began to wonder if I was not participating in a reification of those same moralisms but in a new aesthetic? As I reached a personal plateau in my own dancing, I began to see how a plethora of binaries — real/not real, true/false, right/wrong, efficient/inefficient, safe/dangerous, and even, male/female, racist/not-racist — were being reinstated in new ways, ultimately reducing conceptions of what the body is, what it can, should, and should not do. I came to see how anatomical orientations popularized certain ways of moving, while de-popularizing others, creating new sets of exclusions.

⁴ I identify contemporary anatomy to be marked by the expansion of anatomical tools, technologies and inquiries of the mid 20th century when fascia, as a biological material, became an object of interest.

1.2 Research Question

Without reducing the gains that science has afforded to anatomy, and anatomy to dance, the purpose of my research is to de-centre the power attributed to anatomy in dance training contexts without abandoning it completely. I am invested in generative ways to re-render anatomy an expansive resource that may co-exist with, and celebrate, diverse traditions of dance training that do not necessarily all privilege anatomical orientations. By relating to sensory anthropology, feminist science and technology studies (FSTS) and contemporary anatomical discourse, my Practice as Research project, “Anatomical Imaginaries”, asks: **How can we potentialize conceptions of what the body ‘is’ and what the body ‘can do’ by situating anatomy as a culturally emergent practice and by proliferating the anatomical models with which we dance?**

1.3 Project Overview

“Anatomical Imaginaries” is a reflexive ethnography in which I, as a dance artist, pedagogue, and event organizer, investigate the culture of contemporary dance training which I both participate in and have influence on. For my project, I invited five anatomically trained professionals from different fields of practice (Chiropractics, Kinesiology, Craniosacral therapy, Osteopathy and fascia studies) to compose an audio imaginary describing the head-tail relationship. With anatomical ‘imaginary’, I am positioning muscles, bones, fascia, organs and other anatomical artefacts as having the power to affect bodily conceptions and felt sensations in contemporary dance training. The

head-tail is popularly understood in dance and Somatics to describe a relationship between the head and the pelvis, or more generally, between up and down. I then gathered five emerging professional dancers to engage with these anatomical imaginaries in movement explorations. In my project, “Anatomical Imaginaries”, I am interested in the details and divergences of how each of these anatomically trained professionals describe the head-tail relationship and, subsequently, in each dancer’s unique account of their sensorial experience of relating to them in movement.

What we quickly see is that no two practitioners will describe, nor mobilize, the head-tail relationship in the same way. I am interested in these differences and the ways in which the same anatomical thing, the relationship between the headband the tail, unfolds in a multiplicity of relational embodiments. By ‘relational embodiments’, I suggest that anatomical models tell stories that affect bodily relations and how we experience ourselves. Bonnie Bainbridge Cohen (2012), founder of Body Mind Centering, tells “If you move with your bones in your sensation, it registers one way; if you move your pelvis with your muscles, it registers another way; if you move with your organs in mind then it registers another way” (p. 57). While the dancers tried on and danced with the same five different anatomical imaginaries, not one dancer described their sensation, nor danced, like another. In experiencing and witnessing these multiple embodiments of the head-tail relationship, I illuminate how relating to anatomy in different ways may resist reductionism and foster ceaselessly expansive conceptions of the body.

1.4 Chapter Overview

In Part 2, Habits of Thinking, I will elaborate on the problem and unpack many of the ways that anatomical orientations risk narrowing conceptions of the body in dance training by upholding harmful binaries in their tendency to universalize the body into foundational truths. I will expand on how certain pedagogues and pedagogies are dismissed through the categories of ‘real’ and ‘not real’; how right/wrong binaries are reinstated under the guise of proper alignment; and finally, how the concept of the body as ‘natural’ has contributed to: colour blindness in anatomical practice; erasure of cultural heritage by way of biomechanical explanations of non-Western traditions of movement in dance training, and; rendering ‘unnatural’ or ‘artificial’ diverse gender expressions.

In Part 3, Anatomy of the Method, I detail the Practice as Research (PaR) methodology that I specify as a reflexive praxiography of the senses. With the term ‘praxiography’, I am situating my research as an ethnography of practice; both of anatomical practice, and the practice of relating to anatomy in contemporary dance training. By ‘relating to anatomy’, I draw reference to FSTS scholar Annemarie Mol’s reminder that “nothing ever ‘is’ alone. *To be is to be related.*” (2002, p.54), and I infer that understanding the body and movement through anatomy is a productive relationship; one that enacts particular bodily relations and embodiments. My project, “Anatomical Imaginaries”, provides a context to investigate how the different anatomical imaginaries of the head-tail relationship affect the dancer-informants’ sense-abilities and movement.

In Part 4, Research Findings: Multiple Incarnations of Anatomy, I will discuss my research findings. In line with my conclusion, which surmises the importance of not separating

theory from practice in dance training, my literature review weaves through my research findings just like the fascia matrix “weaves its way through the body like a gossamer blanket” (Barcan, 2011, 147). I understand my project, through literature from the fields of sensory anthropology, feminist science and technology studies (FSTS) and contemporary anatomy — each of which offers expansive and inclusive ways to narrate what anatomy can do in dance training contexts. I will differentiate between perspectivism and praxiography. While perspectivism assumes a singular object in the middle which can be viewed from several vantage points, praxiography describes a kind of ethnography that explores how practices enact objects, implying inherent multiplicity. I challenge universalizing habits of thinking by foregrounding anatomy as a culturally emergent and creative practice and demonstrate the ways we relate to anatomy in dance training as metaphoric — a process of understanding one thing, the body in movement, in terms of another thing, anatomy. I will detail how through a learned anatomical literacy we come to be affected by anatomy, suggesting an unceasing potential to accumulate those sense-abilities. Finally, I will problematize the attempt to distinguish between raw and conditioned sensation, given that cultural conceptions have a significant influence on our sense-abilities.

I conclude by arguing for the importance of situating the practice of anatomy, as well as the practice of relating to it in contemporary dance training, to be culturally emergent. By foregrounding multiple incarnations of the head-tail relationship through “Anatomical Imaginaries”, I do the following: trouble individualism by arguing that in dance training we are learning across bodies situated in cultures; resist the universalizing hypothesis of the body through anatomy and the exclusions it pulls along; encourage a continued acceptance of the gains anatomy has to offer dancers; and finally, encourage a critical engagement in contemporary

dance training (e.g. technique class). I propose that proliferating the anatomical models we dance with, and the weaving of feminist and sociocultural theory into anatomically influenced dance training, contributes to illuminating and dissolving the troubling above-mentioned binaries. In so doing, anatomy may be re-rendered to foster expansive, rather than reductionistic, conceptions of the body.

PART 2: Habits of Thinking

“If a world can be what we learn not to notice, noticing becomes a form of political labor. What do we learn not to notice? We learn not to notice some suffering, such that if the suffering of those deemed strangers appears, then it does so only dimly, at the edges of our consciousness”
(Ahmed, 2017, p.32).

While discussing my thesis project “Anatomical Imaginaries” with a colleague, she was uncertain that she saw anatomy to be problematic, reductionist or to be inviting the binaries that I have named above in contemporary dance training and the culture it is immersed in. For both her and I, our formal dance training dates back more than two decades and we have since accumulated much experience, and exposure to many, sometimes clashing, approaches to applied anatomy in movement. We use these exposures as practical and/or creative tools to apply in our personal movement practices. For the younger dancer in professional training contexts, such as university dance departments or professional academies, I have observed that the use of unsituated anatomy, that is, anatomy that is presented as a truth claim, ultimately encourages students to seek bodily certainty and to value certain pedagogies and pedagogues over others — similar to my own experience as both student and pedagogue.

As a student in my professional training program, I brushed off teachers that used characters, colours, the elements, or other kinds of references as superfluous, while I gave credibility to those who offered anatomical prompts. I felt that I was ‘really’ learning from them and that they were giving me tangible and neutral tools to improve my technical skills, expressive capacities and reduce the risk (or manage) injury. Through the embodiment of anatomical metaphors, I learned to languish in a certain pleasure of movement and made

incredible progress in healing a severe back injury. Although I continue to be fascinated and moved or ‘affected’ by anatomy, as a dance artist, teacher and researcher, I acknowledge that orienting towards scientific explications of the body (e.g. anatomy, biomechanics, physics, neurology) infers orienting away from others, and, in doing so, implies an inherent set of exclusions. It is my responsibility to look to the dim edges of our consciousness to what we learn ‘not to notice’ when anatomy is used as a means to understand the body and movement in contemporary dance training.

Below I will explore how fellow dance pedagogues are pitted against each other through the constructed categories of ‘real’ and ‘not real’; how anatomy risks instilling a moralization of movement as ‘right’ or ‘wrong’, and how the categories of ‘natural’ and ‘unnatural’ conceal the significance of race, and de-signify cultural lineage and diverse gender expressions.

2.1 Good Teacher/Bad Teacher: Categories of ‘real’ and ‘not real’

“For me ‘somatics’ is simply emphasizing the science of movement. If I understand correctly, I think Margaret H’Doubler was the mother of somatics [within the dance community] because she taught strictly objectively, using anatomical knowledge. She didn’t demonstrate movement.

She wanted us to [explore and] understand how the body works” (Eddy, 2016, p.39).

As a pedagogue that offers anatomical references in dance class, I have had the privilege of receiving the same credibility that I gave my teachers. This at first seems great, at least for me when I receive my teaching evaluations, but on a broader scale, I recognize it as problematic in the ways in which it contributes to divisions and discrepancies between colleagues and curricula. What is at risk when students ‘like me’ because they waltzed away understanding how their spine

was articulating in great anatomical and technical detail, encounter different kinds of movement propositions that are perhaps contradictory, less, or not at all founded in anatomy, is the possibility that these learners categorize my teaching as ‘real’ — as though it were objective, neutral and non-imaginative. This anatomical authority on the ‘real’ is evidenced in one remark on Margaret H’Doublor’s teaching: “she taught strictly objectively, using anatomical knowledge” (Eddy, 2016, p.39). Feminist science and technology studies (FSTS) asks that we move away from epistemology, ‘true knowledge’ and distinctions between ‘real’ and ‘unreal’, in favour of an understanding that realities are situated in the practices that enact them (Mol, 2002; Haraway, 2020; Latour, 2004).

I contend that the categories of ‘real’ or ‘not real’ have little value in the creative and inherently collaborative nature of dance training and dance making. As a dance pedagogue, I lobby for re-valorizing a rich diversity of situated approaches to dance training and adopting a humble approach. When I remember that my way of knowing, including the science behind it, is tied to a specific way of worlding which enacts a ‘real’, I can also remember that this is the case for everyone, and thus, the authority of this ‘real’ can be humbled. Humility, by definition, resists seeing others and other ways as inferior and invites a shift from being competitive with each other to being collaborative. FSTS fosters a world where “reality and artificiality are synonyms, not antonyms.” (Latour, 2004, p. 213). For example, at the 2018 *Movement Educator’s Forum* on Metaphor and Movement, an Indigenous Maori teacher led the participants across the dance floor in a coordination in which our hands collaborated with our feet to move ourselves through the space. He guided us to “bring your hands and your feet to the floor like you are touching your grandmother’s back” (fieldnotes, 2018). This is amongst the kind of metaphoric worlding that as

a young dance student I would have regarded as superfluous. But, as you may imagine, my movement was affected and as I tenderly brought my hands to the solid wood floor as though I was touching my dear grandma's back, this metaphor changed my movement by cultivating particular bodily relations — not only a quality of touch as I came into contact with the floor, or my relation to gravity, but a relation of my body to one of my ancestors. This is as 'real' or 'unreal' as describing movement through anatomy and biomechanics. Both moving across the floor as though I were touching my grandma's back and moving across the floor attending to anatomical alignment in motion materialize in unique relational embodiments.

Through "Anatomical Imaginaries", I encourage a humble use of anatomy in dance training to diffuse and reattribute the 'real' authority given to anatomy by situating it as a 'non-neutral', culturally emergent practice, thereby challenging the conceptualization of the body as a 'natural' biological organism. In doing so, space is made for touching one's grandmother's back to be as real and welcome as another way of orienting. As one of the dancers in my project said in response to the invitation to humour the coccyx as expressive and animal: "It made me feel allowed and encouraged to feel things beyond my body, or beyond my bones. There are a lot of memories, and emotions and feelings" (Dancer 1, 2021). By encouraging dancers to attend to the particularities of what kind of body is produced when dancing with each anatomical imaginary, I show that the proliferation of anatomical models may foster bodies to become increasingly articulate through the embodiment of difference.

2.2 Right/Wrong: reifying binaries under the guise of proper alignment

“A specific vision of alignment lies at the heart of our Western dance tradition. It is an aesthetic vision, a vision shaped by aesthetics as well as by science. It is an integral theme in every dance class, spoken or unspoken. It allegedly gives order, form, and coherence to physical performance” (Batson, 2008, p. 140).

As mentioned above, I have languished in the sensorial profundity and kinesthetic pleasure that the embodiment of anatomical metaphors cultivated in my dancing body and I have been privileged to follow my interests. In my mid to late twenties, I began to train intensively with several Axis Syllabus teachers. The Axis Syllabus (AS) is an international community of movement researchers adopting an approach to movement practice anchored in an anatomical and biomechanical logic for which I became certified and subsequently taught widely for nearly a decade⁵.

At the beginning of my time with the AS community it was called ‘The Axis Syllabus Universal Motor Principles’, abbreviated as ASump. The terminology commonly used at that time included Major Universal Motion Centers (MaU), Minor Universal Motion Centers (MiU), Amplifiers (Amp) (Faust, 1998, p.33), and there were categories like ‘Landing Pads’ demarcating safe from dangerous areas of the body to receive weight (Faust, 1998, p.40). I believed that through universal human movement principles backed by anatomy and biomechanics I was avoiding harmful or injurious traditions of dance training and prescribed aesthetics. Though the subtitle ‘Universal Motor Principles’ was dropped and the terminology

⁵ I was certified to teach the Axis Syllabus in 2006 and resigned my certification in 2015.

and metaphors evolved along with the Axis Syllabus, I came to see a paradox: as an Axis Syllabus practitioner and teacher, I had been participating in reifying a kind of moralization of movement into the categories of right/wrong, efficient/inefficient and safe/dangerous. The irony is that while the Axis Syllabus had hoped to move away from any aesthetics of form, I came to see how old aesthetics were being replaced by new ones, valorizing new forms and a distinct movement vocabulary. In doing so, the AS community and practitioners of like-minded approaches emerging from the postmodern turn (discussed below in Natural/Unnatural), reified their predecessors (from even before the post-modern turn) in a similar way, but through new aesthetics.

The recognition of fear (e.g. of causing bodily harm) as a kind of pedagogical strategy became of concern to me. For example, the AS proposes an approach to walking mechanics by dividing the foot into a Receptive Foot System (RFS) and Propulsive Foot System (PFS). The receptive system includes the most inferior and lateral bones of the foot: *calcaneus*, *cuboid*, fifth and fourth *metatarsals*. The propulsive foot includes the more medial and superior bones in the foot: the third, second and first *metatarsals*, *cuneiforms*, *navicular* and *talus* (Faust, 1998, p. 47). The AS proposes a meticulous trajectory of loading and propelling body weight through these foot systems grounded in an anatomical and biomechanical logic. What I found troubling as a pedagogue was that I found myself correcting students if they were propelling their weight from the medial surface of their big toe and that this kind of micromanagement was not unlike the harshly criticized ballet teacher for suggesting a specific pelvic alignment (e.g. a tucked tail-bone). The AS proposed a clear ‘right’ and ‘wrong’ way to transfer weight from one foot to the

next. Consequently, I advocated that if weight was to be continually poured over the medial surface of the big toe, one would be tempting ankle, knee or back injury.

While the AS is not uniquely for dancers, as a dancer and dance teacher I am personally interested in and committed to working with dance artists. For dancers with a background in ballet, there are many parallels between what the AS teacher and a ballet teacher might propose; there are also divergences. For instance, going back to the above-mentioned pelvic alignment in which a tucked tail-bone (*coccyx*) and posteriorly tilted pelvis may be called for in ballet, it is ill-advised in the AS because it flattens the lumbar curve which brings joint surfaces apart, compromising the intervertebral discs and weakening lower back muscles, and so on goes the list of reasons why not to do it. As the list of ‘why not to posteriorly tilt the pelvis’ grows, ballet becomes positioned as inefficient, dangerous and even unethical.

Another example depicting this moralization — which both exemplifies the pertinence of my research project and fuels my motivation to counter universalizing hypotheses around the body — surfaced recently in a Facebook discussion. A movement educator publicly discredited another teacher over an image on a flyer for their workshop where the shoulder was depicted in a common shoulder stretch:

In this picture, the humeral head is being levered out of the joint. External rotation during shoulder extension takes the joint surfaces away from each other. That’s misalignment. You don’t need to practice misalignment to avoid misalignment. [A movement] teacher should not be encouraging their students to practice misalignment (Anonymous, Facebook comment, May 2022).

When reading this, I ask, who is causing whom more harm? The teacher demonstrating a passive *pectoralis* stretch where the arm and shoulder joint surfaces are moving away from each other and welcoming people to gather in-studio to engage in movement practice together? Or the teacher policing movement and building a climate of movement education so fiercely committed to aligning people? Clearly the latter. This post is demonstrative of ‘proper’ anatomical alignment being instrumentalized as a shaming device and to uphold categories of right and wrong which pull along with it a Eurocentric patriarchal tradition of universalization to purport truthfulness.

Through the “Anatomical Imaginaries” research project I am not interested in which anatomical training or model is more correct, but rather in the specifics of how they shape practice and the kinds of bodily relations they make. My hope is to move towards bodily ways of knowing through anatomy which dissolve these right/wrong binaries — to a vision where being sensitive to anatomy does not dominate but can be included in a celebration of the human body and movement in all its possible incarnations.

2.3 Natural/Unnatural: Normalizing effects of conceptualizing the body as ‘natural’

Before detailing how the concept of the body as ‘natural’ has pulled along so many exclusions, I will historically situate the popularization of anatomy in contemporary dance training contexts. Importantly, my research begins from the standpoint that nature and culture are always entangled — that there is no natural for the human body.

In 2020, amidst the isolation of the second wave of the Covid-19 pandemic and maternity leave, I attended several virtual presentations of *The Embodiment Conference*. I attended presentations by presenters and practices with which I was both familiar and unfamiliar. One of

the unfamiliar sessions was entitled “The Body is not Natural: The politics of embodiment” lead by a dance and gender studies scholar, Taiya Mikisch. This presentation impacted me because of its detailed milieu-specific sociocultural account of how beliefs about the body’s purity, or naturalness, have become deeply routinized and unexamined in contemporary dance and Somatics. Mikisch drew her public’s attention to the abundant claims of ‘naturalness’ in the conference programming. She invited her public to re-think their beliefs that the body is a biological given and to consider how “it is formed and reformed through performative acts and practices” (Mikisch, 2020). Through constructivist theory, Mikisch shows how the body is shaped by the discourses, assumptions, interests and practices that it engages with and suggests that ignoring these relations excludes certain sociocultural perspectives. Mikisch drew on some of the experiences and arguments proposed by the late UCLA LGBTQ2IA+ Professor Doran George in their book *The Natural Body in Somatics Dance Training* (2020).

In *The Natural Body in Somatics Dance Training*, George traces the origins and popularization of the concept of the natural body in Somatics and dance training to the mid-20th century, when it renewed momentum⁶, in New York City and its migration to England, Netherlands and Australia. George recounts the celebrated shift in the postmodern dance world in which a large aggregation of dancers, choreographers and teachers alike took a radical step away from what they felt were authoritarian training regimens over-concerned with aesthetics and under-concerned with injury prevention. Artists associated with the famous Judson Dance

⁶ I say “when it renewed momentum” because the conception of the natural body was not new to dance as evidenced by its prevalence in the 19th century — “a generation enthralled by evolution theory” (Daly, 1995, p.98) — and the work of Isadora Duncan who (dancing barefoot in loose fabrics) was radical in her time. Duncan’s style, which became mainstream, was often referred to as ‘natural dancing’, ‘classic dancing’, or ‘aesthetic dancing’” (Daly, 1995, p.100). The latter, ‘aesthetic dancing’, demonstrates an association between nature and aesthetics, contrary to 20th century postmodern dance community who believed the natural body to eschew aesthetics.

Theatre are recognized to be the catalysts of this movement. At this point in dance history, somatic approaches to movement, often including anatomical, physiological and biomechanical narratives, were popularly adopted. This new aggregation of the dance world believed that by understanding the body and movement through 'pure' sensation, they were escaping cultural influence and accessing a kind of 'pre-cultural' or 'natural' body. This understanding risks universalizing sensation as innate to human experience. By recounting how the concept of the 'natural' body emerged out of a rebellious and politicized sociocultural movement (Postwar Liberal US) that was enthusiastically adopted by the postmodern dance world, George illuminates how the body is never free of cultural influence and that the natural body is a cultural construction. They describe how the perceived escape from authoritarian training regimes (e.g. ballet, Graham and Limon techniques) towards an assumed neutral, aesthetic-free and inclusive approach to dance and movement (like Release Technique and Contact Improvisation) is a misconception, one that has been difficult to debunk as it is bolstered by scientific metaphors (George, 2020, p.3). By tracing the spread of somatically informed approaches George exposes the irony that, while born of a radical Leftist political movement, Somatics was slowly institutionalized into Rightist capitalist tropes (George, 2020, p. 138). *The Natural Body in Somatics Dance Training* (2020) was an unsettling read for me as it ruthlessly depicts how relating to anatomy in dance training in this way participated in and condoned racist, sexist, ableist and, ultimately, othering behaviour.

Thinking with both Mikisch and George helps me pay attention to what we learn not to notice when we conceive of the body as natural and when we aspire to a naturalness in our movement. It begs me to ask: what then becomes considered unnatural or artificial? Through the

concept of the natural body, what of human experience is deemed inconsequential? Below, I explore how race is rendered inconsequential by way of the scalpel; how cultural lineage is erased when movement inspired from non-Western traditions is explained through Western ways of knowing; and finally, how anatomical practice risks rendering non-normative gender and sexual expression as artificial.

2.3.1 Skin/No Skin: Colour blindness in the anatomy lab

Anatomy, in its historical and Greek etymological sense, means to cut up⁷ (Oxford, 2022). It is something that is done, namely a human intervention with a scalpel to a cadaver. A popular critique of anatomy points to the problem that the study of a cadaver is not representative of the living, moving, responding human body. While this is a relevant critique, I ascertain it to be well accounted for in current-day anatomy which has transformed with the times. By decentralizing the focus on the muscular skeletal system, which pulls along with it the mechanistic metaphors of stacked bones and muscle-bone levers and pulleys, contemporary anatomists' inquiries are now oriented towards the body's composite of wet, messy and dynamic systems. It has moved from "hard-matter physics to soft-matter, fluid, sensory dynamics" (Avison, 2021, p.94). Accordingly, new technologies have offered new ways to 'do' anatomy, enabling new ways to see inside the body (e.g. electron micrographs, microscopic cameras, magnetic resonance imaging, and others). Nonetheless, anatomists and practitioners that relate to anatomy, are still finding gross anatomy (anatomy that can be done without any magnifying tools) to be useful in continuing to learn about the human form. Similarly to how the movement

⁷ Etymologically from Greek "ana" means up and "tomia" means cutting.

and rerouting of a river over time can be understood through the study of the land through which the water once coursed, gross anatomy grants some access to understanding how the movement of life courses through the body.

Beyond looking at isolated parts and lifeless subjects, I would like to address the problem of how we are trained not to notice race in anatomical practice. My Individualized Master's program at *Concordia University* included a Directed Study, "Bodily ways of knowing (or not) through dissection", which included my participation in an intensive dissection workshop with Gil Hedley at the *Colorado Institute of Anatomical Research* in September 2019. One of the three donor cadavers in our lab was Black and I was struck by the group's lack of acknowledgement of this throughout the workshop. Following Hedley's dissection protocol "to observe, palpate, differentiate, reflect" (Hedley, 2007, p.16), upon being introduced each donor cadaver we were asked what we could 'observe'. Workshop participants started naming things; dry skin, he appeared young, his tag read 57 years, a visible pacemaker, a swollen belly, uniform skin colouring, circumcision, he looked peaceful, and so on (fieldnotes, 2019). Note that while skin texture and consistency was mentioned, colour was not. Thinking with sociologist Robin DiAngelo (2018), author of *White Fragility: Why it is so hard for white people to talk about race*, I understood the 'not mentioning that the donor cadaver was Black' as colour blindness — a term that DiAngelo sums up as the insistence by White people "that they didn't see race, or if they did, it had no meaning" (2018, p.41). DiAngelo, an American who writes largely about American culture, explains how this position does not undo racism but rather sustains it by the refusal to acknowledge that Indigenous, Black and People of Colour (IBPOC) have a different lived experience than White people and that they have inevitably experienced racial inequity in

their lives because of their skin colour (DiAngelo, 2018, p.42). DiAngelo argues that not seeing race does not make you anti-racist, nor does seeing race make you racist, inviting a divestment in the good/bad, not racist/racist binary. Alternatively, she acknowledges the deeply socialized history of racism and proposes that we understand it on a continuum (DiAngelo, 2018, p.87), along which each of us sits somewhere.

Hedley is reputed for giving gross anatomical method an overhaul aligning with the vision of a unified body in contemporary anatomy. His method reflects this by dissecting in whole body layers and by maintaining the integrity of parts. Hedley distinguishes a body layer as perceptible by textural difference. In his lab we work progressively through skin, superficial fascia (adipose), deep fascia, muscle, bone and visceral layers. By integrity of parts, I mean that his method avoids severing parts using cross-sectional cuts, by instead cutting longitudinally along the borders of clearly divisible entities. Through this method, Hedley models the body as “differential movement, whole body connectivity” (2018, p.1).

After the initial phases of ‘observation’ and ‘palpation’ with our donor cadavers, later that first day we were taught a technique to differentiate the skin from the superficial fascial layer and we made our first cuts. By the end of the first day, we were able to fold back and ‘reflect’⁸ a large amount of skin. What was remarked through the anatomical practice was that skin pigment is a mere half-millimetre deep. I think this, though true to its method, sets the tone to further ‘not notice’ that race and sociocultural lived experience influence what our bodies are and become.

The group I was working with marvelled at how “race is just a flip of the skin” (fieldnotes, 2019)

⁸ The terms “observe, palpate, differentiate, reflect and remove” describe the dissection progression in Hedley’s anatomy workshops. Reflect, “implies freeing a tissue, layer, or organ partly, while leaving part attached, so that it can be ‘bent back’ and then put back into place, so that you could repeatedly demonstrate how it was first situated” (Hedley, 2007, p.17).

— a statement that can easily be added to DiAngelo’s list of colour blind statements: “I was taught to treat everyone the same; I don’t see colour; I don’t care if you’re pink, purple, or polka dotted...” (2018, p.77). This kind of anatomical thinking perpetuates colour blindness and allows the mostly White people doing anatomy to feel at peace with themselves as not-racist because they know for certain that skin colour is insignificant.

Through “Anatomical Imaginaries”, I foreground the importance of situating anatomy as something that is done; it is a scalpel and human intervention that render skin pigment inconsequential. Reminded by medical anthropologist and FSTS scholar, Annemarie Mol, that “objects come into being — and disappear — with the practices in which they are manipulated” (2002, p.5) it is my hope that anyone who relates to anatomy in their practice, including dance and movement educators, resists universalizing hypotheses and acknowledges that even though anatomical practices renders skin pigment “only a millimetre thick” (fieldnotes, 2019) it has a profound and thoroughly embodied impact on lived experience.

2.3.2 Erasure of cultural lineage through biomechanical explication

Along with this revolutionary shift presumably away from aesthetic forms associated with White, Western, hyper-ableist virtuosity such as ballet and modern dance, came an attraction to older, non-Western movement traditions, anchored in Oriental, African and, Indigenous forms of body wisdom and embodied posture. In a continued effort to illuminate popular habits of ‘not noticing’ when relating to anatomy in dance training, I would like to address how cultural lineage risks being de-signified and/or erased when dance and movement from non-Western traditions are analyzed and explained through the Western traditions of

anatomy and biomechanics. I also call attention to how these explanations indulge in a kind of ‘smuggling’ when movement principles and vocabulary from non-Western practices are applied to contemporary dance.

The smuggling I speak of is exemplified when dancers take martial arts classes (e.g. Aikido or Capoeira) as a means of inspiring new movement vocabulary, or learning new movement principles to translate to dance class. For example, Steve Paxton, a pioneer of the Judson Church Theatre and of Contact Improvisation, took the time to compile a set of practice propositions consisting of a set of distinct warm-ups, rolls and what he calls ‘movement puzzles’ entitled *Material for the Spine (MFS)* (2008). In *MFS*, Paxton draws connections between his long history with Aikido, dance, and Contact Improvisation. He revisits and shares several warm-ups from his Aikido practice such as ‘curved lines’ and ‘projection’ and applies them as movement principles to forms in motion — namely the Helix, Crescent and Aikido rolls (Paxton, 2008). Curved lines can be described as an arc of the form of the body, either as a whole or as a part (e.g. of the arm), and its curved trajectory in space. Moving with curved lines produces different effects than moving in straight lines and cardinal planes. Projection is an energetic extension beyond the edges of the physical body, for instance, I remember a teacher once cueing ‘project your arms out to and beyond the horizon’. Projection creates a change in quality of movement and potential different from a bodily awareness that stops at the edge of the physical body. Paxton proposes curved lines and projection as a means to avoid collapse of the body and to maintain a physical resilience while coming into contact with others and/or the floor, but also offers them as broadly transferrable tools. The Helix, Crescent and Aikido rolls are moving forms that provide a container in which to practice curved lines and projection among other

things. While curved lines and projection are useful and tangible movement strategies, what I am trying to draw attention to is that when we explain movement through anatomy and biomechanics, we are not getting closer to its cultural history; rather we risk erasing that cultural history and lineage. Understanding this threat, George (2020) writes that,

Approaching Tai Chi⁹ [and Aikido] as a detached observer, Paxton extracted understanding of the body from what seemed like an ancient source of knowledge.

Through the framing of his insights within the discourse of Western science, the cultural origins and meaning of the martial art disappeared into essential bodily truths used for contemporary agency (George, 2020, p.37).

I had the opportunity to study with Paxton in 2009 and the experience has provoked a dedication to precision that keeps me returning to the practice propositions of *MFS*. While I deeply value the work of Paxton, and in no way wish to diminish his incredible and pivotal contribution to dance history, I feel it important to investigate what practices and discourses are erased or validated through anatomical and biomechanical explications.

As my dance research intersects with anthropology, it perplexes me how evolutionary theory and the exoticization of ancient non-White traditions are so severely critiqued in the social sciences for how they participate in upholding racism; but yet, in the culture of dance and movement training, ancient non-Western traditions of movement, for example, coordinations that mimic hunting-gathering and self-defence skills (e.g. squatting, running barefoot, agility) have been popularized anew in dance. Once again, George puts their finger on the problem of

⁹ While George references Paxton's experience with Tai Chi, but in my experience studying with him and in *Material for the Spine*, he referred more often to his history with Aikido. In this chapter, interchanging Aikido with Tai Chi (or the name of any other non-Western practice) carries the same meaning.

assimilating movement from older and non-White cultures, as though it were a means of embodying pre-cultural body wisdom, when they echo Brenda Dixon Gottschild¹⁰, American choreographer and anti-racist cultural worker, who “insists that postmodern dance erases the influence of black culture” (as cited in George, 2020, p.6). George similarly includes Somatics arguing “that the practices — in the process of claiming to ‘peel away’ cultural imposition and ‘reveal’ pre-cultural aptitudes... end up erasing the influence of black culture” (George, 2020, p.6). I extend this argument and call attention to how deducing movement smuggled from non-Western traditions to biomechanics participates in obscuring cultural influence.

2.3.3 Naturalizing neutralizes gender expression

“Just because you can’t dissect it out with the tools that we have inherited from the post-classical period, doesn’t mean that it isn’t there” (Kirkness, 2021).

Finally, the last problem I will address relates to the popular critique that anatomy generalizes the body into norms and averages reinforcing the conception of the body as a natural, biological organism. Like, the acknowledgement that a cadaver does not represent the living body, the tendency of anatomy to generalize the body is also widely accounted for by contemporary anatomists. This accountability is signified by anatomists’ common reminder that “the map is not the territory” (Avison, 2021; Hedley, 2017; Myers, 2009), referring to the discrepancy between the representation of the body in our anatomical atlases and models (e.g. of

¹⁰ Brenda Dixon Gottschild, is an American choreographer, performer, anti-racist cultural worker and Professor Emeritus of dance studies at *Temple University* (Philadelphia). She is renowned for research and publications on cultural activism, dance and the African diaspora, including *The Black Dancing Body; A Geography from Coon to Cool* (2003), *Digging the Africanist Presence in American Performance: Dance and Other Contexts* (1996) among many others. Gottschild is a primary resource in Doran George’s research.

a skeleton) versus the spatio-textural reality and uniqueness of each body. Hedley encourages his students to acknowledge that models are not a mirror of the self but a baseline that describes average relations of the human body. He discusses difference in bodies and the distinction between normal and pathological thusly:

Literally, every body is different; every body represents a unique expression of the embodiment of the human form. We are as unique on the inside as we are on the outside. That having been said, there are patterns of tissue structures, relationships, and textures that we share in large measure, while each one of us manifests variations on principal themes. Experience in the lab enables one to differentiate more readily among predominant or 'normal' presentations of tissue relations, healthy but anomalous presentations, and pathological presentations (Hedley, 2019, p.1).

As Hedley describes, anatomical practice lends itself to determine and model the approximate whereabouts of the body's parts. With the help of the scalpel, anatomy forwards a 'seeing (and touching) is believing' way of knowing, whereby the ability to "observe, palpate, differentiate, reflect and remove" (Hedley, 2007, p.15) gives the discipline quick credibility confirming the norms of the human form.

In 2022, as a global social justice movement increases its articulation, demanding a long overdue updating of our behaviours and categories apropos gender, race, ability and disability (to name a few), I would like to acknowledge how the visibility of gender diversity and expression disappears in the anatomy lab. Gender diversity can be exemplified in current day understanding of transgender and the breadth of who gets to identify as such. Transgender refers broadly to a person who identifies with a gender that is different from their biological sex at birth, which may

include transition from female to male, or male to female, and/or non-binary, fluid, agender and/or bigendered (Germain, 2022, p. 31). Aligned with how feminist scholar Judith Butler offers the term ‘performativity’¹¹ to describe the embodiment of identity, gender studies understands gender as socially constructed or performed. Gender is social, not anatomical. Seeing bodies as either anatomically male or female obscures diverse gender expression; “If gender is not fixed and physical but viscous and performed the body’s sexual organs are not enough to mark it” (Mol, 2002, p.38). The erasure of gender diversity and expression in the anatomy lab is another example of how “objects come into being — and disappear — with the practices in which they are manipulated” (Mol, 2002, p.5).

Whether at the supermarket or in the locker-room, whether alive or embalmed, gender identity cannot be presumed. While clinical anatomist and fascia researcher Karen Kirkness was referring to fascia with the call to attention that: “Just because you can’t dissect it out with the tools that we have inherited from the post-classical period, doesn’t mean that it isn’t there” (Kirkness, 2021), in the spirit of gender advocacy and empowerment, I propose this same logic to gender identity.

What does this have to do with contemporary dance training? I forewarn dance artists and pedagogues that subscribing to anatomy as though it were a neutral resource that privies access to a ‘pre-cultural’ or ‘natural body’, casts those that diverge from ‘natural body’ aesthetics as ‘unnatural’. Such as described by George in their experience navigating a Somatics-heavy dance institution as a non-binary, transgender, queer student:

¹¹ For Mol, ‘perform’ implies that a person may be able and responsible to individually practice their identity. However, with ‘enact’ Mol proposes a non-individualistic word that describes a collaborative making of many objects across people, practices and complex relations.

The training largely excluded non-Western dance aesthetics, and configured transgender expression as artificial. My pronounced assimilation of words containing “s” sounds, and effeminate movement, seemed not to be culturally neutral because it challenged prevailing beliefs about natural gender. So when I was told my voice was unnaturally high and was encouraged to work with male teachers to connect with my masculinity, I believed my femininity resulted from my bodily nature somehow having been thwarted. (George, 2020, p.3)

George’s description is demonstrative of how prevailing beliefs about ‘natural’ threatened to push them away from embodying their difference towards an embodiment of neutral reflecting the assumption that “human anatomy is broadly the same across gender and ethnicity” (Kirkness, 2021). I argue for the importance to acknowledge that like race, gender has an inevitable impact on our lived experience and bodies. In doing so, we can cultivate an environment that welcomes people to embody their difference in dance training.

2.4 Moving forward from here

“I breakdown my model not to believe it too much, but as a way to get in” (Hedley, 2015).

Ultimately, by identifying these exclusions, I am inviting those who reference anatomy in contemporary dance training, not to avoid anatomy, but rather, to notice and to be accountable for the typically un-noticed micro violences embedded in the practices and to seek strategies to un-do the universalizing assumptions that often go along with anatomical, biological, physiological and other scientific explications. By engaging with different anatomical models of the head-tail relationship, my Practice as Research project “Anatomical Imaginaries” emphasizes

the critical position that no anatomical model should be sold as true, or the truest, but rather, as one model among many other models, among many other bodily ways of knowing, that may have nothing to do with anatomy or the natural sciences.

PART 3: Anatomy of the Method

In Part 2, I have acknowledged some of the many ways that anatomical orientations risk narrowing conceptions of the body by upholding a troublesome number of binaries in their tendency to universalize the body into foundational truths backed by science. In Part 3, I will outline the methodology for “Anatomical Imaginaries”, through which I provide a context to explore how the body is affected by multiple anatomical descriptions of the head-tail relationship. With a desire to relate to anatomy in contemporary dance in a manner that concurs with the current social justice awareness, through my project, I seek ways to expand conceptions of the body while simultaneously acknowledging all of the above-mentioned exclusions, or bodily ways of not knowing

3.1 Methodology: A creative reflexive praxiography of the senses

“My ethnographic strategy hinges on the art of never forgetting about microscopes. Of persistently attending to their relevance and always including them in stories about physicalities” (Mol, 2002, p.31).

My research employs a creative Practice as Research (PaR) methodology that I am calling a ‘reflexive praxiography of the senses’. My project, “Anatomical Imaginaries”, is grounded in contemporary dance practice and relies on the dancers’ experience of engaging in self-directed movement exploration based on a metaphoric prompt — a common component in a contemporary technique class. For example, in my classes I may offer dancers the image of steering the body from the heel like rudder or, of pointing the sit bones to one heel or the other. While in-studio with dancer-informants during “Anatomical

Imaginarities”, I refrained from proposing didactic ways to engage with the anatomical imaginaries in order to optimize their freedom and creativity. As a dance artist and pedagogue, I consider seriously and foreground movement practice and dance as methods of inquiry and knowledge production. PaR methodology assumes that “practitioner-researchers do not merely ‘think’ their way through or out of a problem, but rather they ‘practice’ to a resolution” (Nelson, 2013, p.10). The PaR model “includes the subjectivity of the practitioner, therefore embracing the turn in the arts and humanities towards subjective knowledge making, rather than positivist, objective practices” (O’Connor, 2019). Aligned with these values my project sought to create a context for a group of dancers to engage in movement practice as a means of exploring what relating to anatomy in dance training can do — i.e. how their bodies and movement were affected.

Sensory praxiography is a sub-field of sensory ethnography. Sensory ethnography constitutes a field of anthropological research that investigates how the sensory orders of cultures develop and change over time (Classens & Howes, 2022). Anthropologist Kathryn Linn Guerts defines sensory orders “as a pattern of relative importance and differential elaboration of the various senses, through which children learn to perceive and experience the world and in which pattern they develop their abilities” (Guerts, 2003, p.5). I recognize contemporary dance classes and training programs as formal pedagogies — often somatically informed and anatomically influenced — that impact both what dancers ‘learn to perceive and experience’ and the ‘abilities’ they develop. Sensory ethnographies “pay attention to embodied (multi)sensory experience” (Culhane & Elliott, 2017, p.46). As a

researcher in “Anatomical Imaginaries”, I pay attention to the dancer’s sensory experiences of relating to differing anatomical descriptions of the head-tail relationship.

Praxiography is a term initially proposed by medical anthropologist and FSTS scholar Annemarie Mol in 2002 that is gaining momentum in social science research (Nott & Harris 2020; Dumit & O’Connor 2014; Latham 2017). It describes a kind of ethnography that investigates, and culturally situates, how different practices contribute to diverse ways of knowing, or as Mol reminds us, that different practices enact different realities (2002, p.179). For Mol, the term ‘perform’ implies that a person may be able and responsible to individually practice their identity, hence, she offers ‘enact’ as a non-individualistic word that describes a collaborative making of many objects across people, practices and complex relations. Along with culturally situating ways of knowing, the task of the praxiographer is to expose the practical interventions: “My ethnographic strategy hinges on the art of never forgetting about microscopes. Of persistently attending to their relevance and always including them in stories about physicalities” (Mol, 2002, p.31). While Mol identifies the microscope in her research, in “Anatomical Imaginaries”, my research hinges on never forgetting about the anatomist’s scalpel, the contributor’s models, and the dancer’s felt experience of their bodies, all of which are tools in the layers of practical interventions that inform the dancers’ sensory experiences. Curious about how the practices of contemporary anatomy, and of dancing with anatomy, influence the sensory orders of dancers, I approach “Anatomical Imaginaries” as a sensory praxiography.

Lastly, I will elaborate on the reflexivity of the project. “Anatomical Imaginaries” follows a participant observation model with three roles: interlocutor, dancer-informants

and contributors. The ethnographic model of participant observation in which the ethnographer observes a community outside of their own for their fieldwork, analyses it, and relays their findings (Elliott & Culhane 2017, p.10), has been criticized for its mostly Eurocentric objectivism and the colonial implications of explaining the culture of others. My research method addresses this problem in two ways. Firstly, “Anatomical Imaginaries” inquires into worlding through anatomy from within a community of which, as a Montreal-based contemporary dance artist and pedagogue, I am an active and influential member. Secondly, in “Anatomical Imaginaries” I practice along with the dancer-informants. As interlocutor I inquire into how the dancers describe their felt experience of moving with each anatomical imaginary, and I include my own experience. The kind of research I am conducting is not a detached observation of the dancer-informants. I contend that detached observation would interfere with the research as an interrogating gaze can radically affect both how the dancer engages with the material and what they feel. By dancing along with the dancers, I attempt to flatten the power dynamics associated with stratified research methodologies. At the same time, I aim to reduce any focus on producing a visual aesthetic or performance value. I consider my position to be an “observant participant”, an alternate term to “participant observation”, offered by anthropologist Barbara Tedlock (as cited in Culhane & Elliott, 2017, p.10) in an attempt to re-frame the work of the ethnographer. Accordingly, as interlocutor I adopt an involved observation role, rather than a detached one.

While the one-week PaR event “Anatomical Imaginaries” brackets my project as formally proposed, I would like to acknowledge that, like fascia, the edges of influence

cannot be so clearly delimited. Given the reflexive, praxiographic nature of my research, I acknowledge that my years of experience as a contemporary dance teacher, as well as some specific complementary events and studies all contribute to this thesis. These influences include my history with the Axis Syllabus research community, much of my course work (namely the Directed Studies) leading up to this thesis, two *Movement Educator Forums* that I have facilitated on *Metaphor and Movement* (2019) and *Head-Tail Relations* (2021) and, lastly, an artist's residency during which I revisited the anatomical imaginaries taking a more intuitive approach through practice, which afforded me more time to scrutinize — to stop the recording, to replay, and to try again.

3.2 The Project: Anatomical Imaginaries

For “Anatomical Imaginaries” I invited five anatomically trained professionals from different fields of practice (Chiropractics, Kinesiology, Craniosacral therapy, Osteopathy and fascia studies) as ‘contributors’ to compose an audio description of the head-tail relationship. The head-tail is popularly understood in dance and Somatics to describe a relationship between the head and the pelvis, or more generally, between up and down, or “two opposing ends of an entity” (fieldnotes, 2021). Head-tail as a theme has provided a container for the research; though in designing the project, it was important to me to leave the theme broad enough to both clearly relate to anatomy, while still leaving space for a variety of interpretations that may lay outside of anatomical frameworks. Each anatomical imaginary that was contributed was approximately ten minutes in length and may be thought of as a distinct model.

Given the pandemic context and swiftly changing health and sanitary regulations I created a project that could be done either in-person in-studio or, synchronously online via a web conference platform. Uncertain of how many, if any, people I would be able to gather in-studio, and in lieu of the normalization of distance exchange¹², I seized the opportunity to recruit five innovative voices in the international anatomy and movement research community including, from some faraway places:

Matthew Onarheim-Smith, New Zealand, Osteopathy

Joanna Abbatt, Montreal, Kinesiology & Movement therapy

Madelaine Shen, Argentina, Chiropractics

Kevin O'Connor, California, Fascia Studies & Craniosacral therapy

Shannon Cooney, Berlin, Craniosacral therapy

Each of these contributors is expert in their respective fields of practice and they are all highly sought-after educators and/or body workers.

Upon listening to their recordings, even before engaging with them through movement practice, I could see that no two practitioners described the head-tail relationship in a similar way. The range of articulations was then multiplied by how each of the dancers mobilized each anatomical imaginary. Before detailing what emerged as we danced with each anatomical imaginary, I will first give a summary of the rich and diverse descriptions of the head-tail that were contributed to the project.

¹² By normalization of distance exchange, I am referring to online communication platforms (e.g. Zoom) rapidly becoming commonplace at the time of the Covid-19 pandemic. As dance studios and institutions were closed, many dance classes moved online which facilitated participation in classes virtually anywhere in the world. Along with video conferencing, audio lessons likewise increased in popularity. Two examples include, Shannon Cooney (Berlin artist and body worker) offered audio guided craniosacral/movement experiences, and the Feldenkrais Method, which uses only vocal cues transferred easily to distance learning or pre-recorded sessions.

DAY 1// Head-Tail as a Snow Leopard

Madelaine Shen, chiropractor and dance teacher, contributed what she identified in an e-mail exchange as “science poetry” (June 5th, 2021). Her anatomical imaginary leaps from body (both human and animal), to spirit, to environment — from anatomical terminology like the atlas (the topmost bony ring-like vertebra that articulates with the skull), to more widely accessible metaphors likening the spine to a sandwich tower, or a snow leopard slinking through the snowy rock of the Golby Alto mountains of Mongolia. She attributes the head and tail to be expressive of play, sensuality, grief, anger, joy and, at the same time as functional, “to keep balance and to coordinate many movements”. Madelaine narrates what would be depicted in an anatomy atlas as a fixed long band of whitish fibrous tissue that lays along the front vertebrae, the anterior longitudinal ligament (ALL), as an adventurous ride from the head to the tail that endures time as it runs, splits, curves, ducks, grabs before finalizing in a delicious scoop. Her entire description of the head-tail relationship is in movement.

The anterior longitudinal ligament, or ALL for short, paints along the front of my spine deep within my body. Starting just behind that covid test-tickle spot running down my throat behind my esophagus the ALL gets massaged as I swallow. Passing into my thoracic basket as my trachea splits to breathe my lungs, the ALL follows the backwards curve behind my heart between my lungs ducking through and grabbing tensional fibres from my diaphragm curving forward at my lumbar spine continuing its path between my *psaos*, sweeping over my *lumbo-sacral* junction,

curving backwards again to embrace the rectum making way for pelvic plexus nerves finalizing in a delicious scoop into the pelvic floor pooling around and holding my holes (Shen, 2021).

There is nothing still or lifeless about her description, supporting my mention that anatomists and anatomically trained practitioners are no longer professing a “dead-ology” (Kirkness, 2021), but rather, they acknowledge the pulsing vitality and expressivity of the body. One dancer-informant wrote about Madelaine’s anatomical imaginary, “I felt it opened the channel of the spine, a place where things travel, not a solid structure” (Dancer 2, 2021).

DAY 2// Head-Tail as Fluidic Rhythm

Kevin O’Connor, fascia studies, dance artist and Craniosacral therapist, offered a more spacious recording weaving invitations to sense and move within his description. He begins by bringing the attention of his listeners to body rhythms more easily felt in the body, those of the heart and respiratory rhythms, and likens them to “ocean waves” and “ocean swells” that are “underneath the waves and yet also move the waves” respectively. Kevin follows by inviting the listeners to attend to the motion of their central nervous system, the cranial rhythm that connects the brain to the spinal column and the pelvis by imagining a “slower tide-like rhythm that underlies the waves and swells”. Kevin orients us in the body by describing the anatomical material and their relations as such:

Bring your attention to your brain and imagine surrounding the brain a layer of thick dense fibrous connective tissue called dura matter. This protective layer descends down

from surrounding the brain from the cranium and has a firm connection to the vertebrae of the neck and then from the neck vertebrae. This matter forms what's called a dural tube that then runs through the centre of the spine. As it runs through the centre it has no bony connections until it gets to the *sacrum*, the middle bone of the pelvis, and here the dural tube descends through the small opening at the base of the *sacrum* and then attaches to the back of the tail bone, or *coccyx* (O'Connor, 2021).

Kevin invites us to sense these relationships and the corresponding rhythmic movement; as the dural tube surges with cerebrospinal fluid, he describes a coiling and uncoiling movement that spans from head to tail. By foregrounding the fluid anatomy, Kevin's anatomical imaginary depicts how matter transgresses boundaries, as the cerebrospinal fluid circulates nutrients to the whole body, filters toxins and is re-absorbed into the blood stream.

DAY 3// Head-Tail as whole-body dynamical relation

Joanna Abbatt, Montreal's local anatomy wizard, kinesiologist, massage and movement therapist, portrayed the complexities of relations in her description of the head-tail relationship. Her anatomical imaginary started with an overview of the spine and its composition of the skull, cervical, *thoracic* and *lumbar vertebrae*, *sacrum* and *coccyx*, but swiftly expanded the description to broader relations including the entire trunk, the pelvis, ribs, all the different muscles (pelvic floor, abdominal, spinal, breathing, head, neck muscles and more) and all the trunk's organs and glands. Joanna's description continuously expanded what the head-tail relationship was as it included energetic space beyond the top of the head, as well as, connection to our limbs: for example, while standing the importance

of “how the weight is transmitted from the pelvis down through the sitting bones, right down to the feet, and vice versa, from the feet up to the sitting bones, to the legs into the pelvis, and the sitting bones and how this affects the positioning of the *coccyx* which will ricochet all the way up to the top of the spine” (Abbatt, 2021). She further complexifies the head-tail relationship by suggesting that dancers are rarely always standing and more often continuously changing orientations to gravity without qualm, harnessing the momentum of their body with grace, all the while attending to their relationship to space and to others as well as additional factors perpetually affecting the head and the tail. Joanna proposes a dynamic model where “one thing affects another” (Abbatt, 2021), highlighting that stability, or stillness, is only ever an illusion because gravity is a force to which we are constantly adapting — a relationship that one dancer described as “a relationship between stability and mobility where one necessitates the other” (Dancer 6, 2021). Joanna also brings agency into the tale by detailing that “we can move from the top of our spine or from the bottom of our spine... or we can even move from the middle structure, meaning the thoracic spine” (Abbatt, 2021); she infers that as dancers, we are able to make this relationship a fluid one. Her anatomical imaginary sits within the language of an updated anatomical and kinesiological way of knowing, reflecting the dynamic whole-body model of contemporary anatomy.

DAY 4// Head-tail as a raw sensation and conceptual overlay

In his anatomical imaginary, Matthew Onarheim-Smith, dancer, performer and Osteopath, invited us to attend to “what we can actually perceive of the head and the tail

and the relationship between them in terms of actual sensation” (Onarheim-Smith, 2021). He makes a distinction between raw sensations and conceptual overlay. Matthew channels attention to sensations of temperature, pressure, and tingling and highlights how the feeling between the head and the tail is more of an absence of sensation. He journeys us first to the head, attuning to sensations on the face, the back of the head and the visual field behind closed eyes. Then, we jump to the tail, “the base of your spine”, bringing attention to how when sitting we feel more the pressure of the sit bones and perhaps the buttocks and how, for most, the tail is void of sensation. Matthew invites us to inquire into how our sensory experiences of the head-tail relationship, may or may not correspond with anatomical depictions of it:

Let’s consider the relationship between your head and your tail. When you’re paying close attention to what you feel, in terms of the raw sensation, do you actually perceive the form and shape of these structures? Does the sense of form collapse? And only a cloud of changing sensation remain? Might it be the case that the form of your head and tail, that their shape, is actually a construct, an anatomical construct, of your mind overlaying this field of sensation — these changes sensations of pressure, temperature, tingling? (Onarheim-Smith, 2021).

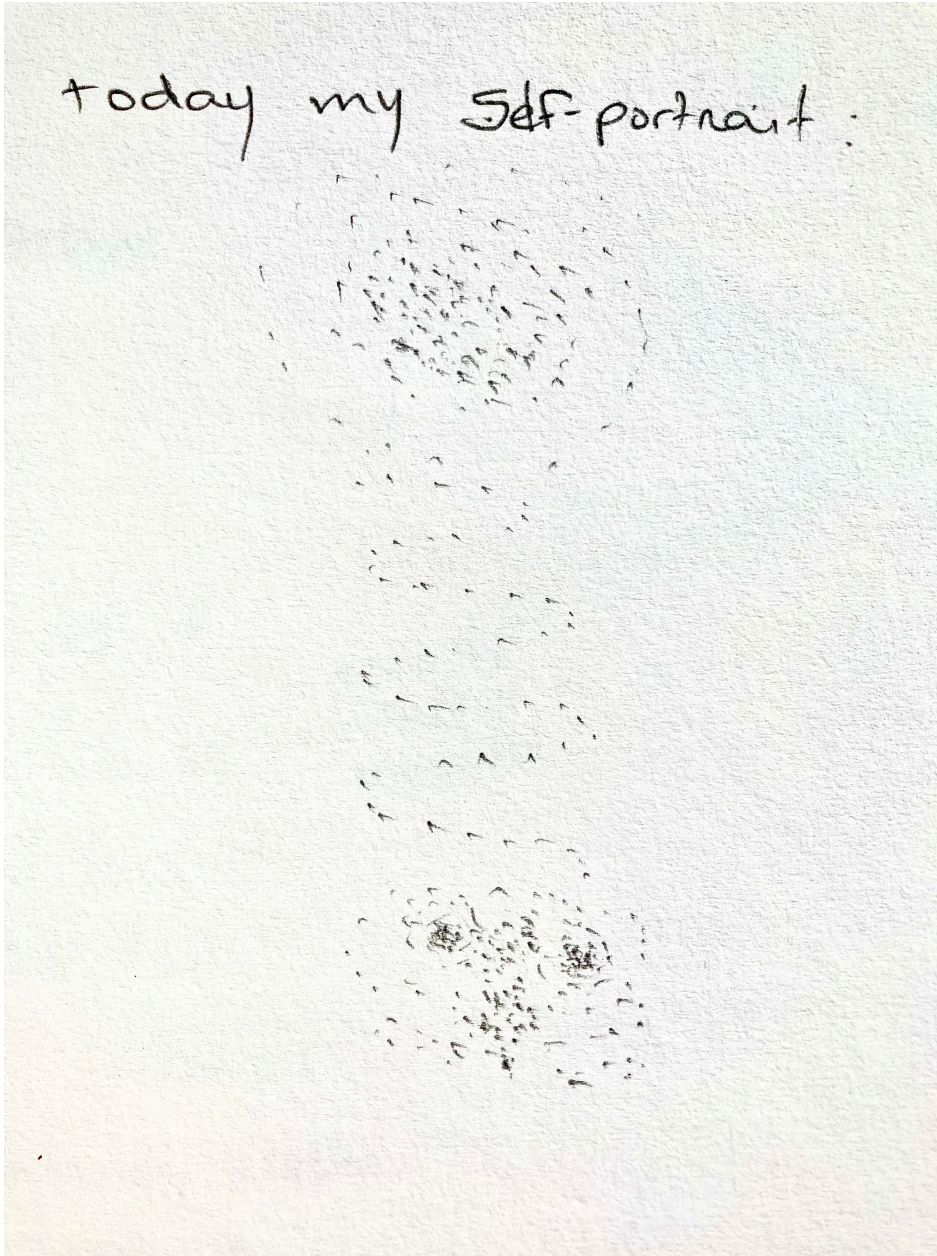
Matthew’s anatomical imaginary invites a distinction between sensory receptors and the conceptual overlay of ideas. Through emphasis on ‘actual’ or ‘raw’ sensations he moves away from clearly discernible forms like muscles, bones, and ligaments, that may be depicted through anatomical practice to cloud-like fields of perception. This not only obscures traditional anatomical depictions of the head-tail relationship, but offers a model

rendered from somatic experience which is beautifully depicted in a self-portrait from one of the dancers [See Figure 1].

Matthew also invites us to humour a shift in our perception of the head-tail from a sense of being “behind your face and above your tail” to being your tail: “Are you not also your tail? Is it not also possible to perceive your tail from within it, rather than from above it?” (Onarheim-Smith, 2021). This invitation nudges us to re-merge body and self and consider the body as self.

Figure 1

Dancer's sensory portrait of the head-tail



Note: Image photographed from Dancer 5's journal, *Anatomical Imaginaries*. (2021)
Copyright Kelly Keenan.

DAY 5// Head-Tail as fluid dynamics

Shannon Cooney, who works with craniosacral fluid dynamics in relationship with dance, proposed an anatomical imaginary that interrelates the anatomical landscape of the body, to that of our planet and the natural world. Shannon describes how head-tail relationship may be experienced like an energetic movement, “as a double helix of liquid light”, spiralling down from the base of the tongue to the Earth — who graciously “rises up to meet, match and support exactly the amount of weight and release that we offer” (Cooney, 2021). She includes the “top of the head, tip of the tail” as integrated in what she calls the ‘mid-line’. Along with this Earthbound spiral, Shannon includes breadth in the head-tail story, for example, by bringing our attention to the 360-degree circumference of the diaphragm likening it to a horizon we may remember (or conjure in our imaginations) of being on an island, a boat, the top of a mountain, or on the open prairie. She invites us to imagine a breadth which extends far beyond the confines of the physical body, towards the boundlessness of the horizon. One dancer described her felt experience of the horizon:

There seems to be a very clear shift when a practitioner draws attention to the horizon. In me, I could describe it as a drop somewhere in the area of my diaphragm that causes release in my forehead and eyebrows and behind my cervical spine. I can breathe more deeply. A vastness behind and around me and in my belly (Dancer 2, 2021).

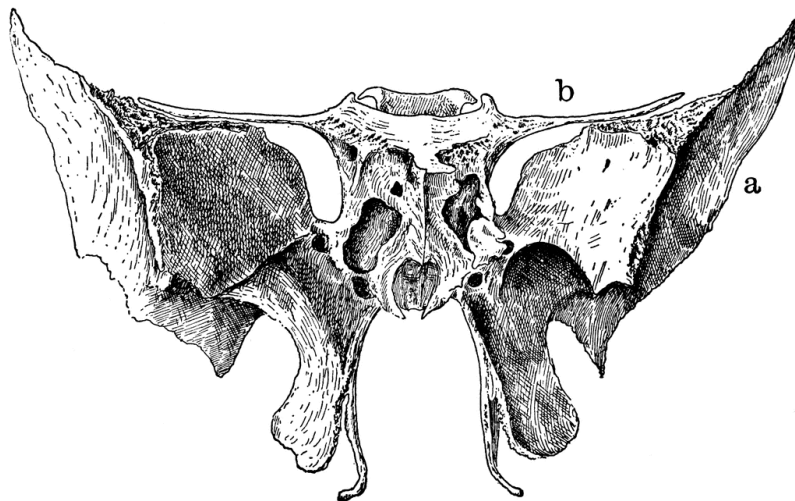
Rather than bringing our attention to the skull itself, she brings our attention into the skull to the *sphenoid* bone [See Figure 2], a fine bone of nuanced contours that demarcates the horizon of the head above the soft palette of the mouth and behind the eyes, inviting us to:

Smile behind your eyes, so the wings, the great wings of your *sphenoid*, perhaps these wings which are your temples, may fly wide out and up to the top two corners of your room or the top two corners of the canopy of the forest you are in (Cooney, 2021).

Shannon finishes by inviting us to become seal or sea lion, swishing our tail, playfully, with our eyes active and curious about someone on the beach. To use our tail to both navigate the fluid bodies of ourselves and our environment — to use the tail swish to both “give space for this [cerebrospinal] fluid flow and not just the tail but through the spine but up into and surrounding your cranium”, but also, to navigate, tether, steer and ground in “waves and currents, splashes and disruptions, in the surface waters or in the undercurrents” (Cooney, 2021) of an oceanic environment.

Figure 2

The sphenoid bone



Note: ClipArt etc., by D.C. Kimber. 1907. https://etc.usf.edu/clipart/35300/35368/sphenoid_35368.htm. Copyright [2004–2022] Florida Center for Instructional

3.3 Dancing with Anatomical Imaginaries

With a preference to gather in-person I then invited five local dancers who had recently graduated from a professional training institution to join me for a week of morning sessions (9am - 12pm) to engage with these anatomical imaginaries through movement practice. Thankfully, by August 2021, *Concordia University* had just begun resuming some in-person research activities for which my project was approved. It took place at a local dance studio where dancers could easily maintain the social distancing measures in place at the time. Given the duration of the pandemic and of restrictive health and sanitary measures maintained in Montreal, for most of us, it was the first time back in the studio for over a year, which influenced the climate in the studio — one of care, gratitude and a certain timidity.

Each morning session in-studio was devoted to one of the five anatomical imaginaries. After an initial listening to an anatomical imaginary the dancers were invited to explore in movement for a duration of 45 minutes followed by a 15-minute continuous writing session (i.e. without pause) devoted to describing their sensorial experience. Contemporary dance artists are well versed in autonomous engagement and self-directed improvisation with imagery. While some of my dance teaching proposes specific movement propositions, such as somatic explorations, repeated movement coordinations, partner exercises, or choreographed phrases as a means to engage with relations detailed by anatomical models, some of my pedagogy intentionally leaves space for the dancers to engage with the material in their own way, without any outside imposition. It was important

to my research to not sway the dancer's practice in a specific way. My approach to direction here is similar to how dance scholar Glenna Batson describes the role of a teacher:

to provide just enough direction to facilitate body-level problem solving but not too much as to impose his or her personal movement strategies on the dancer or suffocate the dancer's autonomous process of self-organization (2008, p. 136).

By providing the anatomical imaginaries from the invited anatomical experts, I was able to remove myself entirely as a teacher and maximize the dancer-informants' autonomy and creativity.

3.3.1 Attentional Scores

What I did provide were 'attentional scores' — prompts to guide the dancer's attention and narrow the inquiry while engaging in both the practice and writing sessions. The attentional score helps the dancer-informant to "clear one's senses for purposes of sensory analysis", "be sensitive to a multiplicity of sensory expressions" (Classen & Howes, 1999), and to attend to the metaphoric worlding within which we can identify the descriptions that nourish particular bodily relations, behaviours and qualities that shape our dance. The writing without pause is a means to pull out words that may be new, or to shift away from habitual way of thinking about our experience of movement; and the task of describing sensations hopes to give insight into what the dancer-informants felt, and how they may have felt different, if at all.

Score #1: Movement Exploration

Think of this ‘attentional score’ as a practice or game to play throughout your dancing explorations of the “Anatomical Imaginaries”.

- Adopt a beginner’s mind. Attend to how much you don’t know about the practice.
- Resist the urge to use your own life experiences, trainings and expectations to fill in any gaps in the information you have been given (even though this is impossible)
- Stay curious. Hold the question ‘what can this do?’
- Attend to when the body, movement or sensation is predicated to ‘be’ or to ‘be like’ something.

Score #2: Writing Practice

The goal of this writing is to gain some access to your ‘felt experience’ dancing with each of the anatomical imaginaries.

- Write for 15-minutes without pause. Even if you come to what you feels like an end of your experience, or you can’t find words, continue to write.
- Describe your sensation. What was it like? What else was it like? Is there anything else about your experience? What did it do?

Each session finished with a fifteen-minute unstructured popcorn style (i.e. whoever whenever) conversation and exchange of experiences.

3.3.2 Artefacts of Sensation

As my research is concerned with the dancer-informants’ felt experiences of dancing with each anatomical imaginary, their writing was an important mode of data collection, complemented by a stationary wide-angle video recording of our movement sessions and closing conversations. Being in a bilingual and multicultural city, I chose to work with dancers whom I judged able to articulately describe their sensations written in English. The

dancers' daily journals provided a personal testimony of their sensorial embodiment that I could not have accessed through simple observation or video documentation — a reflection that one dancer shared in her journal: “What is visible to me — or made tangible through my senses — is different than what is visible to others looking at me” (Dancer 3, 2021).

3.4 Embodying Difference

While similarities may be drawn between each of the anatomical imaginaries, clumping things together by their similarities generalizes them, and when we do this with anatomical references in dance and movement practices, it reduces what the body can be if they are embodied as ‘similar’ or the ‘same’. As my research is invested in reversing reductive discourses, through my project “Anatomical Imaginaries” I direct attention to the details of divergences. The prompt in the attentional score to ‘adopt a beginner’s mind’ and ‘attend to how much you don’t know about the practice’ helps to cultivate difference by noticing difference. For example, both Kevin O’Connor and Shannon Cooney speak of cerebrospinal fluid and use oceanic metaphors, but they activate these metaphors in unique ways which cultivate distinct relations and qualities. While Kevin’s imaginary tracked the oceanic fluid movement and rhythms of the physical body, Shannon’s imaginary invited us to both be an oceanic salt-water body, as well as, ‘in’ an oceanic salt-water environment. Annemarie Mol reminds us that “being in opposition, however, is not the only way to be different. There are lots of framings around of differences that are not necessarily opposites” (Mol, 2002, p. 120). Through the contributions of the anatomically trained professionals, and the ways each dancer engaged with and experienced

the various anatomical imaginaries, my research results in an explosion of relational embodiments of the head-tail.

PART 4: Multiple Incarnations of Anatomy

4.1 From Perspectives to Practices

“Somewhere along the way the meaning of the word ‘is’ has changed. Dramatically. This is what the change implies: the new ‘is’ is one that is situated. It doesn’t say what atherosclerosis [or the body] is by nature, everywhere. It doesn’t say what it is in and of itself, for nothing is ever alone.

To be is to be related” (Mol, 2002, p. 54).

I would like to begin my discussion by specifying that the manner in which I am studying these five anatomical imaginaries and the ways in which the dancer-informants engaged with them, is different from understanding them as varying perspectives on the head-tail relationship. You may have noticed that I have not used the word ‘perspective’. It is a word that I am explicitly avoiding for it guides us into the tropes of reductionism. Perspectivism assumes different angles on the same thing, on a singular object, upholding the idea, or a belief, in a universal object. Apropos my project, this would presume the body as an object through anatomy and ‘sensory honing’ practices (e.g. somatically informed and anatomically influenced approaches) grant us access to — as in what the body ‘is’. Echoing Spinoza’s question, “we don’t know yet what a body can do” (Deleuze, 1990), and bringing us back to the significance of a praxiographic methodology, I propose that through both somatically informed and anatomically influenced approaches to movement, we are making the body ‘more’.

If practices are foregrounded there is no longer a single passive object in the middle, waiting to be seen from the point of view of seemingly endless series of perspectives.

Instead, objects come into being — and disappear — with the practices in which they are manipulated (Mol, 2002, p.5).

This is complex to consider, but medical anthropologist and FSTS scholar Annemarie Mol helps us by offering the term praxiography to describe a kind of ethnography that enquires into what practices do and the realities they enact.

Emphasizing practices and dodging perspectivism is significant to my research because it contributes to unravelling the problem of how, in contemporary dance training, ‘an’ anatomical story might be interpreted as ‘the’ anatomical story — an objective truth. *The Body Multiple* (2002), Mol’s praxiography of atherosclerosis, a common vascular disease, proposes an alternative framework to understanding truth claims. The praxiographer gives importance to situating knowledge and foregrounds the practical interventions in the claims of what something ‘is’. Calling attention to how different practices enact different realities, Mol stresses the importance of including the where, how and when something ‘is’. “The praxiographic ‘is’ is not universal, it is local” (Mol, 2002, p. 54). Mol locates her investigations of atherosclerosis in the lower leg following several patients through the different corridors of the same hospital and elaborating on the varying diagnostic methods and tools used (e.g. interview, palpation, scalpel, microscope, dyes, radiology, neuroimaging) and the subsequent objects that they enact. She tells a story that no atherosclerosis, nor body, is singular. This means that in any given patient there are a diversity of ways of knowing the same atherosclerosis — what at first appears to be one thing is enacted through practices as multifold. As another praxiographer interprets, “For Mol, these are not different perspectives pertaining to a (prior) singular object. Rather, they are different versions; phenomena (objects, ontologies, knowledges) cannot be predetermined but are enacted in practice” (Latham, 2017, p. 179).

In dance training contexts, a praxiographic turn encourages dancers and dance pedagogues who use anatomy in their practices to not hold nor profess anatomy as ‘is’, as though it were a given, but to “include the activities of gathering knowledge about the body in one’s story about it” (Mol, 2002, p. 64). A move away from perspectivism to inquiring into practices is radical because it moves away from Eurocentric patriarchal claims of reality and challenges the binaries of good/bad, right/wrong, and true/false, which foreclose bodily possibilities. Praxiography, then, potentializes bodies to be understood and experienced in a diversity of ways — including those that exist outside the frameworks of anatomical orientations.

If we take multiple ways of knowing and experiencing as foundational principles within dance training, a guiding inquiry could shift from ‘is this true or false?’ to ‘what does this feel like? What does this do?’ This means that when Madelaine Shen anatomically maps the anterior longitudinal ligament “continuing its path between my *psoas* sweeping over my *lumbo-sacral* junction curving backwards again to embrace the *rectum* making way for *pelvic plexus* nerves finalizing in a delicious scoop into the pelvic floor...” (2021), though true to some methods, as a dancer, I can be more interested in what this model does. As noted in one of the dancer-informant’s journals:

Embracing my pelvic floor. Embrace is different than ‘tightening’, or ‘contracting’. I explored feeling this. It felt as if it engaged my whole abdomen. A broad distributed elastic hug — like a snug fitting bathing suit. My centre felt malleable but strong. My movement had a light and buoyant quality (Dancer 6, 2021).

This shift from what it ‘is’ to what it ‘does’ is profound, for if there is no longer a singular object in the middle, then controversies over who is right and which knowledge is true (or truest) to its

object, can dissolve, inviting multiple realities to hang together. For example, both manual therapist/anatomist, Thomas W. Myers, and Osteopath Philip Beach, propose models of the ‘back-body’; *Anatomy Trains (AT)* Superficial Back Line and *Contractile Fields (CF)* Dorsal Contractile Field respectively. The Superficial Back Line (Myers, 2009, p.73) is founded on visible, palpable, dissectible myofascia. This ‘line’ is clearly delineated as it sweeps back from the brow, down the back, bifurcating at the *sacrum* to include the posterior legs, terminating at the tips of the toe pads on the soles of the feet. The Dorso Contractile Field (Beach, 2010, p. 83) is founded on embryological and contractile reflexes observed in Chinese Medicine (e.g. in response to palpation and needles) (Beach, 2010, p.5). Like the Superficial Back Line, The Dorsal Contractile Field, also sweeps back from the brow and down the back but instead envelopes the pelvic floor and ends below the naval. [See Figure 3].

Figure 3

Drawing of the Doral Contractile Field



Note: Reprinted from *Dancing with Fascia and Other Metaphoric Anatomies* (p.196), Illustration by Trejo-Boles, X.D. (2020) in *Moving Parts: Articulated Bodies and objects in Performance*. Copyright Trejo-Boles, 2020. Reprinted with permission.

The Dorso Contractile Field describes an area where the edges are obscured and which does not follow distinguishable borders that can be observed through gross anatomy like the *AT* model can. The Superficial Back Line and the Dorsal Contractile Field offer two different imaginaries to dance with: a back body that includes the back of the legs and toes, and a back that excludes the legs but wraps, like a diaper, nearly to the naval. Dancing with these two models cultivate different bodily relations. These two models can easily be added to my collection of head-tail imaginaries, which by dancing with, we dance the body multiple.

4.2 Envisaging Anatomy as a Practice

“It became increasingly apparent that the only distinctions amongst all the parts were the ones we made as we dissected out ‘areas of interest’ and threw all the fat and fascia into the bins” (Kirkness, 2021).

I hate to bring the skeleton (and the knife) out of the closet again, but a praxiographic shift begs a reminder that anatomy literally means to cut up. “The anatomist is using his knife to ‘design’ and name a part of the body, by the act of cutting it, ‘anatomically’, out of its architecture” (Avison, 2021, p. 35). Contemporary anatomy is renowned for its explosion of methods that diverge from traditional habits (e.g. of observation, palpation, cutting). What I appreciate in contemporary anatomical practice is that along with skill, it recognizes creativity to have influence on the making of methods and the consequent models. Anatomists have a lot of discretion about how to do anatomy. As Hedley describes, “A muscle does not exist until we make it and the *rectus femoris* does not exist except as a mental construct” (Hedley, 2015). He continues to elaborate on the

labour embedded in the enactment of any one model: “That shining look [of the deep fascia layer] is a lot of work... an artefact of hours of meticulous dissection as opposed to a representation” (2005). Hedley chooses to identify as an artist, not a scientist (2005, 2020). Through my experiences doing anatomy with Hedley, I witnessed the inexhaustible choices of how to cut a cadaver from the moment you puncture the skin. In his anatomy laboratory, Hedley encourages multiple approaches to be taken with each cadaver “to increase the variety of interpretations” (2007, p.59).

There have been countless creative turns in contemporary anatomical methods that have afforded new insights; I will detail two that exemplify these creative turns from traditional to contemporary anatomical views. Jaap van der Wal, Emeritus Associate Professor of Anatomy and Embryology (*University of Maastricht*), is reputed for his ‘reversal’ of standard dissection. In the 1970’s, Van der Wal “dissected the ‘negative space’”. In simple terms, he did not cut the ‘stuff’ to get to the ‘thing’, rather, he removed the ‘thing’ to see the ‘stuff’” (Avison, 2021, p. 34). What was disclosed from this method was that bones are held apart by soft tissue. Rather than an understanding that bones were stacked, and working as levers, the skeleton could therefore be modelled as “floating in a sea of tension” (Avison, 2021 p.129) — a depiction that fits nicely into the burgeoning popularity of fascia and its likeness to the scientific concept of tensegrity. Tensegrity evolved from the relations being drawn between engineering (mechanics) and systems thinking reflected in the work of sculptor Kenneth Snelson who created one of the first floating compressions sculptures (1948). Architect Buckminster Fuller coined the term “tensegrity” to describe the integrity of tensional forces which he observed in round things (Avison, 2021; Batson,

2008; Scarr, 2019). Etymologically, integrity comes from the Latin *integer*, meaning intact/whole/complete; thus, with tensegrity Fuller proposed a term to describe how unified tensional (and compressional) forces distributed across a whole can maintain the form of a structure. Later, clinical fascia researcher Doctor Stephen Levin and biologist Donald Ingber, enliven the metaphor with ‘biotensegrity’, a term that described their observation of a similar balancing of forces in life forms — from the microscopic cellular level to the macroscopic scale of the full body (Avison, 2021, p.124). Returning to Van der Wal’s experiment which revealed that bones do not in fact touch each other, I remind the reader that different methods enact different realities and I call to attention how Van der Wal’s experiment marked a time in history when anatomical inquiry began focusing on dynamic relations largely due to fascia becoming of interest as a biological material.

4.3 Fascia Research: An evasive biological material

Fascia becoming of interest pulled along a whole slew of anatomists and practitioners who have pioneered what is commonly acknowledged as a paradigm shift in the field of anatomy (Myers, 2009; Avison, 2021; Scarr, 2019; Sharkey, 2018). However, I tend to agree with my colleague Kevin O’Connor who observed at the 2016 Fascia Congress the abundance of controversies that exist in the scientific community around what fascia ‘is’, suggesting that the field is in a “pre-paradigmatic” state — a term coined by science historian, Thomas Kuhn, to describe a situation of “multiple views existing simultaneously and the terminology and methods are in flux” (Kuhn, 2012, as cited in O’Connor, 2020, p.65).

Fascia is notorious for being difficult to dissect and, as a result, was routinely ignored and disposed of in anatomical studies (Myers, 2009, p.1). Along with the material being assumed to be functionless, another reason that fascia has historically been excluded from the anatomical story is because of its elusive, gooey and shapeshifting (O'Connor, 2020) qualities and the lack of tools and technology to 'know it'. Hedley calls it "Fuzz" and in his DVD webinar *Integral Anatomy* (2005) he describes how in an unfixed (i.e. not embalmed) cadaver, while he could hold it in his hand as a specific layer at one moment, after a lunch break, it was gone, depicting the evasive nature of the biological material.

Fascia is always on the move and, since the first Fascia Congress at *Harvard University* in 2008, debate about what fascia is, and how it behaves is ongoing. Fascia cannot be discerned with the same certainty that traditional anatomical methods have been able to show muscles and bones as divisible entities. A telling example: literally as I was writing the first words of this chapter, I received an e-mail notice that Gil Hedley has released a new video called *Layers? or no Layers?* (2022). Hedley giggles as he opens the video with, "Layers? or no layers? Do we even have to discuss this?!" He is referring to an ongoing controversy in the fascia research community as to whether or not fascia is layered. While Hedley belongs to the camp of researchers, alongside Thomas W. Myers, that claim fascia to be layered (e.g. superficial or deep), folks like Jean-Claude Guimberteau, Jaap van der Wal, John Sharkey, and Joanne Avison believe it to be a singular whole continuum, and consequently advocate for it to be defined as such by the *International Fascia Research Committee (IFRC)*. Avison describes this biological substratum as such:

The fascia itself presents a profound difficulty when it comes to naming its parts since it is essentially ubiquitous and continuous. That is the key to the codex! John Sharkey points out there is only one ‘fascia’; a legitimate statement given its total continuity throughout the form and how we form it/are formed by it (Avison, 2021, p. 55).

Another debate in the fascia research community considers whether or not fascia stretches. While one camp says it does (McGill, 2018; Hedley, 2022), another disputes that claim (Avison, 2021; Sharkey, 2019), the latter of whom offer a non-elastic spatialized fabric (e.g. that you might find encasing an imported pear) as a model to explain the stretch-like movement of fascia. Like the differences between Myers’ Superficial Back Line and Beach’s Dorso Contractile Field mentioned earlier, I am proposing that when we relate to anatomical models, we should be less concerned with which is more correct and be more curious about what each model does. How, for example, would you come into physical contact with another individual imagining that meeting through layers of skin, superficial fascia and deep fascia? What is different if you imagine a singular collagen matrix equally distributed throughout the whole body? All of the above-mentioned models are ‘true’ to their methods. In dance, it is rather their influence on our movement and the consequent nuances of experience that I am compelled by.

Following in the creative spirit are a multiplicity of new terms and metaphors. Jaap van der Wal, renames anatomy as “transanatomy” (Avison, 2021, p. 35), to emphasize a continuous anatomical architecture. Anatomist, fascia researcher, and yoga teacher, Joanna Avison (2021), offers “fluxtability” to describe what Joanna Abbatt names in her anatomical

imaginary as a “dynamic stability”, wherein the body, “doesn’t want to be static because we always have gravity acting upon us so we’re always in this dynamic adaptive strategy” (Abbatt, 2021). While Avison (2021) offers “biomotationality” (p.190) as a replacement to biomechanics, biologist and Osteopath, Graham Scarr offers “Mesokinetics”(Scarr, 2014, p.79), drawing ‘meso’ from the embryonic tissue *mesoderm* that pulls bones into being. Van der Wal renames ligaments as “dynaments” (Avison, 2021, p. 35) to account for the dynamism of ligaments and the list goes on. Anatomists’ vocabularies are as inventive as dance artists and teachers, who tend to develop extensive vocabularies for describing bodily experience and movement. I bring this forward because if we hold anatomy as a culturally emergent, creative and unstable practice, then when we relate to it in dance, we can shift the authoritative power it has over conceptions of what the body is, and instead foreground how we, as dance artists, participate, alongside other practices and practitioners, in producing knowledge about what the body is and does. As O’Connor (2019) points out, knowledge in fascia studies is:

Spread out over massage tables, and laboratory benches, knives, conference centres, flowcharts, data points, habits of touching and trainings, human corpses, ultrasound machines, microscopes and formaldehyde, surgical tools, microscopic cameras, MRI and ultrasound machines, practices of making metaphors, the representational art of making drawings, graphs, model making, the art of photography, printing, sculpture, using code to design anatomy apps, funding bodies, and the many more tools and practices in which fascia as a concept is embedded (p.42).

Fascia studies cannot even try to hide behind a singular truth. I, for one, hope that it never does, for it is beautiful in its liveliness, in its multiplicity and its resistance to being pinned

down. At the same time, fascia research is transferable to practices that are benefiting from it, as seen in medical and therapeutic practices, including its helpfulness in understanding and informing treatments for fibromyalgia, chronic pain, cancer, and athletic therapy to name a few.

The paradigm shift underway in the anatomy world is about moving from traditional to contemporary anatomy, from hard matter (e.g. physics and calculus) to soft matter (e.g. tubular, biological geometrical) sciences, from the mechanics of isolated parts to the whole body bubbling with vitality, “from bands to beings” (Avison, 2021), from singular to multiple terms, from universality to situatedness.

In this section I have pointed to a handful of controversial articulations of what fascia is. Bruno Latour reminds us that, “Controversies among scientists destroy statements that try, hopelessly, to mimic matters of fact, but they feed articulations, and feed them well” (Latour, 2004, p.211). I conclude this section by proposing that such controversies offer productive tensions, that when we dance with them, we feed expansive conceptions of the body. We are not doing brain surgery in the dance class, we are practicing, and I encourage us to experiment with both holding and not holding our models as true at the same time. As Hedley encourages his students, we should “hold our models lightly, and hold a handful of models or even more [as true] at once” (fieldnotes, 2019).

4.4 Metaphors Move

“It matters what matters we use to think other matters with; it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what

descriptions describe descriptions, what ties tie ties. It matters what stories make worlds, what worlds make stories” (Haraway, 2016, p.12).

By acknowledging the diversity of anatomical methods, models and terminology multiplying in tandem with the above described “paradigm shift” (Avison, 2021; Myers, 2009; Kirkness, 2021; Sharkey, 2018), I appreciate that when we marvel at the beauty of human anatomy, we are not marvelling at the true nature of the body, but at how a particular anatomical practice has rendered it. “Anatomical practice produces artefacts, not facts” (Avison, 2021, p. 35). This is significant, because rather than aligning with universalizing hypotheses of the body through anatomy, I can be curious about what emerges when we when we think, sense, and dance with each unique anatomical model. In this section, I will demonstrate the manner in which we use anatomical models in contemporary dance as metaphorical.

Metaphor described as “understanding one thing in terms of another” (Lakoff & Johnson, 2003, p.19), broadly includes imagery, models, similes, parables, analogies, and parallels. The word ‘metaphor’ is purported to be itself a metaphor. It comes from the Greek *amphora* meaning ‘container’. With metaphor we carry meaning from one kind of thing to another (Reese & Sullivan, 2008, p.5). Metaphors are not merely a linguistic or rhetorical flourish; they also materialize in the physical body (Keenan & O’Connor, 2018; Lakoff & Johnson, 2003; Sullivan & Reese, 2008; Batson, 2008; Haraway, 2016). While conceptual in nature, they are both grounded in and shape our experience. As feminist scholar Donna Haraway (2016) states, “it matters what matters we use to think other matters with” (p.12). As dance artists, our choice of metaphor, how and what we imagine the body to be and to

do, shapes our sense-abilities and movement. Take, for example, the anatomical imaginary contributed by Joanna Abbatt who invited us to imagine the skull as another vertebrae. After dancing with this image in mind, a dancer described their experience thus: “Thinking of the skull as a vertebra made me feel more ‘part of my body’ — my vision was less dominant, my vision was more integrated” (Dancer 2, 2021). Another dancer described how it influenced their movement inquiry:

Rolling my skull on the ground — I followed the shape and had the rest of my trunk follow it — more ease, less [mental] dialogue or design...

Rolling with the skull gave me direction — multiple changing pathways — I was not stuck in a pattern as long as I was following the rolling of the skull and following through with the spine and tail (Dancer 1, 2021).

These examples point to the ways in which anatomy shapes movement through a process that may be likened to Ideokinesis — a term popularized in movement culture in the early 20th century by Mabel Todd, Barbara Clark, Lulu Sweigard, and Irene Dowd (among others) to describe how movement is learned “through ideation and concentration on visualizing movement in the body” (Sweigard, 1974, p.224). Ideokinesis is exemplary of how scientific discourse is reflected in dance and movement practice, grounded in what 20th century neuroscientist William Benjamin Carpenter identified as ‘the ideomotor principle’ (Batson, 2014, p.142). An ideokinetic approach relies on ‘motor imagery’ — i.e. an image that is in movement, rather than a still image — in order effectively stimulate sub-cortical re-patterning. Sub-cortical is a place in the brain, ‘below the cortex’, or more simply the “hind brain” (Cohen, p.56), and is understood as the site of translating

information to voluntary movement, and thus, pillar in the re-patterning of habitual movement (Sweigard, 1974, p.222). For example, Kevin O'Connor's description of the movement of the spinal cord and *sacrum*, as proposed in the anatomical imaginary they contributed, is a kind of motor imagery:

The cranial rhythm as a kind of coiling and uncoiling. In the coiling, the brain shortens and thickens, the spinal cord moves up slightly and pulls up the sacrum and it rotates the base of it slightly forward. In the uncoiling the brain lengthens and thins out imagining the dropping of the dural tube and then the subsequent lowering of the sacrum and the base of it rotating backwards (2021).

While Ideokinesis, like Mental Practice Motor Imagery (MPMI) — a similar approach also founded on the ideomotor phenomenon but geared more towards sports and exercise science (Batson, 2014, p.141) — are done only through visualization without actually doing the movement, other explicitly imagery-based practices engage in movement and visualization simultaneously (e.g. Skinner Releasing Technique and The Franklin Method).

The field of scientific research studying the effect of imagery on movement, like the fascia research community, is full of uncertainty, but it is widely accepted that visualization does something. Neuroimaging supports its effectiveness (Batson, 2014, p.142); it has been effective in rehabilitation (Batson, 2014, p.142), athletic training (Warren, 2019, p.60; Batson, 2014, p.110), psychology (Sullivan & Reese, 2008) and pain management (Moseley & Lorimier, 2017, p.80; Warren, 2019, p.62). Like fascia, the controversy lies in the difficulty of pinning it down: “the psychometric values of visualization are not easy to

measure using any behavioural battery or imaging technology and interpersonal differences influence the nature of the image itself, its usage and outcome” (Batson, 2014, p.143).

Reiterating that the dance class is a creative space and that we are neither doing therapy (although I do believe that meaningful social and movement-based learning environments may have therapeutic effects) nor brain surgery, I underline that anatomical metaphor is an influential pedagogical tool that shapes our sense-abilities and movement. The effect of metaphor materializing in sensations is evident from one dancer’s account of a “lifting up feeling from the sides of my skin outward like wings” (Dancer 4, 2021); this came from our engagement with Shannon Cooney's invitation “to smile behind closed eyes” (2021). While dancing with Kevin O’Connor's anatomical imaginary, another dancer's experience “tended towards long curves, towards strength. Coiling and uncoiling — the path has a resistance, it seems strong and has a reason to be curled like curly hair” (Dancer 1, 2021). Throughout the week, several dancers described their experiences with each imaginary to be a kind of translation that made their habitual ways of moving feel different.

In understanding that metaphors move, then any dance pedagogue’s claim to be eschewing metaphor in favor of working with the anatomically ‘real’ body, suggests a scientific objectivism that prescribes a ‘real’ and an ‘imaginary’, a ‘true’ and a ‘false’. I draw from Ahmed’s description of feminist theory as an attempt to resist universals: “Feminist theory taught me that the universal is what needs to be exploded. Feminist theory taught me that reality is usually just someone else’s tired explanation” (Ahmed, 2017, p.29). Aligned with feminist theory, feminist science studies invites a move away from empirical knowledge, and toward situated knowledges; they invite us to “abandon the distinction

between subjective and objective bodies” (Latour, 2004, p.227), and to explode reality. This is potentially complex thinking for young dancers in contemporary dance training, but it is an essential part of the long process of decolonizing dance education and bodies. I invite dancers and dance pedagogues to acknowledge that metaphors matter deeply, rather than dismissing metaphor as “a device of the poetic imagination and the rhetorical flourish” (Lakoff & Johnson, 2008, p.3) that resides uniquely in language. When relating an anatomical story, I suggest that it is politically crucial to acknowledge its cultural lineage, its creative nature, and to foreground its multiple enactments. By acknowledging the cultural specificity of anatomical models in the dance class, we can open the doors to understanding movement through a feminist and discursive mode of engagement. By situating anatomy as a culturally emergent practice that pulls along its own metaphors, we resist reductive and objectifying conceptualizations of the body.

4.4.1 Anatomical Literacy

But of course, you have to be somewhat literate in anatomy for it to ‘do’ something. Not one of us, the dancer-informants, engaged with the anatomical imaginaries in the same way. While I was expecting and hoping for difference, I was surprised by the breadth of our affectations. For example, on Day 1, we moved with Madelaine Shen’s imaginary. Madelaine’s imaginary alone, leapt from one way of worlding to another — from emotional expression to the Mongolian snow leopard and to the anatomical wallpaper of our spinal column. While we all danced our snow leopard into being, only one dancer danced their anterior longitudinal ligament (ALL) into being — me. To be honest, even as an anatomy geek, I had not yet learned of the

ALL through my formal and informal anatomical training. I learned it from Madelaine as she generously described the texture and path of both the anterior and posterior longitudinal ligaments, summoning an image of it. Her description was a trajectory of movement full of verbs that paint, scoop, grab, duck, and dive. I grabbed on to her description of how the ALL “paints along the front of my spine deep within my body” and “follows the backwards curve behind my heart between my lungs, ducking through and grabbing tensional fibres from my diaphragm, curving forward at my lumbar spine continuing its path ...” (Shen, 2021). My attention moved to the site where the ALL grabs the diaphragm. I slowed down and attended to what I know and can feel of the diaphragm, envisioning the detail of how this spinal wallpaper would ‘grab’ the diaphragmatic fibres like two streams of ribbon becoming one in a fell swoop. As I imagined the specific site located at the area between my eleventh *thoracic vertebra* and upper *lumbar vertebrae*, a movement came about: “I moved my low back ribs into a twist to see how it pulled my low spine and pelvis below” (fieldnotes, 2021). As I imagined the texture of this band of fibres, a specific quality of movement ensued. I explored this anatomical construct through small twists and tugs in this area. This imaginary cultivated a specificity in my movement, one that gently invited a counterrotation between my pelvis and rib basket, with an accentuation of sensation descending from the back of my diaphragm and my low ribs.

One dancer, like me (i.e. generally literate in anatomy) described one of the anatomically heavy imaginaries intended to grant easy access to the body: “I felt as if I was closer to a vocabulary of sensations I already know because of the anatomical/biodynamic description” (Dancer 5, 2021). Another dancer had the opposite experience of the same anatomical imaginary: “Her words were harder for me to relate to [in] movement exploration. Many anatomical terms I

did not easily put into motion/or sense” (Dancer 2, 2021). Interestingly, the latter dancer who experienced difficulty relating to the anatomical terms arrived in Montreal from a non-Western country as a university exchange student for their BFA pointing to the cultural specificity of contemporary dance communities in which anatomy has been broadly normalized.

Similarly, recently while teaching a course on sensory-motor learning and somatic education within a university dance department, I had a Caribbean student who had landed in Montreal just a couple of months earlier. As we were following a student presentation (in the form of a video recording due to pandemic measures), the presenting student used a lot of anatomical language, such as the occiput, atlas and axis, to help peers locate places on the body. In my effort to not assume an anatomical way of knowing — even regarding something as typical to beginner anatomy as the atlas and axis, or the two top *vertebrae* of the neck which support and move the skull) — I asked the Caribbean student if she was familiar with these terms and she modestly giggled and responded that she had never done any anatomy, pointing again to the cultural specificity of relating to anatomy in dance training. This student is as much a dancer as we all are, even without being versed in anatomy. The risk associated with teaching anatomy in certain ways in dance training is that it threatens to colonize the body with Western constructs.

As mentioned in Part 1, ‘without reducing the gains that science has afforded to anatomy, and anatomy to dance, the purpose of my research is to de-center the power attributed to anatomy in dance training contexts without abandoning it completely.’ While I do not wish to eradicate anatomy from dance training, I advocate, that when anatomy is referenced in the dance class that a sociocultural and feminist critique be included with it in order to resist these colonizing effects.

4.5 Anatomical Affectations

"To have a body is to learn to be affected, meaning 'effectuated', moved, put into motion by other entities, humans or non-humans" (Latour, 2004, p.205).

I used to think that anatomy was helping me to get know my body better — as though my body were an object I could to get to know by 'diving more deeply' into sensing activities.

Praxiography, feminist science studies and sensory anthropology help me to understand that by becoming sensitive to anatomy in dance training, I have rather been enacting my body to become more. By 'more' I infer that similar to how gender diversity is understood to be practiced into being, I argue that, through the embodiment of anatomical metaphors in dance, we practice anatomies¹³ into being. Thus, rather than diving in and discovering what my body is, I understand that I am making my body more by becoming affected, or effectuated, by anatomy.

As Kampe (2015) has reiterated:

Perception is not mere passive receptivity but a form of action, something done by the organism. The perceiving organism is not merely registering but exploring and asking questions of its environment... seeking out the answers in the sensory stimuli that surround it (p.204).

On Day 2 of my project, we visited the anatomical imaginary contributed by Kevin O'Connor, inviting us to actively seek and to become sensitive to the Cranial Rhythmic Impulse (CRI). The CRI is notoriously subtle, to the point where the founder of Osteopathy, Andrew Still's claim that the movement of the cerebrospinal fluid could be felt and even manipulated through light touch

¹³ My use of anatomies here rather than anatomy is to accentuate an inherent plurality and impossible singularity when we understand them (anatomies) as emergent from the culture of anatomical practice.

on the *cranium* (skull) was doubted for decades. Even after an initial training in Craniosacral therapy at the *Cranial Therapy Centre* in Toronto, I am still uncertain I am perceiving the CRI.

In the journal from this day, one dancer remarked: “I am reminded of how much I don’t know about my vessel that I exist in every second of my life” (Dancer 4, 2021). Here, as her attention has been guided to a subtle rhythm that she is not habituated to attend to, she is describing a kind of unknowing of herself. Thinking with Mol (2002) and that different practices enact different realities (Law, 2011; Mol, 2002; Haraway, 2020), rather than a feeling of unknowing or disembodiment, we can be comforted in understanding that perceiving the CRI is a trained sense-ability. Craniosacral therapy trainees learn cranial anatomy, palpation techniques and, through practice, over time, become sensitive to the CRI. An example of a palpation technique may include different ‘holds’ (i.e. hand placements) or, a quality of touch like the counsel to “float your hands on the tissues like a corks floating on water” (Sills, 2001, p.150). The technique of touch reflects medical historian and ethnographer Shigeisa Kuriyama’s observation that: “Perceptions aren’t raw experiences. What we perceive, when we touch something, depends largely on *how* we touch it” (Kuriyama, 1999, p.63). Given that perception, or sensing, is an active process, what we can sense depends on how we are looking and what for. As with anatomy, honing one’s own sense-abilities is something that is ‘done’. Similar to somatic approaches to movement that invite an intentional engagement in “conscious movement” (Eddy, 2016, p 14), relating to anatomy in dance class proposes a context to become sensitive to anatomy through conscious movement.

I enjoy how Bruno Latour, philosopher and FSTS scholar, speaks about this process of becoming sensitive. In an article entitled, *How to Talk About the Body? The Normative*

Dimension of Science Studies (2004), Latour describes in the fragrance industry how by way “of the training session, the trainee ‘learnt to have a nose’, to ‘be a nose’, by detecting small differences that were not affecting her before” (2004, p.225). Borrowing Latour’s example of the fragrance industry, I argue that when we relate to anatomy in dance training, we learn to be affected by it, to become sensitive to it — we learn to have anatomy, to be anatomy, to be the cranial rhythmic impulse.

Somatically informed approaches repeatedly address the importance of breaking habits, of avoiding faulty movement patterns to cultivate healthy ones. For example, the Alexander Technique calls for ‘inhibition’ — an invitation to stop a movement before repeating an undesirable habit — “to prevent faulty use and functioning of the organism generally as a means of preventing defect, disorder and disease” (Alexander, 1934, p.6). This goal to inhibit stubborn, ‘bad’ movement patterns in favour of new and ‘good’ habits is popular across the field of Somatics and movement training disciplines and its effectiveness is backed scientific research (Batson, 2014; Cohen, 2012; Warren, 2019). While I do not refute the efficiency of inhibition — I also engage in new habit quests in my movement practice — I observe that despite being well-intentioned, the fixation to replace bad habits with good ones paradoxically upholds a good/bad binary. With “Anatomical Imaginaries”, I want to trouble this fixation with ‘fixing ourselves’. I wonder if in dance training contexts we can take the pressure away from ‘correcting’ to undo the moralization of movement that is masked behind constructs of health? Instead, can we foreground curiosity and background fear?

Thinking with Latour and our ceaseless capacity to become newly affected and articulate, maybe rather than ridding ourselves of habits, we can think about this process as one of accumulating possibilities. This may be a risky or confusing recommendation, but I contend that it is important and valuable in dance training contexts. Important in that psychologically, dancers don't get so fixated on fixing themselves, but also, as a creative performance practice it is valuable for dance artists to not close doors on what the body can do. Returning to the earlier discussion of how the Axis Syllabus community warns against propelling weight from the medial side of the big toe, I wonder, is there not some space for alignment that is not always anatomically and biomechanically 'proper' in the creative practice of the dance artist? Of course, I am not encouraging recklessness with the body in the name of art; rather, I am nudging for the moralization of movement to be suspended and that we leave agency to dance artists to use other criteria (e.g. choreographic inquiry) to decide what is ok and not ok.

4.6 Raw Sensation and Conceptual Overlay

“When we study conceptions of the body, we are examining constructions not just in the mind, but also in the senses” (Kuriyama, 1999, p.60).

On Day 4 of my project, we listened to and moved with the anatomical imaginary contributed by Matthew Onarheim-Smith. Matthew's offering created a productive tension to the project by inviting us to attempt to distinguish between 'actual sensation' and 'conceptual overlay'. He invited us to attend to sensations of pressure, temperature and tingling, and the little-to-nothing we can actually feel of our tail. For example, when sitting up comfortably on the sit bones, what we actually feel, unless our tailbone (*coccyx*) is making contact with the floor, is pressure on the sit bones.

I went through different phases of digesting Matthew's imaginary. At first, during the morning session, I was earnest to the attentional score 'Describe your sensation. What was it like? What else was it like? Is there anything else about your experience? What did it do?' My task as a dancer in this research project was to try on this imaginary, like a costume, and to feel-into this imaginary of flickering cloud-like sensations and experience what it does.

What can you actually perceive?

cold on the tip of my nose

the edges of my lips lightly tacked together of an otherwise wet mouth

Hair — I can feel my hair when it touches my ears, forehead, neck

I sometimes feel a sort of pulsing of the skin on the back of my skull

I see a crack of light from under my right eyelid

Tension and pressure in my jaw

A tickle in my jaw

The back of my teeth,

A space in my teeth,

A low gum in my mouth (fieldnotes, 2021)

Referring to the so-called anatomy of the head-tail, Matthew asked, "Do you really feel the form and shape of these structures?" (2021). I spent a long time with this question, lying on my back with my knees bent. I could feel the back of my *sacrum*, a thicker and bony ridge — but that is what I felt — I didn't feel the volume of the sacrum or the 'sacral table' as I have known it. I rolled very slowly, *vertebra* by *vertebra*, feeling what I could of them as the spinous processes met and left the floor. I could feel each spinous process making pressure with the floor, but not the vertebral body or discs. Aligned with the task of the attentional score to 'resist the urge to use

your own life experiences, trainings and expectations to fill in any gaps in the information you have been given (even though this is impossible)', I spent time trying to empty out what I thought I knew of the body. What if I am only what I can feel? The sensations of my edges as they make contact with my environment? With temperature? I wonder how I can undo what I have learned from all of my experiences — of moving, observing movement, touching others, dancing with others, learning anatomy, doing anatomy, giving birth, witnessing my child grow? It is impossible, but I humoured myself with this dance of trying to empty my body. I noticed that it was hard to undo the anatomical gaze, as medical historian Shigeisa Kuriyama (1999) recounted when artists learned the whereabouts of bones and muscles: “the anatomical eye knows exactly what it is supposed to perceive” (p.115), underlining again how the tangibility of anatomy can so quickly gain power.

Later, hours after the morning session, I became uncomfortable with Matthew's call to attend to raw versus conditioned sensation, and wrote “who gave science the power again?” (fieldnotes, 2021). I attributed his distinction between raw and conditioned sensations to be reflective of a neuroscientific, or sensory motor view that categorizes sensory receptors and dictates to us what we can and cannot feel. Thankfully, the sciences are catching up to understanding the complexity of our sensory experience in relationship to psychosomatic and sociocultural conditions (e.g. the polyvagal theory). Matthew's anatomical imaginary challenged what I had felt, or believed to have felt, of my head and my tail. For instance, when Madelaine Shen described how the spine grabbed fibres of the diaphragm, as described above, I went there — I tuned into the area, the texture, the architecture, or architexture as Joanne Avison calls it

(2021, p.145) of it, and through gentle torsions, I could feel where the diaphragm meets the wall paper of the spine. Then a few days later Matthew asked:

What is actually possible to perceive of one's own anatomy? What do you actually notice within your perceptive field? And I'd like us to do this so that we can understand what is the felt experience and what is the conceptual overlay. So what is possible to feel, versus what are ideas that are superimposed upon those sensations. Where does the raw experience end and where do the conceptual anatomical frameworks begin (Smith, 2021).

Suddenly, I began to doubt what I had believed to have felt the days, and even years before. For a brief moment, I felt that Matthew's distinction between actual sensations and conceptual overlay threatened the hypothesis of my thesis — that culture and the so-called 'conceptual overlays' affect our sense-abilities.

In his book *Expressiveness of the Body*, Kuriyama (1999), suspicious of the idea of bodily truth, or of a universal reality across cultures, beautifully recounts the historical divergences in Chinese and Greek medical practice. Kuriyama brings to light how deeply routinized conceptions of the body were culturally constructed and describes how "when we study conceptions of the body, we are examining constructions not just in the mind, but also in the senses" (Kuriyama, 1999, p.60). Kuriyama tells how conceptions and language shape sense-abilities:

What we perceive, when we touch something, depends largely on *how* we touch it — whether we place our hands gingerly, or grip hard, whether our fingers explore with care, or merely tap impatiently. But how we handle an object depends, in turn, on how we conceive it (1999, p.63).

Kuriyama details how both Chinese and Greek medical practitioners palpated the wrist to read the *mo* and the pulse respectively, attributing their puzzling divergent readings and sense-abilities to their radically different conceptions and expectations about what could and should be felt (1999, p.60). In Chinese medical practice, the wrist was palpated to read the *mo* at three sites on the wrist; at each site readings are taken both floating at the surface and sunken. Therefore, there were twelve sites to read the *mo* (three on each wrist both floating and sunken). The *mo* is interpreted by quality — “full (yinn) or empty (xu), quiet (jinn) or moving (donn), slippery (hua), or rough (se)” (Kuriyama 1999, p.89) and each site is seen to express the wellness of specific visceral organs. Contrarily, by way of scrutinizing a corpse, Greek medical practitioners understood the heart as a pump and the arteries and veins as the thoroughfare for blood, which consequently, birthed the cultural construction of the pulse which is read as beats per minute and is uniform across the body.

Interestingly, in Kuriyama’s historical account of Chinese and Greek medical practices, we can see the how the Chinese tradition maintained a multilayered and multiple conception of the body and reflected in the multiple sites, depths and entailments of the readings. Differently, by privileging dissection, the Greek tradition reduced conceptions of the body to a singular narrative supported by what could be differentiated with a scalpel and proven inarguably true, measuring the pulse as beats per minute uniformly across the body. Thinking with Kuriyama and the field of sensory anthropology more broadly (Guerts, 2003) suggests that different conceptions of the body influence what we can and cannot feel, thereby debunking the possibility of ‘raw’ sensation.

If ‘raw’, ‘pure’ or ‘neutral’ sensation is impossible, a popular pedagogical approach in contemporary dance that takes pride in its democratization of practice by attending to sensation, is challenged. For example, Steve Paxton states, “I am not here to give you information. I am here to guide you to sensation. Once you have the sensation, then you are informed” (Paxton, 2009). However, if our sense-abilities are culturally influenced, the idea of sensations being neutral is destabilized. I wonder, can we distinguish the information that has influenced our sense-abilities, or the conceptual overlay from raw sensation? I cannot answer this question, but I hold the ambiguity between the two as a productive tension, and one that I contend should be included in somatically informed and/or anatomically influenced approaches to dance and movement training. Foregrounding the blurry boundaries between raw sensation and conceptual overlay contributes to an anti-universalizing approach to moving and reminds me, once again, “to hold our models lightly or to hold as many at once as possible” (fieldnotes, 2019).

Returning to Matthew’s anatomical imaginary, I began to see a certain beauty in the invitation: “So what is possible to feel, versus what are ideas that are superimposed upon those feelings? Where does the raw experience end and where do the conceptual anatomical frameworks begin?” (2021). Matthew’s imaginary nudged me, someone who has self-identified as a kind of sensation junkie, ‘fascinated by the perceptive capacities of the body’ in innumerable biographies and class descriptions, to be comfortable with the perceiving less, or even to be comfortable with the absence of sensation. Matthew wasn’t saying that conceptual overlay doesn’t exist as something tangible, but rather he nudged us to feel into whether we were able to distinguish it separately. What I found in each of the dancer’s journals was that it propelled them into a somatic inquiry through movement.

I perceived information through my immediate environment, through the pull-push of my tissues, the pressure of the floor (Dancer 5, 2021).

I played with my face. My tongue in mouth (always wondered about that in martial arts) blinking with my eyes, smiling, cheeks (Dancer 1, 2021).

I played with sounding in an effort to generate sensations in my head (&tail)

in my head I could feel many areas with this — under and behind my tongue

Under and behind my ears

My forehead

Behind the nose (Dancer 6, 2021).

I jump up and down with my hands dangling atop my head. Each time I jump, my fingertips tap my crown. This, in all the ways, I want to try moving my vessel and learning about its edges and textures through contact with my own body or other materials. Through relation, the feedback of touch — temperature — tingle, I know myself. And I notice that that ‘self’ is always shifting, transforming, becoming different depending on who I/it is relating to (Dancer 3, 2021).

Matthew’s imaginary cultivated a curiosity which necessitated experimentation through movement. In this sense, while I initially regarded his contribution to be aligned with positivist sciences, I came to appreciate how it honoured individual somatic experience. In his imaginary, Matthew subverted the anatomical description of the head-tail relationship and rather invited us

to define it through our own sensory experience of it. In asking, “where do the conceptual anatomical frameworks begin” (2021), Matthew positions anatomy in the realm of conceptual overlay, not in that of raw or actual sensations. Rather than threaten my hypothesis, he supports it by foregrounding anatomy as conceptual. In his invitation to consider that rather than having a tail or of being above our tail, we may also ‘be’ our tail, Matthew eschews the habits of classical anatomy of dismembering the body and separating the body from mind. On the contrary, he rather ‘re-members’ the body as a whole and forwards an integrated bodymind model.

Matthew’s anatomical imaginary reminds me that being sensitive to anatomy is learned, not a physiological given. While anatomy may tell that the spine is composed of twenty-four vertebrae, that it is mobilized by an orchestra of muscles or, that the spinal curves behave in specific ways, without learning anatomy, we cannot presume ‘knowing’ or ‘feeling’ it as such to be universally accessible. As one dancer wrote, “I don’t actually ‘feel’ how anatomy shows me” (Dancer 4, 2021), and another experienced “so much comfort in hearing, ‘take the raw data, everything else is a construct, an overlay.’ A relief in being impartial. Almost formless, like a cloud of nothing that permeates through everything” (Dancer 1, 2021).

PART 5: Conclusion

A couple months after the week in-studio with the dancers, I revisited the anatomical imaginaries in a residency, alongside a colleague whom I have a history of dancing with. We took more time with each of the head-tail descriptions, we wove between movement exploration, discussion and writing. Together, we took the liberty to work with the imaginaries intuitively, which implied that sometimes we would stop the recording and dance with one idea, for example, the expressivity of the snow leopard's tail. While at other times we, would leave the recording playing while dancing, for example, as we followed along with Kevin as he brought our attention to the back of our closed eyes to notice the play of light across our eyelids as this light became liquid and filled the interconnected spaces (*ventricles*) of our head (O'Connor, 2021). As the head-tail imaginaries accumulated, we shared the impression that it was as if the images of all the preceding days were hanging in the air, that we could grab them as we moved through the space and be affected by them. Sometimes, I found myself revisiting a specific imaginary by holding it in my mind's eye, or by locating the felt memory of it in my body. Other times, I would layer an image that I had previously embodied through a different imaginary with one that I was presently exploring. My colleague and I played and improvised as we tried on the different head-tails. Throughout our engagements with each of the anatomical imaginaries, our head-tail relationships were multiplying and becoming delightfully less certain. I say delightful because embedded in the destabilization of what at first appeared to to be one thing, the head-tail, lay the potential for us to keep learning to be affected by the descriptions and to embody the head-tail differently. In doing so, we enacted the head-tail relationship as multiple. This is significant in contemporary dance training because by privileging the embodiment of difference,

we may avert reductive conceptions of the body — those which crush creativity, cultivate competitiveness and uphold a troubling number of binaries and exclusions. Returning to feminist scholar Donna Haraway's quote, "it matters what stories we tell other stories with" (p.12), with this research project, I argue that the models, metaphors and narratives that circulate in dance training contexts have an influence on our bodily conceptions and, consequently, movement.

In Part 1, I introduce myself and identify the problem of how anatomy risks reducing conceptions of the body in dance training. I ask, how we can rather potentialize conceptions of the body, for example, thinking with the fields of contemporary anatomy, sensory anthropology and feminist science and technology studies.

In Part 2, I detail several of the problematic habits of thinking that so often go along with anatomical orientations. I address how pedagogues and pedagogies get pitted against one another and categorized into good or bad teachers. I speak about how anatomy risks purporting a moralization of movement by aligning with right/wrong, safe/unsafe, efficient/inefficient narratives. I also address how anatomy, under the guise of biological frameworks and constructions of naturalness, de-signifies race, gender and the sociocultural influence of bodies and lived experience.

In Part 3, I outline my project, "Anatomical Imaginaries", which sets up both anatomically trained professionals to describe, and dancers to embody the head-tail relationship as manyfold.

In Part 4, I expose the body as unceasingly able to learn to be affected, to become sensitive to anatomical models. I discuss how practices are productively done through contemporary anatomy and feminist science studies. I argue for the ways we relate to anatomy in

contemporary dance training contexts to be metaphoric and, thinking with sensory anthropology and ethnographies, examine how cultures have a role in training our sense-abilities and influence our bodily relations and movement. I further discuss how the impact of cultural influence troubles the idea of sensations as neutral and, consequently, the so-called democratic, somatically informed approaches to dance and movement that rely on sensations.

I conclude this thesis by suggesting the importance of un-bracketing anatomy and situating it as a culturally emergent and creative practice, particularly with respect to contemporary dance training contexts. This invites dancers and dance pedagogues alike to hold their models lightly and thereby avert reductionist conceptions of the body through anatomy. Rather than avoiding relating to anatomy altogether, I suggest two strategies as antidotes to the problematic effects of the ways anatomy is often addressed in dance training: one, proliferate the anatomical models we dance with, even if, or especially if, they are in seemingly in conflict with each other; secondly, while I maintain the importance of protecting movement practice, I encourage the principles of sociocultural and feminist theory to be woven into contemporary dance training practices to encourage critical engagement with anatomical references for movement. In so doing, I contend that as dance artists and pedagogues, we can resist the reductive conceptions of the body that subscribe to the positivist and universalizing tropes of the natural sciences and thereby expand conceptions of the body — which I propose not only fosters creativity, but also maintains access to the gift of pleasure in anatomically heightened sense-abilities.

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Appendix



CERTIFICATION OF ETHICAL ACCEPTABILITY
FOR RESEARCH INVOLVING HUMAN SUBJECTS

Name of Applicant: Kelly Keenan

Department: Faculty of Fine Arts\Contemporary Dance

Agency: N/A

Title of Project: Anatomical Imaginaries

Certification Number: 30015356

Valid From: July 26, 2021 To: July 25, 2022

The members of the University Human Research Ethics Committee have examined the application for a grant to support the above-named project, and consider the experimental procedures, as outlined by the applicant, to be acceptable on ethical grounds for research involving human subjects.

A handwritten signature in black ink that reads "Richard DeMont".

Dr. Richard DeMont, Chair, University Human Research Ethics Committee