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Becoming Attuned: objects, affects and embodied methodology

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1. Introduction

> "What if the skin were not a container? What if the skin were not a limit at which self begins and ends? What if the skin were a porous, topological surfacing of myriad potential strata that field the relation between different milieus, each of them a multiplicity of insides and outsides? (Manning 2013 p1-2).

We begin with the above quotation from Erin Manning's book *Always more than one: Individuation's Dance*, because in many ways, it sums up the key issue that we hope to address in this chapter. Manning, like many other post-structuralist and post-humanist thinkers, argues for a new model of the body (understood as a material and visceral set of biological components and functions) and a new way of theorizing and conceptualizing embodiment (how humans experience the world through their specifically placed and located bodies). Manning emphasises the need to overcome a model of the body, and self, as a contained entity and a notion of the human as the measure and measurer of all things. Manning's viewpoint chimes with a broader literature on post-humanism, which argues that the body is less a determined biological entity (as in humanism) and more an open and plastic boundary whose basic condition is change, porosity and augmentation (see, for example, Hayles 2012, Wolfe 2010, Malabou 2008).

To take posthuman and poststructuralist critiques of the body as a container seriously, requires a shift in our methodological imaginary and the vocabularies we use to express that imaginary. If posthumanism is keen to emphasise non-human objects—such as technology (Hayles 1999), microbacterial life (Bradiotti 2013) and animals (Haraway 2003) —as central to our sensory experiences of the world, then any vocabulary of embodied methodology should be able to describe and analyse sensory experience in ways that do not begin and end with experience as organised by an autonomous human subject. In other words, a posthuman methodology would be able to analyse how bodies engage with their environments in ways that don't prioritize or privilege particular individual human senses or faculties over the vast array of non-human objects which shape and enable these faculties. For example, in the event of a door slamming our senses are engaged in multiple interconnected ways. We do not see the door, then hear the door, then feel the door as a series of discrete perceptions; we see-hear-feel the door as one moment or movement of change in an environment. At the same time, to understand our experience of the door slamming also requires an understanding of how the door hits the door frame to generate the forces that inform the embodied experience of the slamming door.

The chapter develops a vocabulary to understand the multiple relations between human bodies and their environments from the language of sound, organised around the umbrella concept of attunement. Attunement can be understood as a basic way of sensing the world before we organise it through internal self-narration, the representational logics of language or a theoretical account of the senses as a series of discrete faculties. A methodological imaginary based on sound, we argue, allows us to attend to the crossings that occur between the human and the non-human, while still retaining a fidelity to the intentionality or holism that characterizes phenomenological experience.

With these opening thoughts in mind, the rest of chapter is structured into three sections. In section two, we define and unpack the concept of attunement, drawing upon a variety of different philosophical sources, including Heidegger, Radcliffe and Manning. Suggesting that these sources too readily reduce attunement to feeling, we argue that attunement can

be understood in a more literal musical sense through the notion of tuning instruments. From this perspective, attunement can be defined as the capacity to sense difference. Section three develops two ways of becoming attuned through the body in terms vibration and tone. This section draws upon empirical vignettes from everyday situations which regularly form the basis of social science research and shows how these concepts can be used to understand and become attuned to complex embodied practices. In the final concluding section, we seek to show how the concept of attunement and the vocabulary developed in section three can be helpful to those in the social sciences and humanities interested in cultivating embodied methodologies and methods.

2. Attunement

The term attunement has a number of lineages within continental philosophy and social theory. Rather than attempt to provide a total summary or outline of these various, often diverging accounts, we can draw upon three different understandings of attunement from three different thinkers: Heidegger, Cavell and Manning. Although these three thinkers utilise the term in very different ways, there are commonalities that can be drawn together to provide a strong basis to develop attunement as way of thinking or doing embodied methodology.

According to Ratcliffe, Heidegger's notion of attunement is linked to mood. Radcliffe asks:

> "[W]hat kind of phenomenon does 'attunement' identify? It is used by Heidegger to convey the way in which he thinks that emotion, and more specifically mood [Stimmung], constitutes the sense of Dasein's [Heidegger's term for being-there or human being] inextricable entanglement with contexts of worldly significance. Moods, for Heidegger, give sense to Dasein's world and to the manner in which Dasein finds itself relating to the world. Dasein always "be-longs" to a world, which is first disclosed by background "moods" as a significant whole in which Dasein dwells (1962, p. 174)" (Ratcliffe 2002 p289).

Attunement suggests that the way we approach things are shaped by a fundamental mood, which acts as the condition of possibility for what appears in the world and how it appears (see also Ash 2013 on Heidegger and attunement). If a person is depressed, a situation may present itself as lacking any potential possibility, even though others are able to experience the same situation as an exciting or fertile ground for the formulation of new relationships or job opportunities. As Radcliffe suggests, these moods are often implicit and backgrounded. The depressed person does not approach a situation, see that potential and then choose to ignore it. Rather, the depressed mood is so fundamental to that person's perspective that the very idea of a situation containing exciting or positive potential is almost impossible to entertain. This experience is confirmed when one is simply in a 'bad' or 'good' mood. In a 'bad mood' it is very difficult to remember what being in a 'good mood' is like and when in a joyous mood it is hard to imagine why we would ever enter into a bad one.

At the same time, attunements are not just individual or psychological states of mind, but are also shared and collective. Egan, commenting on Cavell's reading of Wittgenstein, suggests that attunement is an implicit agreement or shared understanding that makes communication possible between particular people. For Cavell attunement is:

> "[A] matter of our sharing routes of interest and feeling, modes of response, senses of humour and significance and of fulfillment of what is outrageous, of what is similar to what else, what a rebuke, what forgiveness, of when an utter-

ance is an assertion, when an appeal , when an explanation- all the whirl of organism Wittgenstien calls 'forms of life' (Cavell 1976, 52 as cited in Egan 2013, 71).

Here attunement is a social skill as much as a fundamental mood. It is the ability to pick up upon other people's mood and respond to this mood in an appropriate way, which in turn reinforces what is understood to be appropriate behaviour in that situation. For example, if one is attuned to a situation then you will be able to read others' moods. If someone looks a little down you may try to lighten the mood with a joke, whereas if someone is very upset you may try to comfort them with a hug. In this case attunement is the capacity to sense the often subtle differences between these different moods. Here attunement is both a fundamental disposition and a kind of social savvy that is hard to formalise or codify. For example, trying to crack a joke to a mourning mother would not be appreciated, and trying to hug a work colleague because they are not smiling may seem too intimate. In this sense of the term, attunement is a fundamentally embodied phenomenon. This is because so many of the cues that dictate what is and is not appropriate in a situation are not based upon language or discourse, but more implicit markers, such as body language, gesture and tone of voice which are differentiated and expressed through the somatic corporeality of the body, which operate outside of purely discursive or conscious registers.

Drawing upon the work of Stern (1985), Manning develops and emphasises the somatic and unconscious aspects of attunement in her own definition of the term, which links attunement to the concept of affect. She explains:

> "[A]ffective attunement is a preconscious tuning-with that sparks a new set of relations that in turn affect how singular events express themselves in the time of the event. Subtle and ongoing, affective attunements 'give much of the impression of the quality of the relationship' (Stern 1985, 141). Affective attunement makes felt the activation contours of experience, the intensity, as Suzanne Langer would say, of virtual feeling. This links affective attunement to affective tonality rather than either to empathy or to the matching of behavior. Stern defines this as a matching of feeling" (2013, 11).

Indeed, where Heidegger and Wittgenstein consider attunement to be a fundamentally social or practical human phenomenon, Manning suggests that attunement can also be thought as a relationship between non-human things. As she argues:

> "[A]ffective attunement need not be solely located on a human scale. If conceived beyond human interaction, affective attunement might well describe the relational environment co-created by movement and sound […] Affective attunement: an open field of differentiation out of which a singularity of feeling emerges and merges. A tuning not of content but of expression-with" (Manning 2013 p11).

Manning's reading of the term fundamentally expands the scope and reach of the concept. Attunement is something that emerges as humans relate socially to other humans, but also as objects relate to one another. Manning is keen to emphasise the materiality of the environment here and, crucially, emphasises the role of sound in how attunement is resonated or transmitted. Furthermore, rather than focus on how attunements generate imitated social behaviour or enable socially appropriate responses, she points to a much more open sense of attunement as cultivating an "affective tonality" (ibid, 11). Here attunement becomes a broader ambience of the environment itself. As Rickert argues, "am-

bience […] is not an impartial medium but an ensemble of variables, forces, and elements that shape things in ways difficult to quantify or specify" (2013 p7).

Manning's use of sonic vocabulary and her explicit invocation of sound and tone is key for developing the concept of an ambient attunement to orientate our methodological concerns as social scientists. However, while Manning develops her own implications of an account of attunement based upon sound and tone, we want to push the concept of attunement in a slightly different direction. For methodological purposes, attunement can be defined as the capacity to sense, amplify and attend to difference. From this perspective, attunement is not just a matter of 'feeling the vibe in a room' and adjusting our emotional sensibilities to fit that vibe, but also sensitizing our bodies to appreciate and understand the complex material forces that structure situations, beyond the envelope of human emotion.

As such, attunement can be likened to the act of tuning a musical instrument. Tuning a guitar involves assigning specific pitches to each of a guitar's six strings by either tightening or loosening those strings. In regular tuning patterns, a guitar's strings are tuned to the pitches (from the lowest pitch to the highest pitch) E, A, D, G, B and E. This standard tuning allows the guitar player to place their fingers on specific frets on the guitar's fret board and play combinations of notes together to form chords. In turn, playing chords and notes successively generates musical melodies and rhythms. Tuning an instrument requires an ability to listen and hear that each string is tuned to the correct pitch. Only when an instrument is correctly tuned can the strings resonate in a harmonious way, which in turn allows music to be played upon that guitar. To play a guitar, each string must be tuned individually, while retaining the correct degree of difference between the pitch of each string. The pitch of each individual string only makes sense in relation to the guitar's overall tuning structure (the standard structure being the notes E, A, D, G, B and E).

Developing this concept of attunement as tuning and applying it to embodied methodology, we could argue that attunement is a matter of generating connections and associations between various parts and organs of our body in order to increase our capacity, as researchers, to sense difference. As the guitar example above suggests, difference is both singular and relational. Difference is singular in the sense that difference is central to what makes an object what it is (the particular pitch of a guitar string which gives it a note), while also relative to other singular differences (the other differently tuned strings which allow a difference between these notes to be heard).

This account of attunement as tuning develops Nast's argument that to use the body as a tool in research requires "allowing our bodies to become places which 'field' difference" (1998, 94 as cited in Longhurst et al, 209). For Nast, fielding difference requires attending to the body as both a corporeal and material entity as well as a social and historical one. However, in contrast to Nast, our account of attunement concentrates on difference as it is realised in material and non-human objects and makes no ontological distinction between the human and the non-human. Latour gives a possible example of this kind of attunement in relation the "training of noses for the perfume industry" (2004 p 207). In his words:

> "Before the session, odours rained on the pupils without making them act, without making them speak, without rendering them attentive, without arousing them in precise ways: any group of odours would have produced the same general undifferentiated effect or affect on the pupil. After the session, it is not in vain that odours are different, and every atomic interpolation generates differences in the pupil who is slowly becoming a 'nose', that is someone for whom

odours in the world are not producing contrasts without in some ways affecting her. The teacher, the kit and the session are what allow differences in the odours to make the trainees do something different every time—instead of eliciting always the same crude behaviour" (ibid p207).

Sensing difference is not simply a matter of being able to sense the difference between shifting moods, such as happiness or sadness; like Latour's trainee perfume smellers, it is also about learning to sense the difference between a variety of states, whether these be gestures, glances, finger movements or whatever else is pertinent to studying a particular embodied practice.

The account of attunement proposed here is different from Heidegger, Cavell and Manning's reading of the term, because it is predicated upon understanding a particular skill, object, or gesture through the degrees of difference that make an object, skill or gesture what it is and, in turn, what makes it different from other objects, skills or gestures. Becoming attuned to a situation is a matter of understanding the transmission of energy between material things and how they shape the body in ways that are not reducible to the perceptions that appear through specific sensory registers. The question is: how can researchers become attuned to situations in ways that are sensitive to the often micro-level differences that separate a skilled action from an unskilled one and which can also take account of the multiple sites at which that action is experienced?

As an example, we want to explore this by thinking through how qualitative researchers might explore the complex material forces—both human and non-human—that influence, contribute to and even produce motor skills development in human babies. We want to think about what attunement might offer us in understanding the rapidly changing bodily capacities of infants as they navigate idiosyncratic paths to independent walking. Dominant models of motor skills development as a progression through a linear sequence of 'milestones'—rolling over, sitting up, crawling, standing alone, walking unaided, etc—that unfolds with the passing on time do not reflect the, often idiosyncratic, processes through which babies learn to move on their own (Karasik et al, 2010). Instead experimental research suggests that young children's bodily capacities change and adapt as they gain experience which allows them to perceive and adjust to the properties (or affordances) of the environment around them (e.g. Adolph and Avolio 2000, Gill et al 2009, Adolph et al 2010). Surfaces, gradients, materials, gaps, heights and even the clothes that they wear can affect whether and how babies are able to move around on their own (see Robinson and Adolph 2013 for a review of this research).

Yet, neither the affordances offered by a physical environment nor an infant's bodily capacities are fixed. An environment that is unaccommodating to a creeping, commando-crawling or a bum-shuffling child may be replete with opportunities for a proficient crawler or walker. More than this, by gaining experience in interacting with different environments, children's bodily capacities change—they learn to roll over, sit up, or cruise along the furniture—and, in doing so, they are able to perceive and adapt to the new affordances they now perceive in otherwise familiar environments. To capture the plasticity of both sides of this body-environment relationship, we could think in terms of attunement to help us to move beyond a conceptual division between environmental affordances and bodily capacities.

Within developmental or biomechanical movement science, researchers have tended to approach the task through a range of experimental procedures for measuring, quantifying and analysing the changing relationships between young children's bodies and the physical properties of the environment around them (see, for example, Thelen and Smith 1996,

Berger et al 2007). However, these experimental procedures do not necessarily reflect the ways in which infants move and develop motor skills in real-world environments (Adolph et al 2012). Attunement might offer a useful qualitative and naturalistic approach to issues of infant embodiment like motor skills development. This isn't so much an issue of designing innovative new tools for data collection, but of re-calibrating and re-directing the variously mediated ways of observing and participating in social life that social scientists employ to find out what people do towards, and the analyses we perform on the data we collect. We would direct our methods and analyses towards capturing and assessing the changing attunements within the practice of learning to walk. We would focus on the encounters between material things (including human bodies) in order to discover how, not unlike Latour's trained perfumiers, young children learn to sense the sense the environment around them and the ongoing process of attunement between their increasingly mobile bodies and the environment around them.

In the next section, we want to offer up two concepts that help us think more specifically about how researchers might become attuned to particular aspects of research situations: vibration and tone. These two concepts are illustrated through examples drawn from everyday experiences, which could potentially form (or have formed) the basis of social scientific research. Furthermore, these experiences can be observed or recorded using qualitative methods standard to social science, such as interviews, observant participation and video ethnography. As these vignettes will show, becoming attuned to a situation is less about developing new methods with which to perform social science as it is a way of opening and honing the capacities of our own bodies to understand and analyse the social world, which we can use to supplement existing qualitative methods.

3. Two modes of Attunement

a) Vibration

Vibrations are a form of organised movement. From a scientific perspective, the Encyclopedia Britannica defines vibrations as a:

> "periodic back-and-forth motion of the particles of an elastic body or medium, commonly resulting when almost any physical system is displaced from its equilibrium condition and allowed to respond to the forces that tend to restore equilibrium" (2013, N.P.).

If attunement is about learning the capacity to sense difference between objects, skills and states of being, then vibration can be understood as the basic unit through which to understand and compare these various forms of difference. This is because vibration is a form of movement that is common to all bodies and objects and so cuts across distinctions between the human and non-human and the organic and inorganic: vibrations can be created by soundwaves from speakers, from tectonic plates moving together, or the cry of an animal or a human infant.

According to Parisi, vibration can be understand as a basic process that enables differences to exist between objects because vibrations introduce breaks into what would be otherwise continuously connected matter. Referring to the work of process philosopher Alfred Whitehead, Parisi argues that:

> "[W]ithout vibrations [...] there can be no possibility of measurement in the physical world. Ultimately any form of measurement [...] is a counting of vibrations. Similarly, no physical quantities could ever exist without the prior aggregation of

physical vibrations i.e. without these discontinuous breaks in the continuity of matter" (2013 p165).

That is, vibrations are forces that produce the differences between things and allow objects to appear as separate and discrete from one another. As Parisi suggests, the notion of vibration does not privilege the human body as the instigator or source of movement, and vibrations can be expressed and experienced through a variety of mediums and materials, such as liquids or solids and through a variety of senses, such as touch, hearing and vision. Manning (2009) argues that vibration is also a particular kind of elastic movement, which emphasises the capacity for change, but also the durability and endurance of particular states of objects and bodies. For example, an object can resonate without becoming displaced or torn apart. Focusing on vibration encourages us to turn away from objects defined via fixed boundaries and instead focus on the thresholds that constitute and separate things from one another. Here, as Abrahhamsson and Simpson (2011) argue, a threshold is not absolute but at the same time is linked to an object or body's capacity to act. While a threshold can be crossed, this may also mean that the object's capacity to act also changes.

In terms of attunement and embodied methodology, vibration is about changing the scale at which we attend to difference and recognising that movement of any kind contains both a qualitative and quantitative element. Vibrations can be qualitative, barely felt experiences of intensity, but at the same time, the oscillations that give rise to vibrations are quantitative. Parisi (2013) explains that a specific number of oscillations gives rise to a specific frequency of vibration. This is not to say that social scientists should equip themselves with scientific measuring equipment to count the number of vibrations present in a particular environment or practice. Rather it is about focusing on different scales of movement in order to become attuned to what is happening in a situation in a new way.

To develop a sensitivity to vibration, it is useful to recognise the fact that most humans, to some extent or another, are synaesthetes. That is to say, most people experience sensory experience through more than one sense. While extreme synaesthetes can smell touch or experience color when hearing words very vividly, most of us experience this in a more minor, often implicit, way. For example, when watching an image of pillow on a film or television programme, we can draw upon previous experiences of laying our heads on pillows to 'feel' that pillow. Marks (2002) argues that, in doing so we draw upon a kind haptic memory in order to make a connection between two seemingly divergent senses (sight and touch).

We could argue that human synaesthesia is actually similar to the ways that objects interact with one another. Just as humans can take one sensory input (such as sound) and translate it into another sense (such as color), when vibrations meet objects, the vibration is not simply transmitted across or through that object, but are also actively shaped by that body or object. In Egan's words: "vibration connects things and creates novel relations, traversing dualities [...] which removes any presupposition of separate domains" (Egan 2013 p1564). Plucking a guitar string translates one input (the motion of the string) into another (the sound of a specifically tuned note). To become sensitised to vibration within social science methodology one can begin to cultivate a synaesthetic sensitivity to different forms of vibration and how they form part of particular practices or objects. This is important because it can allow us to identify when where and how vibrations translate into different forms of sensation and force, depending on the thing involved in an encounter (on the relationship between sensation, affect and force see Ash, Forthcoming).

In terms of method, we can use the concept of vibration to expand upon and deepen an account of how objects and bodies move and the effects of these movements on the bodies and objects involved in a practice. For example, we can begin by identifying how objects vibrate depending on their particular deployment in a situation and analysing the properties of these things that, in turn, shape their capacity for vibration. Once we have identified and described a thing in terms of its capacity to vibrate we can then describe how these vibrations are organised and the possible intentions behind this organisation. Then we can begin to analyse the kinds of attunement these particular kinds of vibration encourage or discourage. For example, tactile paving is deployed in urban areas to help visually impaired people recognise when they are approaching a road or crossing point (on tactile paving see Dischinger and Filho 2012). To understand the phenomenon of tactactile paving using the concept of vibration, we could first describe and analyse the shape and spacing of the truncated domes that protrude from these forms of concrete slab. We could then analyse how the encounters between these domes and feet create a series of vibrations that are translated into haptic and auditory sensations. We might then interview urban dwellers who walk over these slabs to understand how they experience the kinds of vibration generated when their feet encounter the protruding domes and how it shapes their experience of urban life. Finally, we might employ video methods or ethnographic walk-alongs (such as Degen and Rose 2012) to study how the difference between the vibrations from flat paving slabs and tactile paving attune the walking body to react to these vibrations in different ways.

If taken seriously, the concept of vibration also asks us to re-tune the attitudes and principles that guide our forms of analysis as well as our methods. To elucidate how such a re-tuning might help us to understand embodied practice, we could think about another situation, such as how young children learn through their senses in the carefully resourced environments of preschool education. Take, for example, the water play table (a common feature of many early childhood classrooms). The water table provides science education by allowing young children to explore the physical properties of water by manipulating it in various ways and playing with a range of different toys and tools in the water (Dighe 1992, Wood and Attfield 2005, Tu 2006). If we want to understand quite how and what young children learn from such play, we might employ ethnographic or video-ethnographic methods to observe and understand how their play changes over time.

Attending to the relationships between the child, the water, the plastic tray and the various objects placed there to facilitate water play (cups, water wheels, etc) through the unit of vibration might help us to focus our observations on the physical interactions between all the objects involved in the play (both human and non-human). The vibrations within the water table—the waves of water sloshing around the table as they encounter hands and walls and funnels and boats—can help us to explore how the water play experience sensitises the child to the differences between things. The vibrations themselves are not simply an outcome between child and water and playthings, nor does the water play simply yield knowledge represented in the sum of different sensory experiences. Instead, the vibrations themselves shape the capacities of child, water and playthings to act and to respond to the situation at hand.

We might, then, want to think of vibration as a unit of sense crossing human and non-human boundaries. We may use this to encourage the development of a more experimental synaesthetic vocabulary to write up this account of water play. Here the vibrations produced by the water as it splashes around the play table may conjure feelings, colours or other affects, both literally and figurally in the child and, thus, provide an enlarged set of descriptors to communicate what it feels like to play, or how one learns to sense the quali-

ties and capacities of substances and materials. As a concept, vibration allows us to attune to forces which both cross and unite the supposed divide between human and thing because vibrations are common to both human and thing. Thinking in terms of vibration as a unit of sense, then, is one way that we can begin to attune ourselves differently to the world and in doing so produce new embodied accounts of our research.

b) Tone

If vibration is understood as a unit of sense that crosses the boundaries between the human and nonhuman, then tone is way of thinking about how vibrations are organized with particular sensory effects in mind. Tone is not an unusual term. In everyday language we often refer to an inappropriate joke as lowering the tone of a situation for example. As we discussed earlier, for Manning, attunement is more than human forms of emotional relation that emerge within social situations. Certainly, "each occasion has a tone, a singular expressivity, an enjoyment" (Manning 2013 p21), but at the same time the tone of an environment or object primes specific responses or actions to potentially occur. As Manning argues in relation to a fly and spider web:

> "tone...tunes the milieu to certain tendencies. A milieu with a springing motif tunes to air likeness, for instance. Or...fly likeness tunes not to fly as species but to a qualitative likeness of a fly-movement intensively in rhythm with the spider's web. This likeness is first and foremost affective- it is an attunement not simply to the fly in its qualitative dimensions, or to its behaviours, but to the way the fly's singular movement-tendencies affect the speciation spider-like (Manning 2013 p209).

Here the spider web and fly are separate objects, but the web itself anticipates the kinds of movement a fly makes and uses the fly's tendency for movement against it in order to capture it and form the spiders food.   The spider web does not communicate with the fly on the level of representation or identify in the sense that the spiders web somehow identifies the fly as a certain species or type of being and uses that information to capture it. Rather the spider web, through its material structure and placement, is tuned to the fly's affects; its patterns and capacities of movement and sense. Similarly, the child playing with various objects and materials available to them at the water table becomes 'tuned' to the patterns and physical forces at play in the water. The play does not represent these patterns and forces to the child, but allows that child to attune him or herself to the tone of the water in that particular instance of play.

As social scientists, becoming aware of and attending to the tone of a situation involves recognising the tendencies that a tone potentialises. Or in other words, recognising that tones do not simply set moods, but also shape the kinds of possible futures that can emerge from a situation, albeit in an open and non-deterministic way. The implications of this approach can be unpacked through a method of data collection that is very familiar in the social sciences: participant observation. Atkinson and Hammerly suggest that participant observation is "a mode of being-in-the-world characteristic of researchers" (2005, p249), whereby life is observed through the researcher being involved, either directly or indirectly, in the practice or activity that constitutes a social situation.

Manning's account of tone could help better attune a participant observer in a number of ways. Imagine the researcher was studying a coffee shop to understand how brand awareness and loyalty was created between coffee shop and customer. The researcher

could map the layout of the space to see what kind of movement it constrained and afforded, or record the perceived age, race and gender of the coffee shop customers, the length of their visit and so on. The researcher may begin to notice repeating tendencies of action that happen in the coffee shop, but have difficulty trying to pinpoint why these tendencies have a durability that seems to exceed particular categories or groups of people. Looking again, the researcher could focus on the particular ensemble of objects that made up the coffee shop environment, such as the particular kinds of material used on different areas of flooring or the textures of the seat covers or design of the arms of the chairs in the shop.

Recognising that the shop is part of a multi-national chain, the researcher may come to appreciate that each object has been specifically designed and chosen to create a setting or atmosphere that the chains owners and interior designers think is most conducive to the purchasing of coffee. From this perspective the environment does not simply afford or constrain particular actions, but also emits a particular tone. This tone is not simply about setting a convivial or relaxed mood or emotional state in the bodies of the coffee shop, but about tuning the milieu of the coffee shop to attempt to generate particular tendencies. In the case of the coffee shop, the tendency could be the development of a form of brand awareness and loyalty between customer and brand. For example, the mugs at this multi-national chain of coffee houses have an embossed logo on the cups side, but also at the top of the cups handle, which allows one to literally feel out and be in contact with the brand through the simple act of holding the cup. The large diameter of the mug also distributes the heat of the liquid across a broader area than other coffee mugs. The heat of the liquid is therefore less intense and lowers the possibility of burning one's lips. In doing so, the mug becomes more welcoming for the wary drinker. In a similar manner, the oversized handle on the cup distributes the weight of the mug more evenly in the hand, making it easier to hold and gesture with the mug.

Again, the tone of the cup is not designed to work on a representational level, but to link the affects of the human hand (its capacity to grip, its capacity to sense the differences in surface profiles) to the affects of the cup (its capacity to distribute heat, its capacity to retain the surface protrusions embossed on it) in ways that generate associations between the customers body and the brands and product they are consuming. Of course, the coffee shop is made up of a huge number of objects, of which the cup is only one. Attending to the tone of the shop would therefore involve attending to all the objects that make up the shop, alongside their relationally emergent affects. Together, the tone of the cup, the floor, the tables and so on work to tune the possibilities for the customers in the store. Just as a musical tone has a temporal extension in time, the tone of the shop creates a background hum of affects, through which particular actions appear more or less desirable, quite independently of the people that enter and leave the shop. The tone of the coffee shop is deliberately designed to prime possible futures around returning to the shop on another day, or ordering another drink or associating the brand with a particular sense of calm when one recalls the logo on adverts outside of the shop.

A number of methods could be used to study and understand the tone of an object or practice. In relation to the coffee shop mug, if we accept that tones shape the potential of future tendencies, we could use time-lapse video or other forms of video method (see Simpson 2012, Laurier and Philo 2006) to record how the mug is used within the shop and the kinds of futures that the object encourages. In turn we could compare how different coffee shop customers deal with and use the same cup. By comparing a number of different peoples engagement with the same object we could begin to understand how effective or 'strong' an objects tone is in generating more or less uniform responses or associations. We might then interview coffee shop customers and show them the video to encourage them to re-

flect on the tone of the cup and the kinds of association it cultivates between sensory experience and particular brand discourses and logos.

Lisa Baraitser's autoethnographic work on the experience of the encumbered "mother-plus-baby-plus-buggy-plus-stuff" who is attempting to navigate across the city to visit her mother (2009, p. 148) is also suggestive of ways in which tone might help us to develop embodied methodologies. Baraitser explains that the encumbered mother is exposed to the materiality of the landscape and she must improvise creative responses to it on a moment-to-basis; she must find a way to navigate through an inhospitable landscape of too-high kerbs and busy roads, stairs and barriers which conspires to prevent or prolong her journey:

> Though impeded and weighed down by her objects, each obstacle she encounters forces her to renegotiate her relationship with another set of objects: a kerb, stair, entrance, doorway, stranger. She can balk at it, but if she wants to move about the city she must ultimately find a way through. [… S]he may deliberately make light of the difficulty of her stunts, may not even consciously be aware that she navigates them on a moment-by-moment basis. She too engages with the material elements of the city; sees with fresh eyes both the broken and rude elements, and the occasional objects that reciprocate back. (2009, p. 150).

Baraitser argues that experience that is "both burdensome" yet "oddly generative" (2009, p. 150). Very productively, she draws upon the notion of viscosity (drawn from the properties of matter) to help to make sense of this embodied experience of motherhood. Thinking in terms of attunement might help us to further explore how mother, baby, buggy and stuff encounter, respond to and affect the many tones of the city, both pleasant and unpleasant. This could help us to understand , not just what the mother perceives and experiences in the environment around her, but the processes of exchange and adaptation between the many human and non-human objects that make up the environment.

Like the concept of vibration, attuning our bodies as researchers to sense and piece together the tone of an environment is not necessarily about developing some new method of accounting for objects or things. Rather it is a matter of cultivating our bodies to become sensitive to often overlooked or ignored minor details, that while seeming inconsequential actually matter a great deal. Attunement is a process of developing a sensitivity to notice the difference between laminate or real hardwood flooring, or the difference between different textures of plastic used in disposable cutlery. It is these details which give objects their tone. In turn, these tones work together to generate assemblages of sensation of feeling-seeing-smelling-hearing, in ways that appear unified, fixed and given to consciousness, in order to produce particular kinds of affect in an attempt to realise particular pre-conditioned futures. Again, this does not mean we simply exhaustively describe the properties of objects, but rather examine how these properties are designed to work on the level of affect, alongside the haptic and often unreflected upon somatic knowledges of the body.

4. Conclusion: Attunement as Embodied Methodology

Becoming attuned to a situation requires a turn away from focusing on specific sensory faculties, or of understanding sense experience as constituted by the sum of our individual senses. In its place, the chapter has argued for a model of embodied methodology based on attunement. Taking the concept of attunement seriously encourages us to concentrate

on relations between body and world as a process on material exchange, translation and differentiation between a variety of human and non-human objects, rather than a gathering and organisation of forces by something called human perception or cognition.

Practically put, attunement asks us to focus on what appears to the researcher within a given situation, while at the same time speculatively inquiring about how objects and forces appear to and shape each other as well. Here object-object relations are seen as equally important as human-object relations. Cultivating a sensitivity to the non-human and breaking down categorical distinctions between humans and non-humans involves a modesty on the part of the researcher in the sense that one should not assume that human beings are necessarily the most important actor in shaping what happens within an event or situation. Developing new units of 'sense' that cross between the human and non-human, such as vibration, encourages researchers to focus on the points of intersection where bodies and objects meet in ways that do not reduce these encounters to brute physical or causal interactions. As we have argued, it is through these very encounters that the research field become sensible and intelligible to the human subject studying it.

As such, the concept of attunement is an umbrella term for thinking about how to orientate ourselves towards empirical research and research methods, through sensitising our bodies to pay attention and focus on difference. Here, concepts such as tone and vibration are not ideas divorced from the world, nor are they heady abstractions. From this perspective, concepts can be used in a productive and inventive way to generate connections between seemingly disparate realms in order to open up new ways to think and understand social life. At the same time these concepts should not be considered prescriptive. Vibration and tone are two ways to become attuned to the world in a different way, but are certainly not the only ways. With this ethos in mind, and continuing with the sonic metaphor, how might we attune ourselves to the volume or pitch of an event and how would those concepts enable us to experience social phenomenon differently? If methodology is a series of choices about what information and data we attempt to gather and how that data is analysed, then attunement encourages a focus on the micro scales of material relation, in which humans and their sense capacities are only a very small part.

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