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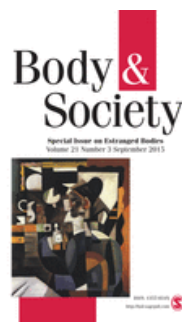
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Intense embodiment: senses of heat in women's running and boxing

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Introduction

Although the past three decades have witnessed an upsurge in sociological writings on the body and embodiment issues, a more 'carnal sociology' (Crossley, 1995) has only more recently begun to address the sensory dimensions of bodies at work and at play (Wolkowitz, 2006; Hockey and Allen-Collinson, 2007, 2009; Sparkes, 2009; Allen-Collinson and Owton, 2012), particularly from a phenomenological perspective. Whilst the investigation of cultural (and subcultural) constructions of the body and its inscription by discourse are of course worthy research endeavours, as Burns (2003) notes, such focus *may* result in an under-theorisation of the materiality of the lived body. In this article, we analyse and theorise the carnal experience of female embodiment in the highly physical domains of distance running and boxing. Drawing upon a more 'sociologised' form of phenomenology (Allen-Collinson, 2009), we explore the phenomenal ground, the here-and-now of bodily existence and presence (Münch, 1994), whilst simultaneously acknowledging the impact of social-structural forces and location upon our individual lived-body experiences. In this article we orientate the phenomenologically-sensitive lens toward the sensuous dimension, focussing upon the lived experience of the sense of heat, found to be highly salient in our accounts of physical training for both distance running and boxing.

As Vannini and Taggart (2013) highlight, the scarcity of embodied ethnographic approaches to the experience of heat is striking, despite the importance of feelings of warmth/cold in mundane human interactions, and the centrality of heat as a key driver behind much economic activity. Without '*thermoception*, the sense by which an organism feels temperature' (Vannini and Taggart, 2013: 2) and thermoregulation, our ability to regulate heat, we would, quite simply, die. For humans, straying even slightly from a core body temperature of around 37°C results in death. It is surprising therefore that there is such a paucity of theoretical and empirical research on the lived experience of heat. We address this lacuna, and consider the different theorisations of

heat as a sensory mode. The article also responds to recent calls (e.g. Hockey & Allen-Collinson, 2009; Mason and Davies, 2009; Sparkes, 2009) to address sociologically, qualitatively and in depth, the complexities of sensuous experience.

In this article, we use the approach of empirical phenomenological sociology, a form of sociology employing insights derived from phenomenology (Schwarz, 2002), rather than a 'purer' philosophical version. For ease of reference, the term 'phenomenology' is used, unless more specific usage is required for clarity. We explore the relatively under-researched senses of touch, and of heat, drawing on data originating from three separate autoethnographic/autophenomenographic research projects. We should clarify too that this particular article does not take the form of an 'evocative' autoethnographic or autophenomenographic narrative; we provide an analysis and theorisation of the empirical data from these projects. To address our topic, the article is structured as follows. First we provide a brief overview of the theoretical framework of phenomenological sociology, followed by a consideration of the emerging field of the sociology of the senses, drawing upon a longer-standing anthropology of the senses. The three research projects from which our sensory data are drawn, are portrayed, before we present the findings under two main themes relating to 'lived' heat: warming up, and thermoregulation. We also examine how contrasting theorisations of heat play out in our lived experience of situations of 'intense embodiment' during running and boxing.

Here, we employ the term 'intense embodiment' to describe periods of heightened awareness of corporeal existence. These experiences have commonalities with Leder's (1990) concept of the 'dys-appearing' body, contrasted with the 'disappearing body'. This latter describes the 'recessive' body, which is largely absent from conscious thought in everyday life, for example in terms of the general, mundane workings of the inner organs, and physiological processes such as respiration. This 'absent' body is, however, brought to heightened awareness when pain or illness, or indeed intense pleasure, remind us of its presence. Then the body 'dys-appears', and is brought – sometimes acutely – to consciousness. Intense embodiment similarly involves a greater level of conscious awareness of the body and bodily processes, but without the

more negative connotations of 'dys' (a prefix signifying 'bad' or 'abnormal'). Intense embodiment connotes a positively heightened sense of corporeal 'aliveness', of the senses working at an intense level, the kind of bodily 'high' richly described by Shilling and Bunsell (2009), in portraying the workout experiences of female bodybuilders, where pleasure and pain boundaries blur, and muscles work 'to the max' (2009: 153). We now briefly introduce phenomenological sociology for those unfamiliar with its principal tenets.

Phenomenological sociology and embodiment

Modern phenomenology, developed from Husserl's (1989) descriptive, transcendental phenomenology, now spans a wide-ranging, multi-stranded, and highly varied set of theoretical frames (Allen-Collinson, 2009). This tangled web of different traditions (Ehrich, 1999), includes more applied, empirical forms, some of which we might term cultural phenomenology (Katz and Csordas, 2003) and sociological phenomenology or phenomenological sociology, depending upon relative emphasis. As Sobchack (2010) notes, phenomenology can be used as an empirical method of describing, thematising and interpreting human experience, and the ways in which 'objects of consciousness as well as the affects and values that qualify them are synthesized ... by an embodied consciousness, a "lived body"' (2010: 52). Phenomenological sociology also highlights the social 'situatedness' (Crossley, 2001: 324) of such embodied consciousness. Within phenomenology, researchers seek to capture the 'essences', or core, characteristic structures of a phenomenon, whilst cognisant of the inevitable partiality of such capture (Allen-Collinson, 2011).

The phenomenological concept of *Dasein* ('there being' or 'being-in-the-world') emphasizes the self-world linkage. Merleau-Ponty (2001), working from an existential phenomenological perspective, emphasises the carnality of our being-in-the world, and in his later work, the 'fleshiness' of *Dasein* is brought further to the fore in recasting 'being-in-the-world, as 'flesh-of-the-world' (the French *chair*). As Mellor and Shilling (1997: 56) note, forms of corporeal knowledge or 'carnal knowing' are deeply

connected to sensory experience. 'Sociologised' forms of phenomenology acknowledge and address social-structural influences upon embodiment, highlighting the politically and ideologically-influenced, historically-specific, and socially situated nature of human embodiment and experience (Allen-Collinson and Hockey, 2011). Phenomenologists working from a feminist perspective (e.g. Preston, 1996; Young, 1998; Allen-Collinson, 2011) for example, acknowledge and analyse the structurally, culturally and historically-located nature of gendered embodiment.

At this juncture, we note that our own accounts are grounded in our female white, and relatively 'able' lived-bodies. For the purposes of this particular article, we are focusing less on the gendered dimension of embodiment, and more on the intense and heightened forms of embodiment encountered in the physical cultures of our running and boxing lifeworlds. Our other work has addressed gendered *Dasein* and female experience as social-structurally bound (e.g. Allen-Collinson, 2010, 2011). Furthermore, our purpose here is not to generalise from the data, to distance runners and boxers more widely, or indeed to running-women and boxing-women, but rather, commensurate with the phenomenological ethos, to portray some of our lived, corporeal experiences of these lifeworlds in relation to heat. Although there are indubitably great differences between running and boxing lifeworlds, there are also shared corporeal facets. For example, Woodward (2008), in discussing boxing bodies, describes these as: 'saturated by disciplinary techniques and ... highly regulated and self-disciplined through a set of routine practices and mechanisms' (2008: 542). Such a portrayal also very easily encapsulates running bodies (see for example, Allen-Collinson and Hockey, 2001, for an analysis of the disciplinary techniques of distance runners).

Given our particular interest in the lived experience of these lifeworlds, phenomenologically-inspired work, particularly drawing on sensory ethnographies (Sparkes, 2009) of these and cognate physical cultures, has proved of great interest, although this corpus is currently relatively limited in scope. There is not the space here to cover the research literatures on running and on boxing more generally, but we provide examples and sharpen the focus to consider those studies adopting a

phenomenological and/or sensorial auto/ethnographic approach. Particularly germane to the current analysis are, for example, Wacquant's (2004) and Woodward's (2008) evocative and highly sensorial ethnographic works on boxing, which include much rich detail of carnal experience. Whilst Fulton (2011), Lafferty and McKay (2004), Paradis (2012) and Sugden (1996) adopt different theoretical lenses through which to address gender and boxing, the hard-contact, bloodying, bruising, sensory dimensions of boxing strongly emerge. Related examples are Crossley's (2004) consideration of body techniques in circuit training, Spencer's (2009) analysis of bruising and callousing corporeal engagement with mixed martial arts, Channon and Jennings' (2013) exploration of inter-sex touch in martial arts, and Samudra's (2008) and McDonald's (2007) studies of Chinese and Indian martial arts. With regard to the social world of the distance runner (Shipway *et al.*, 2013), Nettleton's (2013) ethnography of English fell runners' embodiment takes a corporeal sociological perspective in evocatively portraying the sensory joys of running through mountain landscapes. Martin (2007) considers running as aesthetic experience, as does Ludwig (2011) in investigating transformative spiritual experiences in women's running. Tulle's (2007) detailed analysis of agency and embodiment in older, 'veteran' runners, and Hockey and Allen-Collinson's (2007) phenomenological work on the sensory dimension of the sporting body, including the under-researched hapticⁱ dimension (Allen-Collinson and Hockey, 2011) in running, have stimulated our thoughts in utilising a phenomenological-sociological lens to investigate embodiment issues in physical cultures (Allen-Collinson and Owton, 2012). The above research has inspired our current work on the sensory dimension of embodiment in distance running and boxing, and we now consider briefly the 'sensory turn' in the social sciences, together with discussions of the 'haptic' and heat.

The sensory turn and heat

Social anthropology was the first of the social sciences *systematically* to address the socio-cultural dimensions of the sensoriumⁱⁱ (e.g. Stoller, 1989; Howes, 1991, 2006b; Classen, 1993, 2006; Classen *et al.*, 1994, Ingold, 2000; Geurts, 2002, 2006). In

more recent times, the social sciences in general have begun to take a sensory turn, even to witness a 'sensorial revolution' (Howes, 2006a). Indeed, the importance and prevalence of the sensory-self/body/society nexus has been clearly signalled: 'The senses mediate the relationship between self and society, mind and body, idea and object. *The senses are everywhere*' (Bull *et al.*, 2006: 5). The precise ways in which the patterning of sensory perception and experience varies historically, culturally, socially and contextually, are of interest to sociologists and anthropologists (and others). Furthermore, as Calvert *et al.* (2004) emphasize, we rarely experience singular sensory modality, but rather multisensory processes, with two or more senses working in concert. For example in 'seeing' an object such as a rug, we are often aware also of its tactile properties; as Merleau-Ponty (2001) argues, the form of an object inheres not so much its geometrical shape, but it simultaneously appeals to other senses as well as sight.

Anthropologists have portrayed vividly the differential patterning of the senses cross-culturally. The very notion of the sensorium as comprising the 'classic five' senses of sight, sound, smell, taste and touch, as described in much European and North American literature, has been noted as culturally (and temporally) specific (Howes, 1991; Geurts, 2002). Other equally (or indeed more) tenable senses have been posited, such as kinaesthesia, balance, proprioception, pain - and heat (Classen, 1993; Geurts, 2006; Potter, 2008; Vannini and Taggart, 2013). Here, we are in agreement with Potter (2008) in theorising sensory experience and knowledge as *subculturally*, as well as culturally specific, including in relation to specific physical subcultures, such as running and boxing. Ethnographies and autoethnographies of boxing (Wacquant, 2004), mixed martial arts (Spencer, 2009), capoeira (Downey, 2005), running (Allen-Collinson and Hockey, 2001; Nettleton, 2013), and dance (Potter, 2008), provide just some examples of richly-textured and detailed auto/ethnographic research that embraces the sensory experiential specificities of physical practices and cultures. As heat, the focus of the current article, has been conceptualised as a specific mode of touch perception, we now address this particular element of the sensorium.

Paterson (2009a) notes that touch rarely constitutes the primary focus of social-scientific study outside of anthropology, and we seek to contribute to the literature on touch in sociology/anthropology (e.g. Classen, 1993, 2005; McCann and McKenna, 1993; Routasalo, 1999; Paterson, 2007, 2009a, 2009b; Potter, 2008; Allen-Collinson and Hockey, 2011). Whilst in the European/North American 'hierarchy of the senses' (Classen, 1993), touch is often accorded low status, and categorised as one, or even *the* most 'base' of the senses (Moulton, 2010), phenomenologists, amongst others, have highlighted touch as a complex, sophisticated and highly valorised sense. Whilst his approach is open to debate, Husserl (1989) argued for the phenomenological (and phenomenal) primacy of touch, considering that the other senses, particularly vision, are always mediated by having to travel through time/space, whereas touch is more immediate in spatio-temporal terms. The touch/haptic nexus is an interesting one, and haptic terminology is now considered.

As Paterson (2009b: 786) notes, there is considerable confusion in the way that the 'haptic' has been defined across different disciplines, and whilst derived from the Greek *haptesthai* meaning 'of, or pertaining to, touch', the kind of touch implied by the term 'haptic' extends beyond straightforward cutaneous contact, to include internally-felt bodily sensations, which he terms the 'somatic senses'. The haptic, for Paterson (2009b) therefore includes kinaesthesia (sense of movement), proprioception (felt muscular position) and the vestibular system (sense of balance). We are in agreement with this expansion of the haptic to include these additional three elements, but in turn we would further expand upon the description of proprioception to include other components. 'Proprioception' relates to an inward-feeling, sense of oneself (the 'proprio' element), often taken to focus on neuromuscular perceptions and/or of the position of one's body or limbs in space. Exteroceptors are the sensory nerve-end receptors of the 'classic five' externally-directed sense organs (eyes, ears, etc), whilst proprioceptors are inward-directed sensory receptors lying in the deep tissues and muscles of the body (Potter, 2008: 449). These work 'largely through mechanical strains and alterations of pressure resulting from contractions and relaxation of muscles (Sherrington, 1907: 471, quoted in Potter, 2008: 449). A wider usage of the term,

however, incorporates not only neuromuscular perceptory processes, but also the perception of the viscera and internal spaces of one's body, of enclosed or encircled corporeal space (Morley, 2001). This links with notions of the 'visceral': 'the realm of internally-felt sensations, mood and states of being, which are born from the sensory engagement with the material world' (Hayes-Conroy and Hayes-Conroy, 2008: 462). Vannini and Taggart (2013: 6) similarly treat 'thermoception' (the perception of temperature) as an affect: 'the body's capacity to be moved and be affected, and the body's capacity to move and affect other people and other things'. We are in agreement with this construction of the senses, not merely as passive receptors but as part of the phenomenological intertwining of mind-body-world, Merleau-Ponty's '*chair*' or flesh-of-the-world. For us too, the senses work as both creators/shapers *and* bearers of (sub)culture (Allen-Collinson and Owton, 2012), and we are in accord with Chau (2008), who highlights the importance of acknowledging social actors' work in sensory-*production* as well as in sensory-*interpretation*.

As Ong (2012) argues, heat is of key importance to humans and has been vital to our evolution. Within the anthropological and sociological literature, the 'sense' of heat has been theorised and/or portrayed both as a specialised sense of touch (e.g. Geurts, 2002), and as a separate and distinctive form of sensory perception (Classen, 1993; 2005; Potter, 2008; Ong, 2012) experientially distinct from touch. Classen (2005: 149) for example, notes how in Latin America, thermal symbolism is highly elaborated amongst descendants of the Maya, including the Tzotzil for whom heat is the basic force of the universe. For the Tzotzil, humans accumulate heat throughout life, reaching a thermal peak just before death, and certain life events, such as being baptised and marrying increase a person's heat. Also conceptualising heat as distinct from our 'classic' notions of touch, Potter (2008: 453-454), draws upon her in-depth ethnographic research project with a group of British contemporary professional dancers. She argues convincingly for the conceptualisation of heat as a distinct perceptory mode, on the grounds of dancers' (including her own) corporeal experience. Thus, whereas touch is a proximal sense requiring actual contact between body and an external object, heat is perceived both *within* the human body and at its boundaries

where it touches/merges with the external world. This trans-boundary capacity makes heat somewhat analogous to the sense of smell, Potter argues (2008: 454). Here, we draw upon both these conceptualisations of heat, and their applicability to our sensorial data. First, we portray the research projects from which the subsequent data extracts are drawn.

The research

The analysis draws upon data generated by three separate autoethnographic research projects on embodiment within physical cultures: two on distance running and one on boxing. The distance running studies were autoethnographic and autophenomenographic (discussed below) projects undertaken by the first author, whilst the boxing project was an autoethnographic and autophenomenographic project carried out by the second author. Both of us are female, one in her mid-50s and one in her early 30s; one a 'veteran' runner with almost three decades of ground-pounding in her legs, and one relatively recently have taken up boxing, but with many years of experience of other combat sports since 1992. Our interest in writing about the lived experience of heat was sparked by a coffee-bar conversation - a stimulus familiar to many an ethnographer (see for example Emerson *et al.* 2011) - during which heat emerged as a highly salient 'core' aspect of our physical-cultural domains. Although we had not specifically set out originally to examine the nature of heat experiences in our respective research projects, we subsequently returned to undertake further data analysis with renewed vigour, and in heat-sensitized mode.

The research studies are described in detail below, and we have coded the transcripts as R1, R2 (Running 1 and 2) and WB (Women's Boxing). Whilst autoethnography is a research approach that has gained widespread acceptance within the social science community (Holman Jones *et al.*, 2013) over the past 30 years or so, autophenomenography may be less familiar to some. This approach shares similarities with its autoethnographic sibling, and has also been termed phenomenological autobiography (Sobchack, 2010). Autophenomenography (Gruppetta, 2004; Allen-Collinson, 2009, 2010) is an approach analogous to autoethnography but where the

researcher analyses her/his own experiences of a *phenomenon* or *phenomena* rather than specifically of a cultural/subcultural domain, as would constitute the greater focus in autoethnography, although there are inevitable overlaps.

Running 1 was a collective autoethnographic project, undertaken by the first author in conjunction with a fellow runner-researcher (see for example, Allen-Collinson and Hockey, 2001), as two highly experienced 'veteran' distance runners; she having been a serious runner since 1986. Data were collected via highly detailed training/research logs and an 'analytic log' during a 2-year period of long-term injury and rehabilitation. This latter recorded emergent analytical themes and concepts, and included longer narratives based on detailed field notes. Throughout the research we sought to engage in *epochē* or phenomenological bracketing, including 'embodied reflexivity' (Burns, 2003: 230), by, amongst other things, subjecting to analytic questioning the influence of our own personal embodiment on the meanings, beliefs and knowledge we used and generated. Data relating only to the first author are included below. In Running 2, the first author maintained detailed distance-running training/research logs for 3 years, commencing in 2008 and then recommencing in October 2012 (with R2), having moved city. During Women's Boxing, the second author similarly maintained a detailed autoethnographic training/research log since taking up amateur boxing in August 2012 in a small, urban gym in the South-West of England and continuing in a new town from October 2012 at a small, urban gym in the English Midlands, where she trains for 3-4 hours per week. The majority of other boxers are men and all the coaches are male. As noted, here we are not focusing upon gendered embodiment specifically (see for example, Paradis (2012) on women's boxing), although other of our work does address this (for example, Allen-Collinson, 2010, 2011).

The lived experience of heat

From all three research projects, the sense of heat emerged as a 'core' (in multiple ways) experience, particularly in two areas: warming up, and thermoregulation. These phases are not actually 'lived' in our experience as discrete, temporal phases but for

analytic purposes we present them as distinct. At this point, we should also explain that for the purposes of this particular article, we have adopted a more analytic-autoethnographic (Anderson, 2006) representational style, whilst in other of our autoethnographic/autophenomenographic 'productions' we draw on a variety of representational modes, including photography, podcasts, poetry, drawings, and video (see for example, Owton, 2011, 2013). We hope, nevertheless, that the form of representation selected here conveys effectively to readers our lived-body experiences of heat and intense embodiment.

Warming up

For runners and boxers, commensurate with Potter's (2008) analysis of contemporary dancers, effective corporeal 'warming up' is crucial, for both training sessions and for competition events. For us (especially those of us not in the first flush of youthful athleticism), warming up is undertaken purposefully to raise the body's core temperature, with the aim of mobilising, loosening and 'lengthening' unprepared, stiff muscles and joints. It also prepares the body generally for imminent physical demands, particularly if, immediately prior to training session, participants have not been physically active, for example, sitting long hours in front of a computer. 'Cold', tight, unprepared muscle and tendons are more susceptible to injury and 'pulls', the bane of boxers and runners. Warming up for running may take many forms, for example, stretching exercises, particularly of the legs (taut hamstrings are problematic for those of us in sedentary occupations), gentle jogging around, or starting the running session at a gentle pace to allow muscles gradually to warm to their task. However warming up is undertaken, it requires of the practitioner a heightened awareness of somatic sensations in muscles, tendons and joints, to gauge when the body is sufficiently prepared.

As Potter (2008: 454-455) also notes, warming up incorporates an energising element, so that a sense of heat can also be experienced as feelings of internal energy and bodily readiness. In this form, it is experienced as less a form of touch and more as a distinct 'sense'. Reflective of the phenomenological focus on the mind-body

nexus, this corporeal readiness incorporates a *psychological warm-up*. For both runners and boxers, psychological preparation for the training session ahead is vital, given the physical demands required of body-mind. Running- and boxing-bodies need to be primed and readied, prepared to work *hard*, and to engage in intense embodiment:

As soon as I get in the car and leave the campus, I crack on the radio. If I can't find a station with some decent rock, it's on with the Zep or Coverdale tape. I need something with a rocksteady beat, something with a lot of whack to it, something you can feel deep down... It's an energizing thing really, such a change from being so static and sedentary at work, so mind-orientated. I really need that change of tempo, to wake me up, to get everything moving so as to be ready to pull on the training gear as soon as I get home. It's like I have to prepare my muscles and also get myself focused for the sensations of running. A lot of academic thought is abstract, it's mediated and disembodied, but distance running demands right-on physicality from the very first step, when the elements hit you... (R1)

As soon as I know I'm going training, I can feel my body starting to prepare – sometimes I start sweating in the car on my way there – that's when I know my body's fit, ready and ready to work hard. Before, I've even walked into the gym I am warming up – warming up before the 'warm up'. Once I've finished the warm up though, there's no doubt about how more attuned I feel with the air, the environment, other sweating bodies. (WB)

We warm up and the class feels perky tonight. There's a good vibe in the air, full of enthusiasm and sweat. As the warm up pulls to a close, we gasp for water as Frank shouts: "RIGHT! PAD UP". (WB)

The warm-up for boxing has similarities with other contact physical cultures such as martial arts. Jennings *et al.* (2010), for example, describe warming up for Wing Chun Kung Fu using 90 punches 'without power', followed by limbering and stretching exercises, particularly for the hamstrings. In relation to running, thorough 'deep', warming up is particularly crucial for outdoor cross-country and road racing when runners have to set off at considerable speed from a standing start – often after waiting, poised, at the start line in chilly conditions - but also for more mundane training sessions, most likely (in the UK) in driving rain, high winds and/or freezing temperatures:

We've started doing our pre-run stretches on the yoga mats on the balcony overlooking the Olympic-size swimming pool. The warm, moist air of the pool space is brilliant for warming up, particularly when we've been confined to a desk or lecture theatre for most of the day! By the time we hit the frosty grass on the moon-lit campus this evening, we were so thoroughly warmed up with glow-orange cores that we didn't even notice the cold. By the time we'd registered that it was well below zero, and about 20 mins in, the pool warmth was replaced by our own run-generated inner glow. (R1)

Once our body-minds have been thoroughly warmed, stretched and prepared, we are ready to engage in the hard work of training, during which a new corporeal challenge emerges: maintaining a steady temperature.

Thermoregulation

Ong (2012: 6) highlights the importance of homeostasis for humans, for straying even slightly from a core body temperature of around 37°C results in death. Given that metabolic combustion generates at least 60 watts of energy, but can be increased ten- to twenty-fold during strenuous exertion (Ong 2012: 6), the importance of maintaining homeostasis for those engaging in strenuous exertion is evident. Once the warm-up

has been undertaken, one of the challenges facing runners and boxers alike is heat regulation, the maintenance of an optimum (or at least relatively comfortable) balance between keeping warm and overheating. This latter requires remedial measures to induce cooling, for example via sweat production. First we consider situations in which keeping warm is our primary aim. Effective, 'deep' corporeal warming-up helps to ensure that proprioceptors transmit messages of felt inner-warmth, even if the cutaneous exteroceptors provide evidence of very different temperatures in the external environment:

As I set off in the last rays of April sunshine, down the hill towards the playing fields and river, dark, lowering cloud obscures the hills on the other side of the valley. It looks as though it's going to pour down or snow heavily. Sure enough the temperature is dropping rapidly and an icy wind's edge chills my skin, which chafes against thin cotton tee shirt... As I continue, the thin wind is bitter against my slight body, but as my core begins to warm to the labour, a strange sensation comes over me. Like Baked Alaska in reverse: my wind-chilled outer skin is bitterly cold, grey-blue, but it seems as though just a few layers beneath the epidermis, my inner body is glow-warm orange. The strangeness of the feeling preoccupies me so that the discomfort of the cold is forgotten for a while and I can concentrate on a steady even pace. (R2)

Commensurate with Merleau-Ponty's (2001) portrayal of the intertwining of body-world, running-bodies are fundamentally linked to the elemental world as a central structure of lived-running experience. Facing all the elements, battling against vicious, cutting wind, stinging hail and pelting rain, sinking slightly (deeper sinking risks incurring Achilles' tendon injuries) in fresh snow, glistening in high-summer sun, melting into dark night, coursing over fields eerie in silvery moonlight, all these lived elemental experiences emerged strongly from running fieldnotes, and suggest a tactile form of heat and cold, where the body is literally touched by the elements. Similarly,

the field notes from the boxing research revealed this touch-related form of 'external' heat/cold perception, where the body feels 'touched' by air, and thermo-receptors (detecting temperature) work in synergy with mechanoreceptors (detecting pressure) and nociceptors (detecting pain):

There's a difference between the cold winter training, the bitter cold air that sinks deep into my lungs, with painful chesty breaths from the freeze - like a 'chest freeze'. It's like I've swallowed an ice-chilled big inflatable ball of air that's painfully pressing against my chest; I don't know how it got in there, but suddenly, as we finish the PHAⁱⁱⁱ training, it's there and I have to try and get my breathing back to normal with this chill inside me. I place the palm of my hand on the left side of my chest, where my heart is and take deep breaths trying to manage the pain from this frozen inflated chest... I struggle for the next few minutes to recover; my breathing's painful. I'm not focused on my technique during padwork, I'm focused on recovering. (WB)

Such sensations cohere with the theorisation of heat and cold as a specific form of the tactile, where the body is literally touched by the elements. Intertwined with this in our embodied experience, however, is the lived sense of heat as a distinctive perceptual mode, illustrated by proprioceptive experiences of heat as inner energy, life force, an 'orange-core'.

With regard to thermoregulatory efforts, Potter (2008: 456) notes that the contemporary dancers whom she studied, as acting body-subjects, 'willingly' control the production of heat, choosing how much they 'warm up' and 'cool down'. There are, however, limits to the controllability of inner heat and its corporeal indicators such as sweat and flushing. Runners and boxers similarly attempt to control the levels of heat produced corporeally, during warm-up and cool-down times, but also in the midst of training sessions and competitive events. For us both, maintaining a relatively even temperature during training is important, not just for relative bodily comfort, but also to try and maximise the effectiveness of the training session. For the first author, as a

runner, trying to keep cool has been the bigger of the temperature-control challenges, given a propensity to 'over-heat', particularly in warm, humid conditions. Running in hot climes has proved problematic, often necessitating early-morning or later-evening sessions in an effort to avoid the highest temperatures. Proprioceptive feelings of heat accumulation without release are highly unpleasant, resulting in the uncomfortable 'dys-appearance' (Leder, 1990) of the running-body as it pushes into the forefront of consciousness:

Horrible run this evening. Body drained and dehydrated from having to sit through interminable meetings in airless, cramped rooms. No time to hydrate properly before setting off, and the heat hit like opening an oven door. Like running into a wall of heat, stagnant, suffocating, pollen-heavy. Just 10 mins in and I'm struggling for breath, legs swollen, aching, heavy, bloated, no 'whack' in them whatsoever. Sweat beads on my arms and chest and slides in ticklish runnels over my abdomen. If only I had a cut-off top on, the tiniest hint of breeze might cool even a fraction my sweat-slippery midriff, but the black cotton lies heavy on drenched skin. I head for every precious hint of shade I glimpse, but am too work-weary to make sudden detours in search of tree-shaded terrain. Just the odd, stray, lightening flutter of breeze relieves the heavy grey torpor. When I stagger to the backdoor, face aflame and stinging, nauseated and slightly wheezing, I can barely summon the energy to pull off socks and trainers before stumbling into the relative cool of the kitchen. (R2)

Waitt (2013: 4) portrays the different cultural and social connotations of sweat and notes that in relation to gym and sports cultures sweat is in some ways 'clothed in respectability' through discourses of 'improving' rather than 'polluting' bodies. Here, the physical hard labour of 'working-up a sweat' is viewed as personal care, and coded as transformative, producing a healthier, fitter, slimmer, more taut body. For us as runners and boxers too, sweat has strong connotations of corporeal immersion in the hard physical labour of our respective physical cultures, of willingness and

preparedness to work hard and suffer the discomforts. Working up a sweat – in the appropriate context – thus brings with it moral undertones, of not shirking hard work. For us as women too, it makes a visible statement that we are not too concerned about the aesthetic and wider social consequences (beyond our own physical-cultural contexts) of being hot, sticky, sweaty, dishevelled – and pungent; characteristics often deemed antithetical to received norms of ‘femininity’ in contemporary British and North American societies.

I shake as I unravel my wraps from my hands and sweat drips from my chin.
I stink! I feel good. (WB)

After the warm-up, when we get to the padwork, I feel ready, my body’s hot and ready to keep burning, working, sweating and it spurs me on to hit the pads with good technique. I hear the sounds of my technique hitting the pads – *tap, tap, slam, slam, SLAM*. (WB)

I walk up the dusty hill home in bright sunshine, post-run, running-vest soaked but now cooling sweetly against gleaming skin. Hair tendrils escape my little scrunchie (hair band) and stick in tight swirls to my drenched neck. Flaming cheeks beginning to calm... Phew, that was a good, hard, ‘whack’ of a session, out of the blue too – didn’t feel that great as I started off on to the common... A driver kindly lets me cross in front of her – I must look an absolute state, but a cool shower awaits... (R2)

These then are illustrative data extracts revolving around the different forms of heat experience encountered during intense embodiment periods within our respective physical lifeworlds. Such experiences are now discussed as analytically framed within phenomenological sociology.

Discussion

This article has advocated phenomenological sociology as a means of 'carnalising' sociology, to borrow from Crossley's (1995) evocative lexicon, and of undertaking detailed, qualitative investigation into the 'deep' sensory dimensions of embodiment, including intense embodiment experiences. Here we have focused specifically upon two physical cultural milieux with which we are familiar as practitioner-participants, embedded in the life-worlds of distance running and boxing. Allied to the analytic insights of sociological theoretical frameworks, phenomenology, we consider, encourages deep analytic engagement with the structures and textures of embodied experience, whilst also being acutely cognisant of the considerable forces and constraints of social structure(s) and sociological variables such as gender, age, ethnicity, dis/ability, and so on, upon bodily experience. Phenomenological sociology provides us with both a theoretical and methodological approach to investigating the feeling, sensuous, moving body, the hot body drenched in sweat, the shivering cold body, inhaling icy shards. It provides a robust framework for exploring intense embodiment where the senses are experienced as working 'on full' and 'to the max', generating a heightened sense of corporeal 'aliveness'. Phenomenological sociology emphasizes that these bodies are also lived through culture and subculture, through social structure, ideology and language; these bodies both hold and generate social meanings.

Above we have focused specifically upon the lived experience of heat in our chosen physical cultures and addressed the question of whether heat might better be conceptualised as a specific, separate and distinctive sense, somewhat akin to the olfactory in its trans-boundary perceptual mode. Or whether heat is better framed as a particular form of touch, something 'external' that touches the body's boundaries directly. Heat as a distinct sense has been theorised by writers such as Potter (2008) in relation to the lived-body experiences of contemporary dancers, and by Ong (2012) in relation to heat and architectural aesthetics. Heat as a distinctive form of touch has also been described in the anthropological literature by authors such as Geurts (2002). Based on the evidence from our autoethnographic and autophenomenographic research

studies, both forms of heat sense are 'viable' and reverberate with our lived experience; the precise structure of the experience is context-dependent, and often the forms of heat experience interweave in complex, shifting, transient ways. So, for example, what commences as tactile experience, the touch on skin^{iv} of an external heat source (sunshine, the heated air of the gym) may then contribute to the generation of feelings of inner-core heat, so that it is no longer possible to distinguish 'external' and 'internal' heat. Indeed, there are problems with conceptualising heat experience as 'external' or 'internal' at all, for in lived experience such distinctions are not quite so neat.

In contrast to the inward/outward distinction connoted by the terms 'interoception' and 'exteroception', Paterson's (2009b) concept of the 'somatic senses' acknowledges the shifting interaction between, and 'blurriness' of internally-felt and outwardly-oriented senses. Such blurring of internal/external 'boundaries' is commensurate with much phenomenological thinking, which seeks to problematise and challenge neat and ready dualisms in favour of acknowledging the messiness, fluidity, complexity and blurring of perceptual modes. Such fluidity and imprecision certainly resonate with the richly textured 'sensuousities' of our lived experience as a distance running-woman and a boxing-woman. Widening out the discussion, these somatic senses collectively help constitute an underexplored, background form of embodiment; the self-perception of inner bodily states that are continually shifting and also appear to be culturally and subculturally variable. As Leder (1990) portrays, this background-foreground movement of the body in consciousness can be highly 'dys-comforting' when our body is in pain or in illness. Periods of 'intense embodiment', however, as we have portrayed above, can bring these background feelings vividly to the foreground of consciousness, generating a heightened sense of corporeal 'aliveness', sometimes pleasurable, sometimes less so, where pain and pleasure can interweave. All this, for us, constitutes an integral component of the embodied experience of our chosen physical-cultural lifeworlds.

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ⁱ Here we follow Paterson (2009b) in using the term to include internally-felt sensations, such as kinaesthesia (sense of movement) and balance, as well as the sense of touch as cutaneously experienced

ⁱⁱ The totality of the perceptual apparatus as an operational complex.

ⁱⁱⁱ Peripheral Heart Action

^{iv} There has not been space within this particular article to engage with conceptualisations of 'skin' in relation to heat experiences, and this relationship certainly warrants further analysis.

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