Understanding the vital emergence and expression of aging: How matter comes to matter in gerontology's posthumanist turn

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ABSTRACT

Recent years have witnessed the beginnings of a posthumanist turn in critical/cultural gerontology. This is a turn that is partly demanded by, and provides means for illuminating, the posthuman social condition that older people experience in the twenty-first century. That has incorporated contributions from a range of theoretical and empirical traditions including new materialisms, non-representational theory, science and technology studies, arts, performance and sensory studies. A turn that, decentring the human subject, has envisaged aging as a distributed process involving multiple interacting living/biological and material/technological actors and excessive forces. This paper describes three ontological understandings of the vital emergence and expression of aging that the turn has ultimately generated (aging emerging and expressed through relational material assemblages; aging enacted and performed by open vital bodies with vibrant objects; aging in immediate, pre-personal, more-than-representational space-times). It then describes how, rather than being sidelined, four longstanding humanistic concerns have been reimagined in scholarship in 'more-than-human', 'other-than-fully conscious' terms (meaning, disadvantage, agency, communication). It is suggested that together these understandings and reimaginings constitute an open theory on aging, and a possible way to frame future studies. However, acknowledging that there is still much to do, the paper concludes with some thoughts on future challenges and possibilities for posthumanist research on aging.

Introduction

Since its inception in the early 1990s, critical/cultural gerontology has been broadly humanistic. Certainly there has been considerable diversity in scholarship, and quite different theoretical approaches have been pursued, with the effect that the field has never evinced a totally cohesive humanist movement or paradigm. Most notably social constructionist and poststructuralist theories have been drawn upon to account for power relations and important social and institutional processes that older people are drawn into (e.g. Gubrium & Holstein, 1999; Katz, 1996; Twigg, 2004); wider debates considering agency/meaning vs social structures/contexts in aging (e.g. Baars, Dohmen, Grenier, & Phillipson, 2014; Gilleard, 1996; Grenier, 2005) and related methodological developments (e.g. Gubrium, 1992; Rowles & Schoenberg, 2001). Nevertheless, even in the midst of these important critical conversations, human subjects have remained front and centre of the vast majority of inquires in critical/cultural gerontology. Concerned primarily with the being of (older) humans *'in-the-world'*, researchers have typically privileged human subjects as the sole

possessors of agency whilst emphasising characteristically subjective traits and qualities such as choices, values, definitions, judgements, decisions and dialogues (Twigg & Martin, 2015). Indeed, studies have attended to how culture forms part of social relations and identities in older age. The challenge for scholars has hence been to deconstruct the resulting signs and meanings that culture attributes to older people, and investigate how they experience the consequences of these representations (Twigg & Martin, 2015).

In recent years however a growing challenge has been mounted to this way of approaching and doing critical/cultural gerontology. Mirroring trends in parent social science disciplines - such as sociology, geography and political science (see Franklin, 2007; Panelli, 2010; Zolkos, 2018) - a 'posthumanist' turn has arguably begun to shape debates; at the time of writing involving over sixty journal articles and book chapters, and two edited collections (Buse, Martin, & Nettleton, 2018a or b; Katz, 2018), the majority published within the last four years. Based on a number of theoretical alignments (noted shortly), this turn has decentred and deprivileged 'the human', looking to the non-human and 'more-than-human' aspects of aging. In this vein it thinks of

older humans as being *'of-the-world'*. On one level this involves a re-evaluation of older humans, from a view of them as autonomous, complete, closed, almost always acting fully consciously, to a view of them as dependent, incomplete, open, often acting less-than-fully consciously. On another level it involves rethinking particular features of older human life (such as forms of health and wellbeing), from a view of them as being internal, verbalisable 'facets' of the body and mind, to being wider 'modes of existence' produced through distributed, expansive and ongoing processes involving multiple biological/natural and material/technological actors, and the vital forces that exist within and emerge between these actors (Andrews & Duff, 2019). These complex points will be explained more fully throughout the paper but, in short, posthumanism provides an alternative to humanistic approaches – such as social constructionism – that hold language and discourse to be the basis of social phenomenon including aging. For posthumanistic thinkers, despite their differences, the construction of society is something that is first and foremost processual, rather than something 'talked-up' or 'represented'.

Quite significantly, posthumanism not only lays the basis for a new research paradigm, it also aligns with, and is demanded by, what a number of scholars call an emerging 'posthuman condition' in contemporary society (see Andrews, 2019; Andrews & Duff, 2019; Gray, 2000; Pepperell, 1995; Wolfe, 2010). Scholars have argued that the idea of the 'human subject' no longer accurately reflects the conditions of lived experience, or the experience of social relations, there being a more horizontal and co-equal, rather than top down hierarchical, relationship between the human and nonhuman (Dönmez, 2016; Haraway, 1985). A key claim is that, under twenty-first century advanced capitalism and the particular forms of progress it engenders, human beings increasingly live - emerge or are expressed - within diverse more-than-human assemblages of digital cultures, algorithmic computation, electronic media diffusion, and technological proliferation, including engineering and bio-technologies (Andrews & Duff, 2019). These advances, it is posited, have produced a world where new material forces are not only inescapable and hugely influential, in many circumstances it is increasingly difficult to separate natural from artificial, flesh from technology, the body from society, medical from social, and nature from culture, they often being co-present and co-dependent (Andrews & Duff, 2019; Haraway, 1985).

For illustrative purposes, one might consider five examples of the posthuman condition in life. One is social media use, where increasing numbers of older people emotionally express, represent and connect themselves through electronic interfaces with very definite conventions, parameters, sensory attractions and audiences. Indeed, the internet more generally has enabled many, but certainly not all, older people to communicate and gather all kinds of information, not to mention shop, undertake household duties, be entertained and even work in new ways (Lepa & Tatnall, 2006; Tatnall & Lepa, 2003). A second example is surveillance, monitoring and assistive technologies – such as for safety, fitness, nutrition or medication adherence - that enable independent and lower risk living for older people, but can intervene in their daily routines, can evoke negative emotions and stereotypes, and can provide personal information to other parties to be used either for commercial ends or to inform institutional responses (Marshall, 2018; Urban, 2017). A third example is anti-aging and life sustaining interventions, such as cosmetic treatments and surgeries, drugs and supplements and implant technologies. These involve the insertion of materials onto and into the aging body or the material manipulation of the aging body (Bayer, 2005; Wick, 2002) in ways that demolish easy distinctions between natural/artificial or human/nonhuman. For does an implantable cardioverter defibrillator become part of the 'natural' body once implanted, or is it better understood as a biotechnological 'prosthetic', or simply as a modern marvel? Where is the human and the nonhuman, the biological and the material in this example and does it matter? These interventions represent the latest commercial and consumer iteration of the longstanding 'scientific'

objective of a technologically-enhanced transhuman body that transcends natural limits. This 'futural' goal is especially pronounced in the bio-sciences where the human body/subject often appears as a 'problem' to be overcome through material and/or technological means (Duff, 2014; Mol, 2002). A fourth example is the emergence, through varied technological extraction techniques, of 'big data' on aging (by definition possessing unprecedented 'volume, velocity and 'variety'). Big data might be drawn by either public or private sectors, from media, web and other non-traditional sources but also traditional ones (for example, by large longitudinal aging studies and their data bases that combine opinion, cognitive, socio-economic and biological measures - Raina et al., 2009; Steptoe, Breeze, Banks, & Nazroo, 2012). This is a situation that promises new speeds of analysis and knowledge translation on the challenges of an aging society, and more rapid and responsive administrative/managerial decision making and policy making. Yet it is a situation that needs to be critically appraised and approached in terms of its powerful transformative potential – the new power of bits and bytes (Chandler, 2015; Thrift, 2014). A fifth, final and even more pervasive example is the dense materiality and materialistic consumer culture in contemporary society. This is driven by advanced technology as it is produced by technology, involves technology as product, is circulated by technology and transacted by technology. Older people – like all human cohorts - are consistently and specifically targeted by, and exposed to, commercial affective forces: synthetic textures that alter their experiences and behaviours. Whilst consumer culture and agency can empower older people and provide enjoyment (on both meaningful and sensory levels), many are excluded from it and all are threatened by the environmental degradation that results. Moreover, many older people accumulate a 'material convoy' over the time and space of their lifecourse. Being physically and psychologically 'part of them', this raises its own predicaments in terms of risk and it being negotiated, managed and often culled or redistributed (Ekerdt, 2018).

These are five clear cases of posthuman conditions related to aging in which the distinctions and concerns common to humanism, alone provide little heuristic assistance. Aging is an especially rich field for studies of posthuman life given how pervasive technological interventions and technological consumer items are for the aging body both for treating and/or preventing health problems and more generally in maintaining connectivity, independence, participation and wellbeing. Indeed, the aging body becomes enmeshed in technological fields and networks – and often in surveillance, intervention and management – so almost inevitably arises as a site for the convergence of the human and the nonhuman (hence being 'more-than-human'). In sum then, the value of academic posthumanism may be discerned in the sensitivities it lends researchers in their efforts to distinguish the forms and effects of the changes that come with this posthuman condition whether they are subtle or obvious, supportive or detrimental, inclusionary or exclusionary (Andrews & Duff, 2019; Wolfe, 2010). Herein lies posthumanism's political critique and political potential; directly facing up what comes to be in new, liberating but sometimes troubling times. Feminist philosopher Rosi Braidotti (2017), in a recent keynote presentation, condenses posthumanism:

"I don't consider posthuman as a generic category as such, and certainly not [as] a concept. It is a navigational tool. In Deleuze's terms a conceptual persona, in my own work a cartography. A cartographic tool that allows us to illuminate aspects of the present operationalised through strategic readings. It accesses the moment".

A number of theoretical orientations have come to inform posthumanist gerontology that build on poststructuralist ways of thinking already firmly established in the discipline, even as they have turned away from poststructuralist preoccupations with texts and linguistics (Fox, 2016). These orientations include, most prominently and broadly, new materialisms (Brownlie & Spandler, 2018; Buse et al., 2018a; Buse, Martin, & Nettleton, 2018b; Buse & Twigg, 2014, 2015, 2016, 2018; Changfoot & Rice, 2019; Chapman, 2006; Höppner & Urban, 2018;

Katz, 2011, 2018; Lovatt, 2018; Twigg, 2012, 2018; Twigg & Buse, 2013), but also assemblage theory (Andrews & DeMaio, 2018; Bowering, 2019; Brownlie & Spandler, 2018); actor network theory (Cutchin, 2005; Lepa & Tatnall, 2006; Nguyen et al., 2015; Tatnall & Lepa, 2003); non-representational theory (Andrews, Cutchin, & Skinner, 2018; Andrews & DeMaio, 2018; Andrews & Drass, 2016; Andrews & Grenier, 2015, 2018; Maclaren, 2018; McHugh, 2009; Nettleton, Buse, & Martin, 2018; Skinner, Cloutier, & Andrews, 2015); affect theory (Andrews, Evans, & Wiles, 2013; Kontos, Miller, Mitchell, & Stirling-Twist, 2017; Maclaren, 2018), and certain streams of meta-physical pragmatism (Cutchin, 2001, 2003, 2005, 2016). Moreover, posthumanism captures the predominant theoretical orientation of four 'cutting edge' empirical/conceptual fields emerging in cultural gerontology: science and technology studies (Buse, 2010; Peine, Faulkner, Jæger, & Moors, 2015; Urban, 2017); new mobilities (Bowering, 2019; Burnett & Lucas, 2010; Phoenix & Bell, 2019; Schwanen, Banister, & Bowling, 2012; Ziegler & Schwanen, 2011); arts performance studies (Andrews & Drass, 2016; Changfoot & Rice, 2019; Chivers, 2018; Gray, 2017; Gray & Kontos, 2018; Kontos et al., 2017; Kontos & Grigorovich, 2018a, 2018b; Rice et al., 2017), and physical culture and sensory studies (Gish & Vrkljan, 2016; Marshall, 2018; Nettleton, 2015; Orr & Phoenix, 2015; Phoenix & Orr, 2014; Phoenix & Orr, 2015; Sparkes, 2015; Urban, 2017). These orientations have drawn liberally on the pathbreaking posthumanist work of such eminent philosophers and theorists as Gilles Deleuze, Bruno Latour, Manuel DeLanda, Donna Haraway, Karen Barad, Jane Bennett, Rosi Braidotti and Nigel Thrift, with each orientation emerging from different concentrations and mixes of their ideas. In keeping with this conceptual bricolage, part of the subtitle of the current paper repeats words in the subtitle of one of Barad's most seminal posthumanist papers (Barad, 2003).

Each of these theoretical orientations engages with specific more-than-human aspects and processes of aging, thereby stimulating its own domain of posthumanist thought in gerontology; a situation resulting from instances of conceptual, epistemological and methodological un-iqueness (of all posthumanist orientations, new materialisms displaying the most intersections with others, yet does not capture all). Rather than disentangling and comparing each of these orientations however – what might entail a very relevant project for another occasion - the remainder of the current paper instead exposes the degree of consensus or common ground that has emerged between them; what seems to be a reasonable project to undertake - taking stock at this stage of the turn. Adopting a recently developed typology of posthumanist analysis (see Andrews, 2019; Andrews & Duff, 2019), first it describes the new more-than-human ontological understandings of the emergence and expres-sion of aging that the posthumanist turn has brought forth; three vital processes thought to be always simultaneously at play in any aging situation or context (namely - aging emerging and expressed through relational material assemblages; aging enacted and performed by open vital bodies with vibrant objects; aging in immediate, pre-personal, more-than-representational space-times). Second it describes how, ra-ther than sidelining or rejecting humanistic concepts, the posthumanist turn recognises that they remain important (human 'being' almost al-ways involving human and non-human relations phenomenon and processes). Hence, emphasized is how they have been reimagined and extended in more-than-human and other-than-fully conscious terms. Both of these theoretical discussions are illustrated by examples of current empirical posthumanist research in critical/cultural ger-ontology. Although we posit that together these understandings and areas might constitute a flexible and inclusive theory and framework, we acknowledge that inquiry has only just begun. Hence, the paper closes with some thoughts on possibilities for future posthumanist thinking and inquiry in gerontology including on how they might even help set a course towards a more unified discipline.

New ontological understandings of aging

(i) Aging emerging and expressed through relational material assemblages

Posthumanist gerontology recognises that human and nonhuman biological entities and nonhuman material entities are not only re-sponsible for aging realities and experiences, but that they are all on the same level of existence, are all capable of agency, can co-evolve to-gether and can often lack clear distinction (thus are understood ac-cording to a 'flat' ontology). Moreover, it recognises that aging realities and experiences emerge through the working of 'assemblages' com-posed of these entities; the components in place (or in the process of moving into or out of place); the many 'mechanisms' (such as relations and events) operational in-situ and within wider networks; internal processes at play (such as coding/territorialisation, actualization and homogenization), and the excessive expressive vital outcomes (such as affects) which are more than the sum of assemblages' parts (for a full explanation see DeLanda, 2016). In sum, as Deleuze & Parnet, 2006:69) describe:

"What is an assemblage? It is a multiplicity which is made up of many heterogeneous terms and which establishes liaisons, relations between them, across ages, sexes and reigns – different natures. This, the assemblage's only unity is that of a co-functioning: it is a symbiosis, a 'sympathy'. It is never filiations which are important, but alliances, alloys; these are not successions, lines of descent, but contagions, epi-demics, the wind".

In short then, assemblage lends posthumanist gerontology a way to explain aging that is not structuralist or constructionist yet that still speaks to some degree about the content and order involved (including complexities, functionings, fluidities and immediacies) (Andrews, 2018). Posthumanist gerontology understands that specific aging rea-lities and experiences are created through temporary contingent unities within assemblages (different assemblages being more or less enabling or restrictive to aging bodies which possess particular qualities and capacities in relation to them). According to this way of thinking, aging exists, not only as a chronological or biological point, or as something narratively constructed (i.e. as understood across most of the dis-cipline), but also as a particular emplaced processual outcome of life.

Although 'assemblage theory' is not always explicitly credited by scholars, its understandings underpin a range of recent empirical work in critical/cultural gerontology where new materialisms have emerged at the forefront of thinking about aging (e.g. Buse & Twigg, 2014; Chapman, 2006; Lovatt, 2018; Twigg, 2012, 2018). Buse et al. (2018b) for example, talk about 'materialities of care' as a way of con-ceptualising how caring for the aging body emerges. For these authors care involves caring and cared for human bodies, mundane materials that possess agency (and can even stand in for caring bodies), and their various spatialities, temporalities, and practices as they come together as assemblages in a range of clinical and non clinical settings. Beyond caring, other scholars have considered the human bodies, materials and practices involved in the aging process more broadly, including in holding one's own and maintaining one's independence and dignity in diverse assemblages operating across public/community and private/ home spaces (Brownlie & Spandler, 2018; Höppner & Urban, 2018). Bowering (2019) for example considers how older people inhabit cities, looking specifically at how their everyday practices of mobility con-verge with the formation of assemblages of civic spaces and activities. Importantly, in terms of theory, the idea of relational material assem-blages also clearly resonates with Cutchin's Deweyan metaphysical in-terpretation that aging existence and experience are processes that in-volve a smooth continuity and deep integration between older humans and their environments. An interpretation which emphasises the func-tionality of relationships between older people and particular en-vironmental facets and conditions (Cutchin, 2001, 2003, 2016).

(ii) Aging enacted and performed by open vital bodies with vibrant objects

As the aforementioned ideas on assemblages indicate, posthumanist gerontology involves a decentring of the older human body in favour of a broader sweep of actors and forces. Without ignoring them altogether, it shifts the focus of scholarly attention away from physiological and biological changes in the body (the scientific/positivistic understanding of aging) and subjective opinions and judgements about the body (the humanistic understanding), towards the wider origins and character of the social, affective and material expression of bodily aging. Specifically, biologically aging human bodies are recognised as assemblages of matter and energy, open to change and realising their potential through their encounters. As Braidotti (2000: 159) flamboyantly and provocatively puts it, a body is:

"A piece of meat activated by electric waves of desire, a text written by the unfolding of genetic encoding. Neither a sacralized inner *sanctum*, nor a pure socially shaped entity, the enfleshed Deleuzian subject is rather an "in-between": it is a folding-in of external influences and a simultaneous unfolding outwards of affects. A mobile entity, an enfleshed sort of memory that repeats and is capable of lasting through sets of discontinuous variations, while remaining faithful to itself".

Attention is hence paid in research to the practices and performances that vital human and nonhuman biological bodies undergo with vibrant nonhuman/material objects - that possess their own capacities, agency and life (Bennett, 2009) - the efforts they exert and the vital energies they create together. As noted by Braidotti, Deleuzian articulations of 'affect' have been key to much of this ground-breaking work and the new understandings it has sustained (Deleuze & Guattari, 1988). Although affect has been subject of much debate, a general academic consensus is that affect is an infectious *trans*-individual process, in that it involves bodies affecting other bodies (often aided by material actors), this resulting in increases or decreases in their individual and collective energy. Moreover, that affect is experiential; it being felt as the intensity of one's material/human environment and the intensity of one's involvement in it (Andrews et al., 2013; Andrews & Grenier, 2015, 2018). Somatically registered then as a vague yet powerful 'feeling state', affect is not thought to be a typical emotional category and experience (such as fear, love, loss, anger, empathy and numerous others). These are far more personal, internal, specific and known than affect, and involve forms of complex conscious comparison and reasoning. Having said this, it is thought that affect can underlie and/or co-exist with these emotional experiences (for example, even if focused, thinking is often undertaken through both affect and emotion). Further, it is thought that affect is not exempt from being contemplated in moments. One situation is affect being consciously recognised during fleeting breaks from the flow of physical and mental immersion in particular events, when the mind briefly 'surfaces' to realise the extent of this immersion. Another situation is affect being fully recognised and reflected upon after the conclusion of particular events, as having been a simple yet significant part of them. Of course most non-academics would not think of, or use, the term affect in describing situations or feelings. Instead, popular/lay descriptions of what academics think of as affect - which certainly speak to parts of it – include the 'atmosphere', 'vibe' or 'mood' of places, or the 'pace', 'momentum' or 'infectiousness' of social engagement.

These understandings are reflected in a range of recent empirical scholarship in critical/cultural gerontology. Maclaren (2018), for example, articulates rural aging as an embodied affective and atmospheric experience, his research describing big skies, open spaces, fresh air, brisk walking, and everyday out and about encounters – from smiling passing acknowledgements to spontaneous group chats – that his respondents experienced. In a very different and perhaps more focused study, Kontos et al. (2017) consider the introduction of "elder clowns" in settings for dementia care and the co-constructed imaginaries and reciprocal embodied relational engagements evoked by them. The authors describe how dress, singing, dancing, improvisation, and

playfulness are key components that allowed base feelings of emotion and empathy to be expressed and transferred between bodies, including a certain affective energy, particularly through joyful and sad expressions and movements. A final example is research on innovation in 'knowledge translation'. Gray, for example, created a play "*Cracked: a New Light on Dementia*" which tells inter-relational stories of the onset of the disease (Gray, 2017; Gray & Kontos, 2018). This production, with all its movements and expressions of sadness and hope created between the actors, set, props and audience, produces a collective affective experience of 'what it feels like', whilst at the same time carrying more conventional verbalised messages about understanding and needs. Other varied contributions in this theoretical area include research on the somatics of music and dance in dementia contexts (Kontos & Grigorovich, 2018a, 2018b); the collective performative power of older people and their dress (Buse & Twigg, 2018; Twigg, 2012); the intoxicating affective aspects of physical activity in later life (Nettleton, 2015; Sparkes, 2015), and sensory recollection in oral histories (Andrews & Wilson, 2019). Though still in its infancy, this emerging work reveals the processual, powerful '*pushes*' of aging. That is, it revels something of both the *affective dimensions of aging* (i.e. how important affect is to aging) and of the *affective force of aging* (i.e. how influential affective aging is in wider social life), and the particular human and nonhuman entities, and their relations, that create these phenomena.

(iii) Aging in immediate, pre-personal, more-than-representational space-times

"Human life is largely lived in the non-cognitive world" (Thrift, 2004:81); "the varieties of stabilities we call representation can only cover so much of the world" (Thrift, 2004:89); "human life is based on and in movement... [it] captures the animic flux of life and especially an ontogenesis which undoes a dependence on the preformed subject" (Thrift, 2008:5).

As clearly evident in our discussion of affect, posthumanist gerontology pays attention to the unspoken, immediacy of aging. The most theoretically inclined of scholars recognize that aging, like all life, is initially expressed on a 'plane of immanence' (a term used by Deleuze and Guattari (1988) to describe the self-organising process and point at which all life emerges). This plane - or virtual field - is pre-personal, subjectless, neutral, and unconfined; preceding meaning or individualization, existing only through the singularity of events (Andrews, 2018). Acknowledging this plane leads to a research emphasis on what proceeds from it; the base practices, flows and textures that create the pushes and initial expressions to aging life (Andrews & Grenier, 2015). At a micro-scale, this involves a focus on particular, often singular, human and non-human movements, and their qualities such as their lines of action, spacing, intensity, speed and direction. At *meso* and macro scales this involves a focus on where such movements, when dominant or collective, create distinct 'pockets' of space-time, and the overall progression and becoming of these pockets with particular speeds, rhythms and momentums (Andrews & Grenier, 2018). The problem for scholars is thus how to show/animate all of this in their studies. Indeed, dealing with forms of movement, awareness, expression, communication and inter-body solidarity - that often do not involve full contemplation, signification or verbalization - has required specialised approaches, such as non-representational theory and the (re)invention of research methodologies (Andrews & DeMaio, 2018; Andrews & Grenier, 2015, 2018; Rishworth & Elliott, 2019; Vannini, 2015).

These understandings and trends are familiar to a range of recent empirical work in critical/cultural gerontology. Of this scholarship, particularly notable is Pia Kontos' concept of 'embodied selfhood' (Kontos, 2004, 2005; Kontos & Naglie, 2009). Drawing on the work of Bourdieu and Merleau-Ponty, Kontos challenges the Cartesian understanding of 'the self' ontologically divided according to a dualist division between the mind and the body. Kontos instead contends that

selfhood is enacted through embodied habitual, less-than-fully conscious practices and gestures. Her ground-breaking arts-based studies showcase her applications of this concept, which has been taken up by others. Twigg and Buse (2013) for example consider dress and embodied identity in dementia. For them dress escapes semiotic and/or representative accounts of being which dominate much gerontological research. It reveals different dimensions of selfhood including a form of embodied pre-reflective social identity whereby clothes, by the way they look, move and express, trigger memory and affects (rather than explicitly telling or representing something). Research in this area is not always focused on relationships between bodies (or framed under 'embodied selfhood') but can equally be about the relationships between bodies and places. Nettleton et al. (2018), for example, focus on architectural designs for residential aging environments. These authors note that these designs fabricate spatialities, atmospheres and affects that are not always experienced by occupants fully consciously, but are embodied through their senses and sensory memory.

Even more ambitious perhaps is other research which describes ways in which space-time is disrupted for older people, challenging some of the more conventional ways gerontologists have understood space-time to exist. Changfoot and Rice's (2019) study of disability, aging and time, for example, focuses on short films/videos made by older and disabled subjects. According to the authors, these films produce their own space-times that are perceived and felt in a non-linear way, often changing radically in tempo. Moreover, they produce progressive, emergent and open ended space-times with the future feeling nearer or further at times, often feeling uncertain, but always exhibiting some possibility. In sum, these space-times challenge the typical understanding of disability as a downward arc of physical decline through clock time. Equally as radical meanwhile is McHugh's (2009) theoretical study of aging, memory and landscape. Here the author draws on the work of Thrift, Deleuze and Bergson to argue that an older person's past is not felt, recalled or influential as a succession of states or snapshots. Instead, he contends that an older person's experience occurs through an unbroken duration, or dynamic continuum, whereby at any one time their whole past informs their perspective on the future. Moreover, he argues that the past is not dead to an older person simply because it is not currently happening. Instead their past lives on in a virtual dimension, its affects and other base feelings potentially reactivated like hauntings in memory images (such that the past/virtual and present/actual are not completely concurrent and can be lived through each other) (also see Andrews & Wilson, 2019).

The (re)imagining of some central humanistic concerns

Just as posthumanist conceptual innovations may be discerned in the three broad areas canvased in the last section, it is also possible to discern these innovations in the work critical and cultural gerontologists have done to reimagine some central humanistic concerns in more-than-human and other-than-fully conscious terms. In our view, this influence may be observed in four key areas of debate: questions of meaning in older age; disadvantage and oppression in older age; agency in older age; and finally communication in older age.

(i) Meaning in older age

Being the first consequence of human consciousness, meaning underpins almost all human processes and outcomes (including disadvantage, difference, agency and communication – as discussed later). Across humanistic gerontology discussions of meanings have largely revolved around how they are socially and culturally constructed, relating to the self, others, groups, possessions and places (e.g. Biggs, 1997; Gilleard, 1996; Rowles & Chaudhury, 2005). Posthumanist gerontology however questions the extent to which coherent, stable, subjective and durable meanings can be ascribed to and by humans to other humans and things, and the extent to which it is possible for conscious

meanings to arise independent of physical processes. Specifically, posthumanist thinking offers gerontology the idea that conscious meaning is made, in part, through prior and concurrent physical/material performances, processes and experiences that create conditions for the shared expression or generation of meaning (see Katz, 2011). This suggests, in other words, that social constructions are somewhat based on unconstructed states of affective life (see Duff, 2014). Gerontology informed by pragmatism for example makes a claim which is fundamentally posthumanist; that thought and knowledge do not stand alone, they only ever being a product of the constant adaptation of bodies to their immediate material environments during the routines, rituals and movements they perform within them (see Cutchin, 2001, 2003, 2005, 2016; Gubrium, 1986).

These understandings have consequences for how particular aspects of meaning and processes of meaning-making are comprehended. For example, under posthumanist thinking, 'attachment' and 'belonging' are understood less in terms of conscious attributions and connections made by individual(s) to something, somewhere or each other. Indeed, in terms of 'something', attachment and belonging can entail a relationship and relationality between a body and another entity co-existing and co-operating within an assemblage. In terms of 'somewhere' and 'each other', attachment and belonging can be about a body's role in, and relationship with, an entire assemblage. These relationships, and their outcomes, are often practiced and experienced less-than-fully consciously, insofar as they involve levels of human association and forms of human solidarity realised through shared physical experiences. Affect theory, an important contemporary source for much of this thinking, emphasises for example the 'pre-personal', 'asubjective' forces of cohesion and relationality that link bodies in modes and practices of meaning-making and emotion-making but that never reach the threshold of conscious representation or awareness (Massumi, 2002). As Whatmore (2006) – following Latour – notes, subjectivity does not live inside human beings, captured in their souls. Instead, subjectivity - and the subjective meanings that animate it - is expressed both inside and outside human beings, extended across their wider worlds in networks of distributed affect.

The aforementioned understandings have underpinned a range of recent empirical research in critical/ cultural gerontology. Chapman (2006) for example examines the roles of 'cherished objects' in 'aging well'. The author argues that these objects - including the older person's house and the things in it - have no intrinsic or original meaning and so can not hold meaning in any essential way. Rather the material they are made of affords or lends itself to human fashioning and use according to the particular social and affective meanings it may be capable of sustaining over time. This is to insist that such objects are only ascribed meaning – that stands above them – through their co-performances with humans. In another study, Buse and Twigg (2014) focus on handbags and their contents, and their usefulness to communication with women with dementia. The authors argue that being objects that are touched and felt, they help provoke biographical memory. Key co-performances between older people and handbags which help this affective provocation including collecting/hoarding, looking inside, rummaging, positioning, particular ways of holding, weighing up and putting down. Similarly, Lovatt (2018) challenges the widespread view that residents of residential care environments retain their identity through bringing meaningful objects/possessions in with them. Like Chapman, she argues that these possessions do not hold this meaning essentially in themselves. Instead their meaning is derived from residents physically interacting with them; by taking them out, handling them, looking at them, positioning them and caring for them - all part of everyday practice (see also research on the meaning derived from materialities and practices around food at the end of life - Ellis, 2018). Also relevant is research that explores the constant binding interchange between sensory and performative aspects of physical activities in later life, and the generation of meaning with regard to those activities; whether this be in the 'positive' context of fitness and exercise (Nettleton, 2015;

Sparkes, 2015) or the 'negative' context of falling and injury (Katz, 2011). Particularly interesting for example is Nettleton's concept of 'existential capital' as something only (older) fell runners can acquire, know and expend through moving and sensing across material landscapes in space and time.

(ii) Disadvantage and oppression in older age

Across humanistic gerontology, disadvantage and oppression are typically understood as being identity-based. Older people suffer disadvantage as a result not only of their age, but through how this aspect of their identity intersects with other demographic categories they may be subject to, such as their gender, class, income, (dis)ability or ethnicity (Bytheway, 1995; Calasanti & Slevin, 2001; Cruikshank, 2008). Together these intersecting identities often trigger (or reveal) complex and compounding co-existing challenges and disadvantages engrained in the wider structures of society. Whilst a posthumanist position does not disagree with these assessments, it adds an interpretation of how they are generated; recognising physical difference as ontologically prior to identity difference. Indeed, it regards the differences which underlie disadvantage and oppression, as firstly physically performed by older bodies that possess certain physiological and biomechanical attributes (often in relation to younger bodies with contrasting physiological and biomechanical attributes). These interpretations leave some space for the idea that human hierarchy is not just a social and cultural construction but is, for better or worse, also a 'natural' phenomenon insofar as bodies performatively and affectively express differences which become reified in terms of a social gradient of prestige, status advantage/disadvantage and/or power (see DeLanda, 2006). Moreover, they leave some space for the interpretation that any hierarchy that manifests in inequality might be a result of an unconscious/implicit bias because younger bodies are less in tune with older bodies that they encounter less frequently and that do not easily fit their typical patterns of interactions. This is to note that, as humans, we categorise as a less-than-fully conscious perceptual habit, involving sameness and novelty, to process and understand the world we are constantly interacting with (a situation certainly compounded by media bias, political bias and quite conscious/purposive modes of representing age). Social identities thus partially arise from unconscious, or less-than-fully conscious perceptual habits by which 'different' bodies are mentally assigned to classificatory schemas that often serve to entrench exclusionary hierarchies. And, practiced at a collective level, disadvantage and oppression ultimately emerge between bodies and are felt affectively.

It is absolutely not the aim of posthumanist inquiry to evoke old determinisms or excuses for disadvantage and oppression, rather it is to realise the base relationality and potential of bodies – the 'starting point' as it were - and understand the material, less-than-fully conscious and conscious processes that together underpin social difference. In understanding these processes more fully we might then be more able to discuss strategies for tackling them and their negative consequences in a more intellectually mature fashion. Of course, as part of this the aim is also empowerment; to harness the power of the sameness of bodies in the world such that some of the more exclusionary effects of differences might be overcome. Here the ideas of leading posthumanist thinkers ring true including Rosi Braidotti's visions on how a posthumanist outlook might encourage positive, affirmative forms of engagement between each other and with the present; Donna Haraway's notion of 'coalitions of affinity', which emphasises shared performances and experiences - or 'affective purposes' - over traditional identity politics; and finally Nigel Thrift's arguments about the potential of 'acting into' and 'boosting' the active world in positive ways – perhaps building new forms of life.

These understandings are taken up by a range of recent empirical research in critical/cultural gerontology. Whilst not a lot of work exists on how disadvantage arises processually for older people, much more

has been written on how older bodies might together 'push back' against the norms and structures that categorise and potentially oppress them by expressing different modes or practices of affinity and empowerment. Buse and Twigg (2018) for example describe the performance and process of dressing as 'enabling agency' in care. The authors comment that guiding and manipulating limbs helps maintain an older person's personal wellbeing and identity. Also on the topic of clothing, Twigg (2012) considers how clothes retailers design purposefully for the 'gray market' paying attention to cuts, colours and shapes. She argues that for older consumers these designs say things - such as 'youthfulness', 'activeness' or 'former professional' - in a way that is less-than-fully consciously internalised by wearers and observers, particularly when 'in action' (i.e. moving on a person not static on a rack). Finally, Rice et al. (2017) study of short films made by older people with a disability shows how they animate coexisting multiple histories of bodily ability, materiality, medical encounters - and also divergent futures - which can be contradictory, surprising, unpredictable and opaque. These authors emphasize how these short films empower by providing affective glimpses of older peoples' unique and rich pathways of living (see also Changfoot & Rice, 2019).

(iii) Agency in older age

In humanistic gerontology, agency is understood in terms of being the conscious state of a person acting and exercising their unique capacities, with researchers typically focussing on the internal and external desires, choices, intentionalities and rules that underlie agency, playing either supportive or restrictive roles (Katz, 2005; Tulle, 2004). Posthumanistic thinking adds four ideas to the conceptualisation and study of agency. First, is the claim that although agency might be conducted by humans, it might also be heavily technologically mediated and influenced in the posthuman world. Second, as noted earlier, is the claim that materials/objects can possess their own agency, conducted on its own or in combination with human bodies (Bennett, 2009; Latour, 2005). Third, is the claim that agency is primarily physical and might be conducted in the moment in ways that are not always fully consciously realised or articulated even by the conductor (although, as suggested earlier, this materiality and physicality still being the outcome of meaning and/or important to the generation of meaning – Katz, 2011). In this latter sense agency, for example, might arise from and in the form of impulses and habits as automatic less-than-fully reflective ways of being (Andrews, 2018). According to posthumanist theories, on one level habits are forms of repetition, and ultimately intelligence, that are critical to how people make sense of and get through life. On another level habits, as they relate to specific activities – such as addictions or fitness – might hinder or bolster wellbeing. Fourth is the claim that beyond the individual human subject, agency can be 'distributed' through the ways in which bodies and objects act and experience together (for example, in the case of affect introduced earlier) (Massumi, 2002).

These understandings inform a range of recent empirical research in critical/cultural gerontology. Notably Orr and Phoenix (2015) and Phoenix and Orr (2014) consider the sensual experiences of exercise in older age. This work reveals how practicing exercises, and the habitual/less-than-fully conscious action and immersion involved, helps aches and pains and stiffness go away, momentarily disconnecting the older person from their old body and replacing this attachment with pleasurable sensations. Moreover, the authors describe how the sensation and expression of effort – and even the pain of exertion – creates a base bodily feeling of empowerment (see also Nettleton (2015) and Sparkes (2015) specifically on 'exhilarating' experiences of running and gym work). In another study Gish and Vrkljan (2016) describe driving in later life and the somatic work involved in getting into and out of vehicles. The authors explain how older drivers have attained sensory memory and knowledge throughout their lives through habitual action which informs their movement and techniques in the present (such as

when to use gravity for one's advantage, and when to pull). Indeed, as the authors note, memory and knowledge can be either consciously or unconsciously applied in immediate situations where current bodily capacities and limitations come into play. Finally, Andrews et al. (2013), in a more generalized theoretical commentary, describe the simultaneous external and internal 'relationality' of spaces common to older people's daily, everyday lives. This means that older peoples' agency within these spaces is on the one hand partly influenced by, and partly contributory towards, the wider networks of materials, information and regulation that these spaces are part of. On the other hand, their agency is partly influenced by, and partly contributory towards, the affective, sensory, collective interactions and experiences occurring in-situ within these spaces.

(iv) Communication and older age

In humanistic gerontology the topic of communication often arises in considerations of aging narratives and the stories told of and by older people to various audiences with various meanings (Gubrium, 1995; Phoenix, Smith, & Sparkes, 2010; Ray, 2000). Under posthumanistic thinking however narratives, no matter how complex, are understood beyond meaning. On one level, narratives are thought to have been made at least in part by past sensings of diverse physical events, environments and institutions that make their ways into them in various ways (Andrews & Wilson, 2019; Gubrium & Holstein, 2016). On another level in terms of immediacy, narratives – including those arising in interviews - are understood equally as physical performances involving co-produced acts, events, and happenings. These being important in themselves, both in terms of the ways in which they are registered less-than-fully consciously, and in terms of how they effect meaning (Andrews, 2018; Holstein & Gubrium, 1995).

These understandings lay the basis for a range of recent empirical work in critical/cultural gerontology. Certain research focuses on the interplay of materiality, performance and narrated meaning. Buse and Twigg (2016), for example, posit that in dementia care contexts older peoples' clothes often serve as 'memory objects' that say something nonverbally about the wearer; what they were and who they are. Often however they provide a way of 'jumpstarting' a spoken narrative about the person's past. Likewise, Gray's aforementioned play 'Cracked' ostensibly tells a verbal story about the onset of dementia, but it is the movements and expressions of sadness and hope between the actors and various materials that affectively communicate in ways that transcend conscious understandings of the nature of dementia (Gray, 2017; Gray & Kontos, 2018). Meanwhile, in another study Höppner (2017) considers the important embodied and material expressions that come to the fore and communicate nonverbally during the conduct of research interviews with older people.

Other research meanwhile is focused on communication undertaken almost exclusively on physical/expressive, less-than-fully conscious, sensory levels independent and irrespective of narrative (as in Kontos' idea of 'embodied selfhood' described earlier). For example, Buse and Twigg's (2015) study of older people's clothing describes the ways in which their qualities and expressions - such as shape, fit colour, comfort, sparkle - are used by older people as signs. Indeed, these qualities and expressions, the authors argue, send subtle nonverbal signals that are registered in others; such as about the older person's tidiness, smartness or class. Moreover, the authors describe how clothes might equally evoke the feel of the past and spontaneously trigger reminiscences. In the field of arts-based research Kontos et al. (2017) aforementioned study of elder clowning describes how empathy, joy and sadness are intercommunicated with those with dementia through bodily expressions rather than through words (also in arts-based research see Andrews and Drass (2016) on making wordless electronic music as a novel knowledge translation approach to animate senescence).

Dealing squarely with the posthuman world, there are also studies

which focus explicitly on new technologies and their forms of, and impacts on, communication in aging. Notably, Lepa and Tatnall (2006) consider older people's creation and maintenance of web-based virtual community actor-networks. The authors explore how older people use web-based platforms to converse and share information on a wide of topics including mental and physical health and wellbeing, finance and the challenges of rural living (see also Tatnall and Lepa (2003) on older peoples' use of e-commerce). In another study, Nguyen et al. (2015) review a move to electronic documentation in residential care settings. The authors describe these new systems as socio-technical actor-networks involving bodies, objects and performances – within which tasks and roles for nurses were specified according to the affordances of hardware and software - while also tracing the key translational adjustments involved in the introduction of these new systems. Finally, Marshall (2018) considers older peoples the use wearable, self tracking fitness devises (Fitbits); how these technologies collect (quantify) and (re)communicate (display and share) bodily movement - often for healthy objectives - yet how this involves and evokes a range of everyday practices to adhere, interpret and maintain physical activity (see also Urban, 2017).

Conclusion: challenges and ambitions

This paper adds to a longstanding, thirty year concern for the theoretical character, directions and development of gerontology (e.g. Alley, Putney, Rice, & Bengtson, 2010; Bengtson, Burgess, & Parrott, 1997; Biggs, Lowenstein, & Hendricks, 2003; Gubrium & Wallace, 1990), by exploring the recent posthumanist turn in the discipline. At, as suggested, involving over sixty rapidly emerging publications, this is a relatively new turn, but one we argue that will likely continue and expand. A prime indication for this is its consistency with the prevailing wider academic climate, and the posthumanist turns currently transpiring in other disciplines across the social sciences and humanities. Particularly promising is the fact that gerontology, in this instance, is not displaying its typical historical lag behind, or past tendency for borrowing heavily from, other disciplines. It being at the forefront, the very head of the curve, in the generation of posthumanist data and ideas (also promising being the involvement of leading names including Julia Twigg, Stephen Katz, Christina Buse, Pia Kontos, Malcolm Cutchin, Jaber Gubrium, Sarah Nettleton and others, as well as a new generation of scholars).

The paper's particular contribution is tracing the main lineaments of the recent posthumanist turn. Namely, three fundamental vital processes of the emergence and expression of aging – perhaps what might even be termed 'conditions' of aging – that the turn recognises in its reimaging of aging as part of the wider world (and the role of corporality, assemblages, materiality, vitality and immediacy within these processes). Moreover, also traced is the posthumanist turn's recasting of some longstanding and central humanistic concerns as other-than-fully conscious phenomena; as possessing and expressing physical, processual, more-than-human involvements (this displaying degrees and forms of both theoretical continuity and theoretical change). These new contentions certainly tell us new things, together constituting an increasingly data-driven, open, unconfined theory on the emergence and expression aging, and a facilitative outwards-facing framework that can be used to organise future studies (in contrast to many existing theories and frameworks of aging that are far more specialised, compartmentalized, closed and often deterministic). Nevertheless, we argue that they also open up a number of new research challenges directions, possibilities and corresponding questions:

The first is about increasing the comprehensiveness of study. Arguably research after the posthumanist turn in critical/cultural gerontology needs to move beyond the rather compartmentalized approach apparent in some of the studies we have reviewed, whereby scholars tend to focus on assemblages or affects in isolation from one another (a trend that is partly an outcome of selective theory

application whereby, for example, sociologist gerontologists have tended to draw on new materialisms, whilst geographer gerontologists have tended to draw on non-representational theory). Although this approach is broadly complementary, instead a more holistic approach might be developed which emphasises the integrated processes mentioned throughout this paper simultaneously in action. Only then will more complete answers be found as to the processual nature of aging. On a similar note, research also needs to consider many important aspects of the posthuman social condition and its impact on aging. Material consumption/cultures and forms and models of care are broadly the most popular areas addressed to date, but perhaps to the neglect of varied challenges and developments including media and web activity, life sustaining and enhancing technologies, bio-technologies, big data capture and use, and more generally posthuman aging in the contexts of population aging, environmental change and the developing world (and related issues such as poverty, conflict and displacement). Certainly any move towards more comprehensive inquiry - conceptually or empirically - will require more relational, multi-scalar and processual thinking and analysis (see Rishworth & Elliott, 2019) to match the relational, multi-scalar and processual posthuman world it engages.

The second direction concerns the enhancement of methods and politics. There is a need to think about how methods might be developed to capture and animate the processes of assemblages of aging, and their social, affective and material outcomes in particular spacetimes. Precedent exists here, for example, in wider work on what to look for when unpacking assemblages (Andrews, 2018, 2019), on integrating quantitative (digital) and qualitative (narrative) data to attain different registers (Bell, Phoenix, Lovell, & Wheeler, 2015; Bell, Wheeler, & Phoenix, 2017), and on developing an 'irrealis' style in reporting findings (Andrews, 2018; Vannini, 2015). Moreover, there is a need to think about how the aforementioned new political forms of affirmative engagement, affinity building and reality building currently widely touted in posthumanist scholarship, might be encouraged and undertaken in aging contexts (Andrews, 2018; Andrews & Drass, 2016; Vannini, 2015). Beyond the commendable arts-based approaches currently being deployed, what might this new methods and politics look like? How might it relate or add to gerontology's longstanding commitment to, and record in, community-engaged/ 'public' scholarship (Putney, Alley, & Bengtson, 2005)?

The third direction is about increasing integration and application. As the next phase of posthumanist research in the social sciences slowly unfolds, we perhaps need to supplement the radical theoretical curiosity of early inquires with collective action around some normative goals (Evans, 2018). This would help broaden the appeal and relevance of posthumanist gerontology and help create a situation whereby scholarship is driven both by academics who trade in ontological ideas through ontological conversations, and by academics who advance and refine empirical knowledge bases. Of particular interest then is determining how the posthumanist approach and understandings sketched in this paper might contribute empirics and ideas to key gerontological concepts and debates such as on successful aging, active aging, productive aging, precarious aging, age-friendly spaces, aging-in-place, global aging and so on. In future research, each might be explicitly considered in more-than-human terms, leading we would contend to enriched understandings of aging within the varied social, affective and material contexts in which it is lived (e.g. Chapman, 2006; Cutchin, 2001, 2003; Höppner & Urban, 2018; Rishworth & Elliott, 2019). This is not to say of course that we need to reinvent every theoretical wheel. Theory previously applied in critical/cultural gerontology - such as poststructuralist/Foucaultian and Deweyan orientations – has and might be revisited and reread with a posthumanist eye for its processual, material and vital content and insights and hence potential for the posthumanist framing of future empirical studies (e.g. Cutchin, 2001, 2003; Duff, 2014; Powell & Biggs, 2003). Notably, pragmatism specifically brings to the table an important empirical

grounding; its primary understanding that any ideology belief or idea related to aging only works if it has applications and consequences that are observable in bodies and the material (posthuman) world (Cutchin, 2001, 2003, 2005).

The fourth and final direction is about the possibility of a grand design for gerontology. Ambitiously one might think about the kind of ideal disciplinary state the posthumanist turn can coax us towards, even if it is likely hard to reach and quite far off. Specifically, whether a posthumanist approach, because it provides a rich conjuncture of the bio and social/cultural, might facilitate some degree or form of coming together of geroscience and critical/cultural gerontology. We argue that posthumanism offers this kind of rapprochement because it upsets the rival endorsement of either positivism or humanism that has separated these approaches, sustained old disciplinary divisions and hence limited our understandings of where and how aging takes place (Höppner & Urban, 2018). Such a posthuman coming together could result in a holistic processual gerontology rather than one of mechanics vs meaning; a gerontology not concerned with what 'is in' older people or what is 'out there' for them, but what they 'do with' the world. It would recognize that the aging process is not exclusive to the biological human body and that senescence is always part of wider distributed and more expansive situations (hence recognize the many vital connections that exist between the body as an open entity and the material, performed social world). It would also allow for a wider range of processes, and the roles that materials, humans, relations, affects and meanings play as actors in these processes. Ultimately it would recognize a unity in existence. That the entire world is aging together as all its mass and energy follows the universe's single asymmetrical arrow of time (that all entities are aging, hence their aging emerges from/with other aging entities). Arguably some limited precedent already exists here, for example in new/neo vitalist theories of biological aging (Tardiff, Bascandziev, Sandor, Carey, & Zaitchik, 2017) and even in ideas around gerotranscendence (Tornstam, 2005).

Of course even if posthumanism does open up some disciplinary common ground, many extensive epistemological, methodological, structural and cultural bridges will have to be built before a more unified gerontology might gain traction. And, of course, it is not as if the idea of 'one gerontology' has not been suggested or attempted in different ways before (e.g. Erwin, Hof, Ely, & Perl, 2002; Hendricks, Applebaum, & Kunkel, 2010). Yet on this occasion it is promising that a posthumanist vision for such a holism matches the wider contexts in which it might emerge. These contexts being the posthuman era we are currently living in and are unlikely to ever return from, which permeates most areas of our lives, and the extensive posthumanist academic turns in many disciplines beyond gerontology. Moreover, potential, we argue, lies in two new forms of imagination – or what one might think of as wide-eyed 'curiosities', 'fascinations' or 'wonderments' - that posthumanist gerontology brings as one looks out into the world. Indeed, in addition to the existing (gero)scientific imagination for biological and physiological aging and social trends, and the existing humanistic imagination for meaning in older age, posthumanism introduces to gerontology; (i) an imagination for the material composition and process of aging contexts and events, and (ii) an imagination for the energy and movement of these contexts and events in space-time (Andrews & Duff, 2019). The importance of imaginations for research of any stripe cannot be underestimated because they drive us as academic gerontologists, often being the starting points for our research projects. They are also about communication, the 'wavelengths' or 'pages' we are on, and why conversations between us – both within and beyond conventional disciplinary borders - can range from being frustrating to inspiring, from sapping to energetic and from unproductive to fruitful (Andrews & Duff, 2019). The success of posthumanist gerontology, and any lofty unified vision that might come from it, ultimately rests then not only on the coherence and persuasiveness of the intellectual arguments we have reviewed in this paper, but also in how scholars continue to internalise, naturalise and apply them as lenses onto the world

of aging.

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