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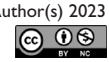

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The More-Than-Human Micropolitics of the Dissection Assemblage: What Can a 'Dead' Body Do?

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Abstract

Posthumanism offers a unique opportunity to examine the relationship between dead and living bodies. In this article, we explore one setting in which matter – conventionally considered as 'dead', demonstrates its continued vitality: the anatomical dissection room. Using data from interview transcripts, we report on the affect (capacities to affect and be affected) within this space, to reveal the micropolitics of dissection. Analysis of the 'dissection-assemblage' reveals how interactions between the living – students, teachers, technicians – and dead bodies not only produce knowledge and understanding of human anatomy but also show how the dead body gains new capacities to affect living bodies psychologically, emotionally and physiologically. While conventional humanist discussions of dissection have addressed how these interactions 'de-humanise' and 're-humanise' the cadaver in this particular setting, this analysis discloses a complex micropolitics in which the conventional distinction between 'living' and 'dead' ignores the multiple ways in which all matter is vitally affective.

Keywords

anatomy, assemblages, death, materialism, posthuman

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Introduction

The early practice of dissection provided a dark episode in the emerging scientific study of medicine, as entrepreneurial resurrectionists raided graveyards to meet anatomists' demand for cadavers (Richardson, 2000; Sappol, 2002). The Anatomy Act of 1831 supplied UK medical schools with a more reliable source of specimens, doing little at the time to appease the sense of fear and revulsion around anatomical dissection and effectively rendering it a punishment for poverty (Richardson, 2000). In most European countries, the need for dead bodies for medical research and education is now met by postmortem donation (McHanwell et al., 2008; Riederer et al., 2012); however, in recent years, anatomical dissection has waned. Teaching methods such as prosections (demonstrator-prepared dissections), plasticised body parts and medical imaging technologies (Hallam, 2017: 105) have supplied cost-effective alternatives to cadaveric dissection (Burr et al., 2019). However, dissection remains the principal teaching method in some universities, including the one where the research reported in this article was conducted. There, students from disciplines including medicine, dentistry, biomedical science and archaeology have opportunities to both observe and practise dissection on donor bodies.

The anatomy lab has been the subject of sociological interest since the early 1960s, when Lief and Fox coined the phrase 'detached concern'. This described a process of desensitisation that enables medical students to dissect the dead human body and later perform as medical practitioners without becoming emotionally involved (Lief and Fox, 1963). Since then, studies of the dissection room have incorporated a more relational approach to understanding the engagements between anatomy student and donor body (Fountain, 2014; Olejaz, 2017; Prentice, 2013). Fountain (2014: 21), for example, argues for a 'theory of embodied rhetorical action' to explain the relationship between multimodal objects, discourse and the bodies of the dead and the living. It is, he argues, this mutual affectivity that makes possible anatomical understanding, trained vision and expert knowledge. Prentice's (2013) interest is also in the formation of expert knowledge, which she observes to operate through an interaction between technologies, bodies and people.

Other studies have acknowledged the agency of human remains in the anatomy lab (Burr and Russell-Sewell, 2023; Hallam, 2017; Olejaz, 2017; Scott-Fordsmand, 2022). Olejaz (2017) uses the term 'postvital' to describe how dead human material retains these traces of personhood that affect those who engage with it but also how the donor body retains agency through the intentionality of the person to donate. This ambivalence in the status of the donor body provides an 'ethics in practice' (Olejaz, 2017: 125) where students are taught about the ambiguity, uncertainty and death which are likely to characterise their future medical careers.

The intention in this article is to step beyond this humanist emphasis and push the understanding of the affectivity of dead human matter further by means of a more-than-human exploration of the materiality of donated bodies in anatomical dissection. This materialist and posthuman approach (Coole and Frost, 2010; Fox and Alldred, 2017) transcends the duality of alive/dead and acknowledges the capacities of all matter to affect and be affected. This emphasis (which is fully developed in the following section) may be summarised by the materialist research question in the title of the article: What can a 'dead' body do?

Of course, we already know from the scholarly work just mentioned and from everyday experiences that the dead (a term that we shall unpack and critique later in the article) affect the living in a number of ways. These include generating emotions ranging from grief to anger to joy to fear; altering family members' or associates' economic prospects through legacies or inherited debts; manifesting physical evidence in judicial proceedings and acting as exemplars of evil, beneficence or valour. However, in an era of modernity that privileges life over non-life (Gamble et al., 2019: 120), the dying have been sequestered from public view (Mellor, 1992: 25; Mellor and Shilling, 1993: 418), while the dead are notable by their physical absence. Apart from brief appearances in mortuaries, postmortems and funerals, most of the dead quickly disappear from view, manifesting symbolically in gravestones, municipal or national memorials or a jar of ashes on the mantelpiece (Walter, 2019). Consequently, the anatomical dissection room is remarkable for the very material, insistently important and necessary presence of the dead.

The structure of the article is as follows. We begin by outlining the theoretical perspectives we use to transcend a simplistic life/death dualism: the 'vital materialism' of Jane Bennett (2010: 10) and Rosi Braidotti's (2010: 207) de-privileging of humanist conceptions of life in favour of a focus upon the affectivity of all matter. We then summarise the methodology applied in the research and note the innovative data-analytical method used. The article then introduces its posthuman assessment of dissection as 'assemblage'. Further analysis identifies and assesses what participants in this assemblage (including 'dead' bodies) can do within this dissection assemblage. This in turn reveals the micropolitics of dissection; that is, the shaping of powers and resistances in the complex interactions that constitute the cultural phenomena of anatomical dissection. We conclude with some considerations of what this micropolitics discloses concerning the affectivity of 'dead' matter and how this may inform commonplace and scientific dualisms of living/dead.

Materialism, Posthumanism and the Affectivity of Matter

The new materialist and posthuman ontology that we apply here is reflective of the 'turn-to-matter' in social science and humanities scholarship (Pierides and Woodman, 2012). This turn has been increasingly adopted in social inquiry as a means to de-privilege human agency and interrogate more fully how the more-than-human panoply of matter produces both natural and social worlds. It has consequently been used to good effect when researching topics that cut across this artificial nature/culture dualism, such as climate change, health and illness, sexualities and gender, emotions and ageing. In all these topic areas, the *relationality*, *post-anthropocentrism* and *monism* of the ontology have revealed hitherto unacknowledged aspects of these phenomena (Fox and Alldred, 2017). Relationally, the focus has shifted from essential entities to assemblages of disparate materialities (Deleuze and Guattari, 1988: 22). The post-anthropocentric emphasis has shifted attention away from humanist concerns with experience, beliefs and social practices towards the affective capacities of all matter: that is, matter's capacities to affect or be affected (Deleuze, 1988: 125). New materialism's monism has

cut across a range of sociological dualisms such as human/non-human, micro/macro, structure/agency, mind/matter, nature/nurture and, of particular relevance for this study, living/dead (Van der Tuin and Dolphijn, 2010: 156).

These materialist and posthuman ontologies have consequently heralded a new acknowledgement of the liveliness, nay vitality, of all matter (Bennett, 2010; Braidotti, 2013: 60). Braidotti (2019: 50–51) suggests that this liveliness may be understood as a post-anthropocentric and post-anthropomorphic conception of life: *zoë*. *Zoë* is a more-than-human, affirmative life force (Braidotti, 2013: 115) – a generative power that connects human to non-human life in an 'eco-philosophy of becoming' (Braidotti, 2013: 103–104). It is

> . . . neither human nor divine, but relentless material and vowed to multi-directional and cross-species relationality. Life does go on, relentlessly non-human in the vital force that animates it. (Braidotti, 2013: 136–137)

This relational life force contrasts with what Braidotti suggests is the narrower, human-focused concept of *bios*, the intelligent life that is the preserve of the traditional humanist subject of the humanities and social sciences: a privileged (white, male, heterosexual, Christian, property-owning, Global North) human agent (Braidotti, 2010: 207–208).[1]

From a different starting point, Jane Bennett proposes a vital materialism, in which all matter is lively, capable of affecting as well as being affected. For Bennett (2010: 47), vitality is not limited to biological organisms. Rather, all materialities, whether 'biologically alive' or not, are 'bona fide agents' in the production of the social and natural world, rather than the 'recalcitrant objects' that philosophy and sociology have made of them. Drawing variously on philosophers including Deleuze, Bergson and Driesch, Bennett suggests that this vital materialism

> affirms a figure of matter as an active principle, and a universe of this lively materiality that is always in various states of congealment and diffusion, materialities that are active and creative without needing to be experienced or conceived as partaking in divinity or purposiveness. (Bennett, 2010: 93)

Bennett offers as examples the vitality of the North American power grid (2005), of food (2010: 49–51) and of metals (2010, 58–60; see also the postulation of the 'non-organic life' of metals by Deleuze and Guattari, 1988: 411).

In different ways, both Braidotti and Bennett seek to sidestep the possibility that claims to the 'vitality' of matter sustain a privileging of the organic over the inorganic and 'life' over 'death'. Braidotti's (2013) championing of *zoë* leads her to a view of life as 'absolute vitality' (p. 131), an impersonal and inhuman overwhelming flow of power (see also, Deleuze, 1997, on the pure immanence of life). However, 'death' is too easily regarded from a personal, humanistic perspective as the end of life, of dissolution. Braidotti (2013: 137) counters this humanist reading, arguing instead for a posthuman perspective in which death is 'part of the cycle of becoming yet another form of interconnectedness', as far removed from a notion of death as the 'inanimate and indifferent state of matter'.

Bennett (2010: 86–87) invokes a similar impersonal and inhuman conception of vitality to Braidotti's, which resists any efforts to reduce it to a commonplace understanding of (organic) life or permits 'death' to be treated as the final dissolution of agential force (Bennett, 2010: ix). In her case, this is achieved via Deleuze's (1997: 5) discussion of life as an immanence that is 'pure power', or as Bennett (2010: 54) puts it, 'a protean swarm' and a 'restless activeness, a destructive-creative force-presence'. Indeed, from the start, Deleuze's (1988) Spinozist ontology of affect and assemblage informs Bennett's (2010: xii) understanding of the vitality of matter and her methodology for exploring it (Bennett, 2010: xiv).

In this ontology, which Deleuze called 'ethology', affect replaces the more familiar sociological conception of 'agency'. An *affect* is simply a capacity to affect or be affected (Deleuze, 1988: 101). Affect may be physical, biological, psychological, social, political or emotional. In other words, it is a force that achieves some change of state or capabilities in human or non-human matter (Clough, 2004: 15; Massumi, 1988: xvi). It is the capacities of matter (for instance, a human body) to affect or be affected by other matter (such as a knife) that draws these two materialities into *assemblage.* Because all matter (human and non-human, animate and inanimate) is affective, this means that non-humans as well as humans can be agentic. Crucially,

for the topic of this article, a capacity to affect or be affected extends to matter conventionally regarded as 'dead'. Such an ontological focus on the affectivity of all matter thereby cuts through a humanist life/death dualism (Deleuze and Parnet, 2007: 61–62) and the fetishised privileging of the former over the latter in modernist culture (Mellor, 1992: 25–26).

The flow of affect within assemblages is the means by which lives, societies and history unfold, by 'adding capacities through interaction, in a world which is constantly becoming' (Thrift, 2004: 61). However, as Deleuze and Guattari (1988: 257) emphasise, we have no idea what a body can do until we know its affects in a specific assemblage: Without such knowledge, we cannot guess if the human/knife assemblage just described produced suicide, sliced bread or another outcome. Methodologically, this requires that a sensitivity to affects and assemblages will be essential for ethological analysis (Bennett, 2010: xiv).

Methodology and Methods

The methodology that we use in this study applies the ethological conceptual toolkit of assemblage, affect and capacity outlined previously. This replaces a concern with the essential characteristics of bodies (what they are) with a focus on how they relate with other matter and what they do: their capacities. The study utilises interview data, and while some new materialist scholars have criticised interview data as irretrievably humanist (St. Pierre, 2014) or representational (MacLure, 2013: 664), others have used them to provide insights into the material assemblages, affects and capacities surrounding bodies and non-human matter (Fox and Alldred, 2015; Ringrose and Coleman, 2013). In the current article, analysis aspires to move beyond a humanist account in two ways. First, it acknowledges and seeks to reveal the affectivity of the non-human (including dead human bodies). Second, it uses interview data as a means to evidence these more-than-human affective flows, rather than (as in a humanist account) to tell the story of specific situated human respondents.[2]

The study took place at a UK university where cadaveric dissection was used as a learning method on programmes including

medicine, dentistry, archaeology and biomedical sciences. Following the UK legal framework, this university accepts bodies donated for the purposes of education. Dissection is undertaken according to strict guidelines, and all body parts are meticulously retained to be later buried at the university's expense. Students and staff are encouraged to attend a yearly thanksgiving service held for the family and the loved ones of those who have donated their bodies. While the names of donors are read out during this service, during dissection, cadavers are anonymised.

The research was undertaken by author 1 as part of an unfunded project exploring how students learn anatomy on a postgraduate anatomy (with education) MSc programme. Respondents in the study were dissection room staff and anatomy teachers (four) and MSc students (nine), recruited via group and individual e-mails, and all respondents were known to author 1, who joined the course as a student while continuing her academic role part-time. All students had studied anatomy as part of their undergraduate studies, although not all had learnt anatomy through cadaveric dissection. Students also had different disciplinary focuses, requiring different levels of understanding (e.g., archaeology emphasises the osteological study of bones, as compared to the gross anatomy studied in medicine and biomedical sciences). However, at the point of interview, all students had completed 6 months of intensive cadaveric dissection as part of their MSc course, which comprised 4 days of dissection each week during semesters 1 and 2, plus experience of teaching anatomy or anatomy 'demonstration' through cadaveric dissection to undergraduates.

Institutional ethical approval was obtained in March 2019, and the research was conducted according to standard codes of research ethics and data governance. Participants have been ascribed a pseudonym in the findings section and are not directly identified as staff or student or by disciplinary background because these details could make some individuals identifiable. Although this means that potentially useful contextual information is lacking, the privacy of participants outweighs this consideration.

The methodology of analysis departed significantly from a conventional qualitative approach, following an approach developed by the second author (Fox and Alldred, 2013: 779–780). In contrast with a humanist epistemology, respondents were treated as ethnographic

informants, supplying information about encounters between materialities in the dissection room setting.

The objectives of analysis were consequently:

(a) to identify human and non-human relations in the dissection assemblage;
(b) to disclose the physical, psychological and sociocultural affects that draw these relations into assemblage;
(c) to identify the capacities gained by bodies within these affective assemblages.

The computer-assisted qualitative data analysis software (CAQDAS) programme NVivo was used to code transcripts using the italicised concepts discussed in the following section. The following section reflects this analytical structure.

Findings

This section reports the findings from the interview transcripts, founded in the post-anthropocentric and posthuman ontology outlined earlier (as opposed to a humanist analysis of the interactions and experiences of participants). Analysis begins by setting out the human and non-human relations that comprise the 'dissection assemblage' and then presents evidence for the affects that establish this assemblage, including both those that affect the dead and those of the dead that affect the living. We then describe the capacities these affects generate, both enabling and constraining. The analysis is by necessity 'rhizomorphous' (Deleuze and Guattari, 1988: 15). The concept reflects how an assemblage has exactly the expanding dimension of a rhizome, which changes as it expands its connections. As such, our findings presented in the following sections reflect how affects and capacities are always connected and caught up in one another, and this results in a certain circularity in description between affects and capacities.

The Dissection Assemblage: Relations

The contents of the interview transcripts revealed a wide range of human and non-human relations that constituted anatomical dissection at the university studied. These can be categorised as follows, with examples:

- Physical places, spaces and structures (dissection room, teaching spaces)
- Furniture, fittings and equipment (dissection table; stools; scalpel; bone saw; embalming fluid; teaching aids; notices).
- Living human matter (teachers/demonstrators; students; family/relatives and partners; funeral directors; technicians; unit administrator).
- Human bodies (dead): (donor bodies/cadavers; body parts; prosections and plasticised specimens; tattoos, nail polish and other body markings; skeleton).
- Other (rules and regulations; smell; coffin; memorial stones; Human Tissue Act; anatomical texts and illustrations).

The 'dissection-assemblage' comprises these multiple relations. The next sub-section focuses upon affects that assemble these anatomical dissection relations. It is worth recalling from the earlier theory section that the use of 'affect' does not denote personal feelings. Affect is instead understood in the Deleuzian (Deleuze, 1988: 124) sense of an ability to affect and be affected; as an encounter between an affected body and a corresponding affecting body (body understood here in the broadest term). Deleuze and Guattari (1988) define it as a 'prepersonal intensity corresponding to the passage from one experiential state of the body to another and implying an augmentation or diminution in that body's capacity to act' (p. xv).

Affects in the Dissection Room

Affects Associated with the Physical Space and Contents. When asked to recall their first experience of the dissection room, respondents provided various descriptions on how the overall environment affected them, ranging from the distinctive smell of embalming fluid that pervaded the space to the temperature and the general strangeness of the setting, including the lines of tables and their coverings. Alicia described this as:

> a kind of multi-sensory experience, it's not like you're just seeing a dead body, it's the smell in the [dissection room] as well, like how they feel, like it's not, as much as someone tells you about it, until you do it, you don't know and I think as well, you can't really predict your own emotional response.

Similarly, Kevin suggested that it was the cumulative impact of the dissection room that had emotional, psychological and physical affects:

> It's . . . the environment in the room, in terms of it's always warm and you're on your feet and it's new and there's like a weird smell in the air, that you get used to really quickly, but at first it's a bit off putting.

Inevitably however, it was the presence of the cadavers that defined the initial affectivity of the dissection room. Despite a pre-course briefing by staff on what to expect, the initial encounter with the dissection assemblage was emotionally affective:

> I remember coming in the main doors and . . . I turned the corner into the other side of the lab and the first thing I saw was our two donors out uncovered on the table and I thought, 'whoa here we go, there, there, ok I wasn't expecting this'! And then we went into the cloakroom and I sat on one of the stools that was closest to the exit of the cloakroom and I just remember staring at our bodies, just processing it. (Shona)

While Shona was commenting on seeing dead bodies laid out, for Sue, the dead affected her even though covered with plastic sheets:

> The weirdest thing for me coming in here, into the [dissection room] was more seeing the, seeing like the figures [bodies] covered. Like, so, seeing the bodies covered with like, sheets and knowing that they were dead bodies . . . there were like twenty bodies just laid out on tables.

Despite the initial disorientation that the dissection room manifested in neophytes, this soon wore off, as Kevin noted:

> I think most people go through this phase of it being quite 'God, this is weird!' And everyone's hush hushing in the dissection room. . . . It's amazing how quickly you kind of forget that and everybody starts, not making jokes, but the mood is a lot lighter after eight weeks.

Sue recalled that when she first entered the dissection room, she was more anxious about her response to the environment than the presence of cadavers.

> I was more worried about embarrassing myself by like fainting or something, and not being able to handle it . . . like in front of everyone I was actually really nervous that I was going to be making a fool out of myself and people were 'well why are you even on this course if you can't handle it?

Affects Between Human Bodies. In the previous section, we have identified a number of affects among students, dead bodies, their presentation and the dissection lab environment. The main objective of the dissection room assemblage, however, is educational, providing students with practical opportunities to learn anatomy. Respondents described how interactions with staff in the dissection room affected them. Eileen described her first encounter with the dissection assemblage, before she began her undergraduate studies. She recounted how the staff member introducing prospective students to dissection had employed an unusual visual aid:

> To see whether you could cope, they gave you a plastinated body part. I always remember, I got a heart, always sticks in my mind. . . . they gave you a plastinated body part to hold and then talked to you about dissection.

Good communication skills and empathy were recognised by both students and staff as important aspects of teaching in the dissection room:

> I think the [dissection room] staff were really good at talking to people, especially in my class who, talking to people who were struggling with it, so actually there's that kind of like almost, not counselling but an informal discussion around it and just showing that we're human really when we talk about what we're doing and why we're doing it. (Ruth)

Shona acknowledged the pleasure she gained from teaching anatomy to students via dissection:

> I love watching students have that initial excitement and you know when something clicks in their mind, that then suddenly 'oh my God, I never knew this is what this looked like!'.

However, affects between students and staff in the dissection room could also be less positive. Ruth described an uncomfortable encounter with students that had affected all involved.

> . . . me and some demonstrators would go at lunchtime and do the skinning before the students would come into class. Well, one day I was finishing up and erm I was just skinning a thigh erm and the students sort of started coming in, but in dribs and drabs, so we weren't ready to start a class yet, so I was just finishing the job off basically and some of the students came up to the table and they looked at me like I was a monster doing this skinning. . . . That feeling stayed with me all the way through class and then I just went home and I sat at the kitchen table with my partner and I just cried my eyes out, cos it has made me feel like I was doing something that was monstrous.

Affects Between Humans and Dead Matter. In the previous section, we have identified a range of affective flows between humans in the form of teachers and students. In this section, respondents describe their interactions with dead matter (cadavers, prosections and so on) and how, as they dissected, there are other affective relations. Kevin used dissection as a practical means to learn anatomy:

> I've done it [dissection] in first year medicine and [now studying it in] the Masters [in Anatomy]. It's become a lot more active in terms of I know what I want to get out of the cadaver, rather than just doing whatever I was told to do, so cut here, do this, blah blah. It became a more, a lot more active, like I was more; you could think of it just in terms of, I was more confident physically doing dissection. . . . I understand the anatomy, I understand this, I know what I'm looking for, so I'm gonna go and do this instead or I'm gonna look for this.

For Martha, dissection was the means to learn key skills for her career:

> There are some bits there, on the bones, the origin and insertions site that archaeologists use for bone analysis, to infer like physical activity in the past. So you can appreciate where the muscles are and when you, on the live bones, you know where to look.

In addition to these educational aims, there were other ways that the cadavers were affected. Some students sought ways to (re-) humanise the cadavers that they were dissecting, for example, by giving them a name:

> Instead of saying 'our cadaver' or 'our body' or 'the dead body', erm we decided to name it Flora. So it was a female and she had light pink nail varnish on her hands and feet and so we thought it was quite girly, floral kind of name, erm well floral path kind of name, so erm, yeah I think that was just, gave her a dimension of being a bit more human. (Amy)

Similarly, Eileen talks about the model skeleton in her office:

> My skeleton's not got many bits to him left now, but he's called Fred, in honour of my [first] cadaver. . . . Thinking back to it, I think it was to try to create sort of a, kind of middle, not gonna say this very eloquently, middle place between the fact that this was a deceased individual, so this was somebody's relative, somebody's you know, uncle or dad or whatever, and the fact they didn't look like what I expected a dead person to look like, erm and so on one level it humanised them, but because it was so, such a kind of erm common name if you like.

In addition to the examples already mentioned, the respondents also described many ways in which they were *affected* by the dead matter in the dissection room. Most of these affects were emotional responses. Lynn described her reaction when she realised she was in the presence of multiple dead bodies:

> I just remember the room full of like – just – you know when they are all lined up (yeah) lots of bodies lined up [on tables] and just very aware that there were dead people in the room, and that they were people's relatives, and it was just – I don't know – a bit intimidating, and I think that when you see them they don't look how you think they're going to look. They don't look very human, so I was a bit shocked by that.

For Shona, the affect of working with cadavers altered her perspective on life and made her reflect on her own mortality:

> You do appreciate life maybe a little bit more because you are constantly surrounded by people who are dead. . . . I even got a tattoo done just after my first lot of dissections that says 'Rest in pieces'. You know, purely because you will be resting in pieces if you are dissected.

Working with one cadaver over an extended period led Martha to form an emotional attachment:

> When I finished my human anatomy course, I actually [laughs] said farewell to my silent teacher, . . . I don't know, as time passed, I consider him as a friend, if it makes sense, like as a teacher, and a friend because I'm not, it's not because I'm a weirdo but, I don't know, a wonderful opportunity that he gave me.

Particular bodies sometimes affected respondents strongly. Shona described her reaction to one donor body that arrived at the dissection room.

> We received a younger gentleman, only being a few years older than me. I knew he was coming, you know I was fully aware and I wasn't sure how I was gonna react and then [staff name] took me downstairs to see him first, when he first got there, and we both cried, you know when we saw him. He was clearly younger than all our donors. . . . I was very much angry at the world, I was, I would call my emotions, thought it was just so unfair, erm that someone so young could be taken, you know. Someone at twenty-nine should be getting married, having children, going out, having fun, and I was also absolutely overwhelmed by the fact that he wanted to do this [donate his body] knowing full well he wasn't gonna survive his illness.

Dissecting certain body parts affected some respondents in particular. For Ruth, dissecting the face was distressing, while Lynn had found dissecting a brain had been an emotional experience:

> When you hold a brain, yeah that was them, all in there, all their memories, their emotions, how they were and it's like when you're actually holding it.

Sometimes it was surface features on bodies that were peculiarly affective for some anatomists, as Ruth explained:

> The thing that puts lots of our students off is the tattoos or the nails still done up, you know or erm stuff like that really I think is what makes them think oh this is a real person.

These emotional responses were some of the ways that dead bodies affected living participants in the dissection room. But a broader affectivity of the dead is revealed in the next sub-section, where we consider the capacities that cadavers produced.

Capacities

Given the educational aims of the dissection room, most of the capacities deriving from cadaveric affectivity were associated with these. We summarise these in terms of the physical, psychological and intellectual capacities reported by respondents.

Physical Capacities. For some respondents, dissection was a physical activity that supplied new skills that could not be gained in any other way. James found dissection more useful than textbook descriptions because 'you can see it and handle it, you can manipulate it, you can look at it from different views and in relation to everything else'. Alicia echoed this view, suggesting that reading a textbook 'is not the same as seeing the 3D physical structure and touching it and feeling it'. Ruth also emphasised the value of practical dissection for students' learning:

> It's all experience based, so if you cut through something and it's a big mistake you know cos you think oh no I shouldn't have cut through that, you'll remember where it is or if you have to dig around to find something, you'll remember its deep and not superficial. And there's a tactile element to it and there's a skills building element so we're building manual dexterity, where you wouldn't if you already had dissected samples or models or images.

Psychological Capacities. Lynn considered that anatomy was a great social leveller:

> Anatomy has such a taboo, I feel that people just don't understand it and they think, urgh how gross. It's so silly because we're all the same. It's the one thing that probably brings every single person together.

For one respondent, Kate, this close contact had persuaded her that she would donate her own body when she died. This gave her a new reason to keep fit and in good shape:

> One day I'm gonna donate my body and that'll be me and someone will be doing the same thing to me. I won't mind cos I want them to do that. I think it's only fair. It's not really fair if I use up so many cadavers and then not do it myself. I use it as a motivation as well to kind of stay fit and healthy, because I want people to dissect my body and get the best use out of it. . . . It's given me a reason to look after myself and look after my body.

For Shona, this regular contact had let her both to reappraise her own life and also acknowledge the generosity of people willing to donate their bodies to enable others to learn from them:

> You do appreciate life maybe a little bit more because you are constantly surrounded by people who are dead. . . . I don't think it's changed my view on death, I think it's made me appreciate people a bit more, that they can be so generous.

Intellectual Capacities. Because many respondents were involved in either teaching anatomy or learning to teach it, the knowledge that dissection enables was an important capacity for a number of respondents:

> You fail to connect the things if you don't have the full body dissection . . . the fact you've got a full body there to join the two up, cos I don't think people very often join thorax and neck together or neck and axilla and upper limb, do you know what I mean? There's no, there's not necessarily much of a connection, or pelvis and thigh region and inner pelvis and peritoneum and all those things. (James)

> It is the absolute gold standard of learning anatomy. I think it's a massive privilege. I personally couldn't imagine learning anatomy without doing cadaveric dissection and just using prosections, because they're like different, like different pieces of the puzzle that are all split up and it, it's not very cohesive. Whereas I think cadaveric dissection is so cohesive, you know you work your way from top to bottom and you know how everything fits in with each other. It kind of humanises anatomy if that makes sense, you know

> it's not just a model at the end of the day, it's what makes up a human being. (Kate)

Eileen argued that dissection gave her the capacity to show students the variability in human anatomy and how textbooks did not always replicate functional anatomy accurately, and she indirectly gives a cautionary note about the trust placed in scientific text:

> It helps us in a way to explain to students that, even the textbooks aren't always right. Students almost then get a bit nervous that even though they're reading a textbook it might be wrong, but that's good in a way because it forces them to look at more than one resource. The other thing it does is I think, helps them to use their own minds. So if you say to them right, *Gray's Anatomy*, the absolute epitome of what a textbook should be, how many mistakes do you think there are in *Gray's Anatomy*? Absolutely tons, you can just get a lower limb page and you can find three or four mistakes because it's not thought about functionally. So, you can make that as a point to the students. . . . Then what you're actually triggering is that deeper level of thought that you wouldn't get if you just had the perfect specimen.

For Kevin, dissection provided the essential adjunct to his library study of anatomy, with direct relevance for a possible future career operating on live patients:

> I'm already thinking of like, the surgical implications of stuff and I'd have never thought of that in first year [studying anatomy]. But now when I'm doing cardiothoracic, so I've done work beforehand on cardiac anatomy. When we were in the cardiac section of the course, I knew the anatomy and it was really useful for actually in situ, get to know where the vessels were and how that would affect surgery.

He went on to describe how becoming an expert in dissection, through his MSc studies in anatomy, supplied him with confidence that he knew the anatomical structures he would encounter during operations.

> I was more confident in knowing the anatomy, so could go away from the what the handbook said to do, because I was more interested to kind of explore a different area, or see what a different approach

> would look like, so I was engaged to look for things like that, rather in first year it was just like go through the processes and, take a liver out and look at it and then put it down here and then take this out and look at it and put it down here.

Discussion

Most previous studies of human dissection have focused on humanist proclivities, addressing issues such as emotional responses to the dead: the ethics of respectful interaction with donor bodies and the educational opportunities afforded by dissection. These are – of course – important, but by contrast, this article has used the opportunities afforded by a post-anthropocentric and vital new materialist ontology to address dissection from a different perspective, that of the more-than-human vitality of *zoë* (Braidotti, 2013: 111ff.). It has supplied the conceptual means to re-evaluate anatomical dissection as a more-than-human assemblage, in which the dead may themselves be affective. The significance of this materialist analysis of the vitality of dead matter in the dissection room is not simply as a case study of the ontology of matter but also as a challenge to the contemporary humanism that privileges human life, agency and intellectual capacities.

This study tells us two things. First, that the dead are not passive, bereft of agency. In the 'dissection-assemblage,' they affect in a number of ways indispensable to research, learning and teaching. In addition to responses to the overall environment of the dissection room, and interactions among humans in the setting, the findings reveal how the dead both affected (for instance, by preparation for dissection and by dissection itself) and were themselves affective. While some of these affects were emotional, the dead also affected students cognitively: 'bringing to life' the anatomical diagrams seen in textbooks; altering their personal behaviour or outlook on life and serving as a 'silent teacher' to educate them in their chosen discipline (cf. Bohl et al., 2011).

Second, these capacities are continually drowned out by a plethora of humanist affects that sustain the dissection room as an environment that reflects modernity's privileging of life over non-life (Gamble et al., 2019: 120). Students emphasised and appreciated the

empathy and support they received from staff to help cope with distress or anxiety over encounters with the dead; meanwhile, some made attempts to re-humanise the cadaver they were dissecting by naming it or, in Martha's case, considering it as a friend.

As noted in an earlier section, Bennett (2005, 2010) illustrated her proposition of the vibrancy of all matter through case studies of metals, power networks and food. The present study's focus on 'dead' human tissue – cadavers and their constituent parts – pushes her analysis further, to confront the humanist binary 'living/dead' head-on. It has been revealed how being 'dead' does not end matter's capacities to affect although these capacities diverge from those of 'living' human bodies.

While this acknowledgement of the affectivity of the dead is, in itself, little more than a consequence of a shift in ontological framing, it has further two-fold significance. First, it confronts the systems of privilege and biases that underpin humanism. In her trenchant critique of humanism, Braidotti (2006: 200; 2011: 82, 88–89) identified the 'human' who was the measure of all things as white, male, able-bodied, from the Global North and exploitative of all other life-forms. Similarly, Haraway (1991: 158) argued that this narrow model underpinned patriarchal, colonialist and anthropocentric flows of power that sustained the privilege of white, rich, Western men over other humans and over nature. This privilege, we would suggest, extends to the elevation of living humans over all other matter, including 'dead' human tissue. As an antidote to this bias, a vital materialist recapitulates many non-Western and indigenous ontologies, in which:

> a multiplicity of beings cast as human and nonhuman – people, plants, animals, energies, technological objects – participate in the coproduction of socio-political collectives. (Sundberg, 2014: 33)

Bennett (2010: 19) suggests that vital materialism challenges this humanist privilege of life over death. To this end, she invokes the materialism of the ancient Epicureans. This latter perspective promoted a general wonder at the 'amazing, invisible complexity of the most ordinary, everyday objects and experiences'; acknowledged the power of the entirety of all nature, beyond human intent, and admonished its adherents to 'not dread death, which, rather than being some final destruction, marks the transition to other matter formations'. In

this way, Bennett (2010: 9) considers vital materialism as a means to reintroduce some enchantment into a contemporary modernity that has become disillusioned, cynical and nihilistic. We would suggest that such a philosophy might usefully supplant humanism as the motif of the dissection-assemblage, allowing the dead to live as affective manifestations of the materiality of bodies that extends beyond the extinction of consciousness.

A further insight from this study is a necessary corollary to this latter point and a further rejection of the individualism of humanism. It is the acknowledgement that within a vital materialist ontology, the capacities of bodies are not essential, but relational. While the findings reported earlier evidence of the multiple ways in which the dead possess capacities to *affect* (from Shona's emotional reaction to the arrival of the cadaver of a young man to Martha's recognition of a dead body as 'her silent teacher), these capacities emerge only in the context of a dissection-assemblage in which Shona, Martha and the others possess capacities variously *to be affected*. The assemblage is, by nature therefore, rhizomatic, and the findings illustrate the heterogeneity in how flows of affect can be interconnected indefinitely. In fact, it is the principle of multiplicity inherent in the rhizome that is so important in an understanding of assemblage and our presentation and interpretation of the findings. The idea is that there is no still point of an assemblage; there is no 'unity to serve as a pivot' (Deleuze and Guattari, 1988: 7). This rhizomatic lack of structure, multiplicity and relationality emphasises the need to shift the focus of attention from individual entities ('living', 'dead' or 'inanimate') towards the assemblages within which these capacities manifest. This, we suggest, is an important ontological and methodological pointer for studies of death and the dead more generally.[3]

Although this study has only scratched the surface when it comes to exploring dissection as a post-anthropocentric and more-than-human assemblage, the insights supplied by a new materialist and posthumanist perspective and methodology enrich understanding of this interesting encounter between living and dead bodies and supply an agenda for further scholarly inquiry.

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Notes

1. The precise meanings of *bios* and *zoë* in Ancient Greek are contested, although probably the former denoted exclusively ('intelligent') human life, while the latter described a more generalised vitality of animals, humans and the gods (Stanescu, 2012: 579). Modern scholars who have appropriated this dualism in their work include Arendt (1998) and Agamben (1998). In both these cases, the writers privileged *bios* (with its humanist overtones) over *zoë*.
2. When using interview data within a posthuman ontology, respondents are best regarded as 'informants' supplying information concerning the more-than-human assemblages of the worlds, rather than as ontologically privileged humanist 'subjects' who single-handedly make the world (Braidotti, 2019: 76). At the same time, this does not discount humans as part of these social assemblages: Affects are relational, and in most such assemblages, human bodies are caught up in these affective flows (Braidotti, 2019: 77–81). That some of these affects on students and staff reported in this study are emotional or psychological does not detract from the overall task of documenting the affectivity of dead matter.
3. Methodologically, it promotes a shift in how data (whether gathered by human researchers via observation or ethnography or from human interviewees) are treated. Such data need to be treated as a resource to gain insight into the more-than-human affective flows in a setting such as a dissection room, mortuary, funeral or graveyard in which the 'dead' are themselves affective, rather than focusing exclusively on the agency of the 'living'.

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