

The social life of the dead: the role of post-mortem examinations in medical student socialisation

Abstract:

Dissection has held a privileged position in medical education although the professional values it inculcates have been subject to intense debate. Claims vary from it generating a dehumanising level of emotional detachment, to promotion of rational and dispassionate decision-making, even to being a positive vehicle for ethical education. Social scientists have positioned dissection as a critical experience in the emotional socialisation of medical students.

However, curricular revision has provoked debate about the style and quantity of anatomy teaching thus threatening this 'rite of passage' of medical students. Consequently, some UK medical schools do not employ dissection at all. In its place, observation of post-mortem examinations - a long established, if underutilised, practice – has re-emerged in an attempt to recoup aspects of anatomical knowledge that are arguably lost when dissection is omitted.

Bodies for post-mortem examinations and bodies for dissection, however, have striking differences, meaning that post-mortem examinations and dissection cannot be considered comparable opportunities to learn anatomy. In this article, we explore the distinctions between dissection and post-mortem examinations. In particular, we focus on the absence of a discourse of consent, concerns about bodily integrity, how the body's shifting ontology, between object and person, disrupts students' attempts to distance themselves, and how the observation of post-mortem examinations features in the emotional socialisation of medical students.

Keywords: United Kingdom, medical students, post-mortem examinations, dissection, emotional socialisation, consent, bodily integrity, object-person ontologies

The study of anatomy through a dissected cadaver was until recently an almost universal expectation of medical education (McLachlan and Patten, 2006). Historically, the cornerstone of medical education (Sugand et al., 2010), it held a privileged position in the teaching of anatomical knowledge, however, its pedagogical values have been subject to intense debate. Regarding the character of anatomical knowledge, dissection is seen to allow observation of the three-dimensional arrangement of structures (which is difficult to appreciate when using two-dimensional anatomical illustrations), and to forge an awareness of biological variation (in contrast to standardised anatomical models) (McLachlan et al., 2004). Regarding the professional values dissection inculcates, often cited are fears that it is a 'hazing ritual' which 'desensitises' students, (Dyer and Thorndike, 2000) and engenders a dehumanising level of emotional detachment (Sugand et al., 2010, McLachlan and Patten, 2006). At the other extreme, it is claimed that dissection can be a positive vehicle for ethical education (Dyer and Thorndike, 2000). Nevertheless, over the last 30 years, awareness has grown in medical education around the emotional distress dissection can invoke and how this may be alleviated by better preparation of students (Arráez-Aybar et al., 2008).

Social science analyses of dissection position the practice as a critical experience in the emotional socialisation of medical students, introducing them to 'cadaver stories' which convey rules about feelings, emotions and their expression (Hafferty, 1988). The general tenor of these rules is to mute emotional expression. More recently, Dyer and Thorndike (2000: 976) argued that whilst 'cadaver stories' still circulate, they now serve to illustrate emotional sensitivity in contrast to the detachment of the past. However, medical education has not universally embraced such affect-laden attitudes; Madill and Sullivan (2010) identify how, as students become encultured, their adoption of a professional manner of speaking works to neutralise emotional discourse, and Regan

de Bere and Petersen (2009) suggest that dissection still risks promoting a 'clinically disengaged approach' lacking in empathy.

Until 1990s, claims about the professional values dissection promotes strongly resonated with the scientific value of objectivity; emotional control being seen to serve a rational, dispassionate approach to decision-making. As Smith and Kleinman (1989:67) identify, students understand they should strive for 'affective neutrality', that excessive concern for patients can cloud their judgement. Contemporary analyses largely confirm this position; Madill and Latchford (2005) note that for medical students who described themselves as coping well with the demands of dissection, coping involved suppression of and detachment from emotions, and Prentice (2013:37) comments that 'emotional detachment does occur ... but with more nuance' although she highlights that the value of emotional detachment is now more open to question than in the past.

Indeed, the landscape of medical education has changed considerably over the last 20 years with medical schools adopting 'integrated' academic and clinical learning, problem-based learning, and increasing the proportion of social, psychological and communicative content, whilst social scientists have debated how these changes affect the professional identity of doctors (Sales and Schlaff, 2010; Whitehead, 2010; Schwab, 2010). Curricular revision has also prompted deliberation about the place, style and quantity of anatomy teaching. Now, in debates about dissection, claims for an enriched anatomical understanding are balanced against arguments about the insufficiency of cadavers, and high student-cadaver ratios (McLachlan and Patten, 2006). The inefficiencies of dissection have also been criticised; dissection is time-consuming (Ramsey-Stewart et al., 2010) and the cost of preservation and storage of bodies has been considered disproportionate when balanced against the reduced amount of time now typically spent on dissection (McLachlan et al., 2004). This has led some medical schools to replace dissection with

prosections (preserved body parts dissected to display certain anatomical features) (Sugand et al, 2010), and plastinated prosections which are considered to overcome drawbacks associated with traditional methods of preservation, but become more of a hybrid body/model entity (Fruhstorfer et al, 2011). Furthermore, developments in anatomical animation and visualisation software, coupled with escalating use of medical imaging in clinical practice has prompted an increasingly multifaceted approach to anatomy teaching (Sugand et al, 2010). This educational context has engendered a situation where dissection is no longer considered essential to understanding anatomy. Therefore, notwithstanding the still strong commitment within medical education to dissection (McLachlan et al., 2004), there are now a small number of medical schools in the UK that do not employ dissection at all.

As dissection recedes in prominence, observation of post-mortem examinations (PMEs) has begun to emerge as a supplement to textbooks, models and medical imaging, in an attempt to recoup aspects of anatomical learning that are arguably lost when dissection is omitted. These include: appreciation of the three-dimensional structure of the human body, the relationships between structures which recede from view when distinct systems or organs are studied in isolation, and the differences between the representation, in the form of an idealised and simplified model, and the real, with all of its diversity and variation. Unlike preserved and discoloured cadavers, newly deceased patients undergoing PMEs are considered 'advantageous', being 'more realistic', accompanied by medical histories, and capable of relating cause of death to visible pathology (Sugand et al, 2010:87).

Medical students' observation of PMEs is a long established, if neglected, educational practice (Prentice, 2013; Welsh and Kaplan, 1998; Charlton, 1994), that has largely escaped sociological scrutiny. This is important as there are marked distinctions between the experiences of viewing

PMEs and dissection when learning anatomy. The difference receives brief mention by Smith and Kleinman (1989:58) who note that the autopsy is more upsetting than dissection because the body is freshly dead and accompanied by personal information of the patient's medical history. In the words of one of their students the body is "much closer to life than the smoked herring (cadaver) in gross anatomy". Interestingly, Hafferty (1991) notes that students anticipated post-mortem examinations to be more upsetting and that students used the expectation of something worse in the future as a way of minimising the current distress of dissection.

We explore in detail the distinctions between dissection and PMEs and set this discussion in the context of contemporary medical education. Our starting point has been neatly observed by Prentice (2013:41): 'The degree to which a body resembles either a dead and desiccated object or a living person - that is, the body's apparent distance from life - affects students' emotional responses'. The reason for this is clear when considering the ways in which students handle the emotions PMEs incite. 'Distancing', a well-established response (Madill and Latchford, 2005), attempts to reduce the connection between the student and the body. Smith and Kleinman (1989:60) explain how this process occurs:

Students transform the person into a set of esoteric body parts and change their intimate contact with the body into a mechanical or analytic problem ... In the process, the body loses its provocative, personal significance.

We examine how distancing is disturbed by elements of the PME that differentiate it from dissection. Moreover, we discuss how the body's shifting ontology, between object and person, troubles a developing sense of professional morality, as well as revealing concerns about bodily integrity. Consequently, we contribute to the sociological literature on the socialisation of medical

students, and engage specifically with how observation of PME (rather than dissection) features within processes of socialisation.

Methods

Our study stems directly from the curricular changes outlined above. The setting is a UK medical school wherein dissection is not practiced. Instead, first year medical students attend three PMEs (at the time of data collection during 2012, these all occurred within the first term, now they are spread throughout the year). Each PME has a different anatomical focus, either the brain, thorax, or abdomen and these are timed to coincide with when these subjects are studied in PBL modules. Students may attend PMEs again if they select a special study module in the pathology department, and routinely in fourth year, where the focus is on understanding pathological changes in anatomy.

After obtaining institutional ethical approval, we advertised the study by circulating information via email to year groups 1,2,4 and 5, and presented the study at year group plenaries. We concentrated on first year students as we expected their experiences to be most vivid, however, we were curious as to whether students' views matured with a further year's study and more time in clinical practice. And, given that the senior students had returned to the post-mortem suite, we wanted to explore their experiences as well. Students interested in participating contacted either DG or LM and were sent a participant information sheet, consent form and invited to the relevant focus group. Signed consent forms were collected at beginning of each focus group. We conducted four focus groups; two with first year students (FG 1 contained 4 male, 2 female students, FG 2 contained , 4 female, 1 male students), one with second year students (FG 3 contained 8 female, 1 male students) and one with fourth and fifth year students (FG 4 contained

5 male students). In each year group there were approximately 50 students, with a slightly higher proportion of females to males. All students that expressed an interest were included in the study.

Focus groups were facilitated by DG and LM both of whom were known to students as lecturers in social science and ethics respectively, and as PBL tutors. Familiarity with the lecturers may have influenced some students' willingness to participate in the study but it unlikely that they expected to gain from their participation. Assessment is widely acknowledged to be undertaken blind and this information was reinforced when publicising the study. The focus groups were loosely structured around a topic guide (see appendix one). Madill and Latchford (2005) recognise the potential for interview and survey studies of dissection to under-report distress due to a culture of denial. We found students freely offered candid and emotional accounts of their experiences (our stimulus material demonstrates that we did not specifically intend to explore emotional distress). This may be partly due to how focus groups allow for encouraging interactional dynamics (Kitzinger, 1994), and partly because most participants, being in the early years of study, were less encultured and thus less likely to adopt dispassionate language.

Focus groups lasted between 50-90 minutes, were tape-recorded and transcribed verbatim. A thematic analysis of the entire data set was conducted independently by each author following the procedure laid out by Braun and Clarke (2006). Themes were derived inductively but as might be expected of analyses conducted by a social scientist, a socio-ethicist, and an anatomist, thematic emphasis varied according to disciplinary interests, however, all authors agreed that themes were readily identifiable and fair interpretations of the data. Themes included the quality and characteristics of learning and whether learning related to anatomical knowledge or professional values. These themes will be reported elsewhere. The discussion we present below

draws on the first author's analysis and focuses on themes relating to consent, personhood, bodily integrity, and death as critical to medical identities. When presenting the data, pseudonyms are used throughout.

A lack of moral clarity

Prentice draws attention to the importance of language when preparing students for dissection. She notes (2013:47) how the words 'gift' and 'donor' 'tactically call forth the cadaver's personhood as a legal entity' capable of giving a medical school control over his/her body after death thereby drawing a parallel between the living and the dead. Perhaps because observing three PMEs is a marginal curricular component compared to dissection, students found their preparation minimal:

Sarah: I didn't feel prepared about what it was actually going to be. Like, they just took us and then gowned us up and then we walked in. I didn't actually know there was going to be a body there and it takes you really by surprise. So I think they could have explained it a bit better what actually was going to happen.

So could you describe the post-mortem suite to me. What are you confronted with visually?

Jonathon: A dead body lying down with their head cut in half and their skin up all over their face.

Ellie: Completely naked as well. A naked dead body with their face exposed and everything. It's horrible.

Sarah: And some have their brain cut out and so their head was open.

Jonathon: Yeah, or the scalp over their face.

Richard: If they just covered up bits of their face, their genitals and just focused on maybe the abdomen I would find it a bit easier to get on with.

David: I think it's a major shock to see a dead body for the first time in your life. I think when you're doing dissections you're going to have like a hand or an arm or something and it makes it, I guess, a little bit less real. But when you see the whole thing lying there, and your first experience being like the scalp has been sawn off or whatever, it just takes you by surprise. And I think for the first time I was just constantly screaming in my head, 'oh my goodness, what's happening?' and I wasn't really listening to anything. I was just quietening down my own little internal thoughts and was like, 'okay, just keep looking, keep looking'. (FG 1, p5)

Although there may be an animated, 'cadaver story' tone to these students' comments, many aspects bear closer scrutiny. The significance of body parts, the exposure, and the disassembling of bodies, will be explored in due course, first, we concentrate on the disquiet evident in the words, 'I was just constantly screaming in my head, "oh my goodness, what's happening?" and I wasn't really listening to anything. I was just quietening down my own little internal thoughts.'

Prentice (2013:60) points out that to enjoy learning from dissection, moral clarity is essential. This is achieved through the discursive invocation of the cadaver as a person who has exercised his/her rights in donating his/her body. However, discourses of autonomy and choice are absent in PMEs which may be requested by a coroner to establish the cause of death when it is unknown, or following a violent or unexpected death. Here, permission of the relatives is not required. Although now a rarity (McNamee et al, 2009), PMEs may also be requested by hospital doctors to provide information about an illness or cause of death when a patient has died in hospital. In these circumstances, consent of the relatives is required. In either case, consent for student observers is not currently required (Burton and Underwood, 2007), but permitted at the discretion of the coroner (Bamber et al, 2014) although whether consent should be sought from relatives is a matter growing debate (Burton, 2001; Weiss Roberts et al, 2000). At the time of data collection (2012), consent for medical student observers at PMEs was granted by the coroner but not explicitly sought from relatives, as per Human Tissues Authority (HTA) guidance. Updated HTA guidelines (2014) and institutional practice now places greater emphasis on families being alerted to the potential presence of medical students allowing for the opportunity to object.

Absence of a discourse of consent, therefore, produces a sense of discomfort in which students' question their legitimacy to witness the procedure.

Sarah: I think the other thing about post-mortems I found difficult was like this is actually just a patient. Like, they haven't donated their body to medical students so there's actually a family waiting to bury this person. Whereas I think dissection, like a person would have donated their body for research and I find that easier to learn from. (FG1, p8)

Adeel: If the person consents to it before they die, like they want to donate their body, then I think it's fine. They've put themselves up for it. Whereas the problem I see with the post-mortems is you can't really opt out of it and that just baffles me. (FG2, p9)

Here, students experience unease at their inability to show respect through discourses of donation, choice and consent. Hafferty (1991) also found, where it was unclear whether a body for dissection was donated or unclaimed, students preferred to imagine their body was donated finding the permission granted by donation a more comforting authorisation than legitimations that focused on students' need to learn. Here, moreover, the absence of consent reveals the uncertain status of the body. Living bodies have a right to accept or decline medical treatment. When Adeel mentions being unable to opt out, he most likely refers to the majority of PME's being authorised by the coroner. Possibly, however, he means the lack of relatives' consent for students to observe, for which the point is equally valid. In life, medical students must ask permission and patients decide whether they are willing to contribute to a student's education. Once the patient has died and a PME is to be performed, medical students' presence is no longer optional. Anna highlights this disparity:

Anna: ... the way you have to gain informed consent just to question a patient. You know, like, if you're asking them about their history, the way that we have to say, you know, 'the doctor has asked me to talk, is that alright with you?' and things like that. You're not even touching them, just asking them questions but you still have to get the informed consent to make it ethical and things like that. So they do take it very seriously and you do have to make sure that the

patients are ok with every single little thing that you're doing even if it's just questioning or very basic examinations and things.... Yeah, it's strange that they take the consent and the autonomy of the patient when they're alive so seriously and yet after they've died it's as if their autonomy is just completely overridden just because they are dead. (FG2, p15)

In many respects, medical schools are at pains to establish respect for patients' rights, a message multiply reinforced through communication skills, clinical skills and social and ethical components of the curriculum. Yet, in PMEs, the absence of consent and choice, not only produces disquiet at the ethical basis of this educational activity but signals the body's uncertain status – it is something other than a person with autonomy. Positioning the body as 'other' renders unnecessary conventional practices of demonstrating respect.

Indignity and assaults upon bodily integrity

If students cannot respect autonomy, other ways of demonstrating respect are sought – these, however, prove equally problematic. Dignity in medical practice is conventionally seen to be respected by limiting exposure of patients' bodies. In the post-mortem suite, however, norms are different and a covered body is deemed unnecessary:

Anna: But I think in general post-mortems are one of the least dignified things that I've ever seen. Even before you consider that you're cutting someone open, this lady was naked, on a rock solid table, in front of a group of eight medical students, two members of staff, plus (the pathologist) himself. It's kind of, that is one of the least dignified things you could imagine. If that patient was

alive you would never have all those people in when they're completely naked, let alone be cutting them open and things. So it's not very dignified. (FG2, p18)

Again, the uncertain status of the body is problematic – is it an object of knowledge to be inspected, or a person whose modesty should be preserved? Even to more experienced practitioners, the nakedness of post-mortem bodies has an arresting effect. Horsley (2010) studied doctors training to be pathologists, many of whom had recently completed their surgical rotation, yet this experience did not necessarily prepare them for the emotional impact of PMEs. Horsley explains that in surgery minimal recognition of personhood is visually sustained by the sterile drapes which restrict the visual field. In contrast, she states (2010: 9): 'The post-mortem body is flayed in full view'.

When discussing dignity, second year students moved beyond discourses of consent, yet continued to draw parallels with the living by respecting confidentiality and providing comfort to the family. Students emphasised the professionalism of practitioners, yet the discussion moved on to reveal a concern for bodily integrity, disrespect for which was perceived as at odds with dignified treatment of bodies:

Phoebe: I think the body is treated with dignity but when I was talking to people later, because when the organs are taken out obviously they have to be put back in. So I remember speaking to someone because literally all the organs just get put in your torso and they're just in bags. And I remember talking to someone and they were like, 'they actually do that to you when you're dead?' and they found that really disturbing.

.... 21 lines edited ...

Carol: I think you can't expect to have all of your organs cut out and then for somebody to spend the time putting them back where they should be. Literally once you go into the post-mortem the body is almost just like a carcass in a butcher's shop and there's no way that you could put the organs back.

(FG3, p15-16)

The disassembling of bodies integral to post-mortem practices is troubling not because it involves cutting open the body, but because the internal body cannot be reassembled; organs are dislocated, dissected, weighed, and although they are returned to the body, they are simply enclosed within it. The resulting disorder of the internal body carries historical connotations, both distant and recent, to 'scandals' that have problematised professional norms and rights to bodily material. Richardson (2000) records how, in the distant past, dissection was an exemplary post-mortem punishment for convicted murderers, denying the body a grave through deliberate destruction of bodily integrity. More recently, Leith (2007) observes that, in the Alder Hey organ retention scandal, three terms – 'whole', 'intact' and 'complete' – were repeatedly used by parents signaling a concern for bodily integrity unresolved by the notion of consent. Parents, she says, talked of burying 'a shell'. Above, Carol refers to the body as a 'carcass' – a more brutal term, but it carries the same 'empty' connotations as a 'shell'.

In defense of the implicit accusation of disrespect, the second-year students pointed to how personhood is respected (discussed in more detail in the next section), highlighting the relatives' peace of mind that accompanies knowing the cause of death, as well as acknowledging the

practicalities that militate against conventional measures that are seen to protect dignity. They continued:

Vicky: Something that stuck with me was the very first one we did was a GI [gastro-intestinal] one and he took all the guts out and was taking apart and then laid it next to her and just left it there. And that kind of stuck with me because I was like if that was me. Obviously you can't see yourself but I'd be horrified if that was me.

So what's the alternative then? What could have been done?

Maria: I don't think you could have done anything else because I think the reason for doing it was to see if there was any contents still in the intestines. And it's the same with the stomach contents. You have to cut it open to look inside to see if there's anything left. So there's no other way that you could possibly do it. It's the same if you're looking for obstructions.

Vicky: You could have done something with it though rather than just measuring it out next to her. (FG3, p19-20)

This debate about whether the lack of concern for bodily integrity was disrespectful or a practical necessity continued at length. The discussion suggests a desire to retain the personhood of the body and demonstrate respect, but achieving this is challenging when procedural necessities eliminate conventional ways of respecting personhood and dignity and have historical antecedents firmly associated with disrespect and violation.

Although the students accept the necessity of disassembling bodies, they remain disconcerted at the inattention it is accorded by the pathologist and post-mortem technicians. Timmermans (2006: 53) observes that ‘No equivalent manipulation of the body – either in surgery or in funeral sciences – produces the same visual effect as an autopsy.’ He explains that for pathologists, opening a corpse turns the body into a pathological object, and that pathologists proceed with detachment, managing their emotions to avoid personal transformation. Horsley (2010:12) elucidates how trainee pathologists attain this ability, negotiating the emotional terrain by immersion: ‘practical and cognitive demands absorb the mind, abstracting the corpse from its social realm.’ Distance is achieved by moving closer, concentrating on the technicalities. But for first year medical students, the status of the body is not so easily fixed. Their status as spectators means that practical engagement is not an option for them. Intellectual immersion is possible but fragile, unsettled by the indignity of nakedness. Such unease, along with the disassembling of bodies, indicates a problematic status of the body for the students; can dead bodies be, simultaneously, respected persons and objects of investigation and knowledge? This disjuncture is troublesome for students who seek to fix the status of the body with a set of practices identifiable as demonstrating respect.

Unruly bodies

Faced with such moral disquiet, students attempted what Prentice (2013) calls ‘tactical objectification’ – intentionally positioning the body as an object of knowledge, disconnected from an identity and personal history, to dampen their emotional response. However, bodies undergoing PME are more unruly than embalmed bodies for dissection. Bodies undergoing PMEs receive no preparation, they are unsettlingly close to life, and their personification emerges sharply, frequently, and powerfully. Information about the former life, activities and death of the

person, would regularly disrupt processes of distancing. For the pathologist, this information explains pathological findings and cause of death, whereas the students experienced this information as 'humanising' or personifying the body. Some examples:

Richard: They always give you a story of how they died as well. So they had a stroke patient, someone committed suicide. It's just horrible and you think, why did they do that, how unlucky are these people. (FG1 p11)

Sarah: ... we had one and they said they were in a nursing home and they fell and then this happened and this happened. It's like, I didn't need to know all. Just that they'd died would have been enough for that case. (FG1, p13)

Tamara: I think the story of how they died was worse. The one I had, he had just committed suicide and he was like 60 something and I think just knowing that happened the day before, I was like, this was someone who was alive. I think that was harder than if I'd had no story background and it was just the body but knowing how he had died made it worse. (FG2, p3-4)

Anna: Like, one of mine was up from somewhere down South visiting his son, and he died while he was at his son's house. All of a sudden I thought like mentioning his family and his son and things made it so much more real, in terms of, he's got relatives. (FG2, p3-4)

Sociality is invoked when cause of death is discussed, it draws attention to personhood, identity, family, friends, to lifestyle, its implications, and to the reality of death and whilst this has been

identified in the literature on dissection, it is particularly significant in PME as cause of death is, after all, the primary concern. Harris and Robb (2012: 674) explain that, although one can hold multiple ontologies of the body, moments of transition between them are 'tense or fraught with elaborate protocol'. Here, students oscillated between objectification and personification; objectification to facilitate detachment and allow a focus on learning, and personification as a means of appreciating the human implications of death and showing respect. However, without established protocol to aid such transitions, this was rarely at the command of the student:

David: ... you see like a 58 year old man there and you think, 'oh my goodness, my dad is older than he is' and it's really weird. And then you kind of walk out in the street and you see all these people walking towards you and you think, 'you look dead'. It's awful. (FG1 p11)

Hafferty (1991) noted that bizarre shifts in perception, such as imagining elderly strangers as soon to be cadavers, occurred mostly after the first day of dissection and students thought most about their cadaver as a person during the first two weeks of dissection. Possibly, working on just one cadaver limits speculation around identity. For medical students each PME is a new body/person, with a different history – social and medical – inviting new intense speculation each time.

Hafferty continues that emotional adjustment is a complex process involving peaks of anxiety associated with dissection of particular body parts. Prentice (2013:43) explains why hands, face and genitals are highly charged areas for dissection and where personhood overcomes objectivity: Hands mark bodies as human and are tools for action and communication. Genitals mark gender, a powerful bearer of identity, and typically hidden in all but the most intimate settings. And faces mark bodies as belonging to individuals with inner lives. To this list we can add the brain, which

holds special significance as the container of personhood, as well as details such as presence of facial hair and varnished nails, details that penetrate distancing tactics with apparent ease:

Jonathon: I think for me, because the whole thing was so surreal I could kind of detach it from reality. Obviously I knew it was real but it kind of didn't feel real. So I think there were certain aspects that really freaked me out like, in the second one, you could see the man's stubble and that's a real thing. And just the hands.

Ellie: Well, one of the women's red nail varnish.

Jonathon: It's things like that that bring you back to reality that it is a real person. (FG1 p11)

Particular body parts are deeply symbolic of identity, as might be surmised when one culturally accepted mode of personality expression is to wear one's body in a certain way – to paint, adorn, modify, and style it. Even a fourth year student, and thus likely to be more accomplished at distancing, comments:

Oliver: In the last post-mortem I went to, which was this year, the thing I remember most about it is that the patient had a wedding ring on. I can't really remember much about the pathology actually. That sticks out for me so I guess I must have been affected by that and that must have made me think about them as a person rather than as a body. (FG4, p6)

Students struggled to sustain a distinction between body and person when it came to the brain, slipping easily between conceptions of brain (body) and mind (person):

Vicky: ... I remember when they were cutting through the brain and thinking that made that person that person, and it's just gone. And I know they're dead and I know that they don't know and I know the family wouldn't know but it is just.

The fact that you were observing it?

Vicky: Yeah.

Maria: The one with the brain got to me. Because I was like your brain is what makes you who you are. The other organs didn't bother me but the brain did.

(FG3, p17)

McNamee et al (2009) also found dissection of the head in PMEs to be particularly troublesome for student observers. The comments above offer some explanation; the brain is where identity is concentrated, the centre from which expressions of identity are seen to emanate.

The face, as uniquely individual, is one of the most potent expressions of identity and personhood. Defenses such as distancing and tactical objectification, then, were easily penetrated by the process of exposing the underlying structures of the face:

Tamara: Except for in mine they'd pulled their face up and I found that was just awful for me. I couldn't watch that at all because it was one thing just being there but then, when you're just removing the bits, that person no longer mattered at all. I just had to take a step back then. Not that he [the pathologist] didn't care, because obviously he was trying to show us something, but I just felt that that shouldn't be happening and you should just leave their face alone.

... 20 Lines edited...

Can you say what it was about that that made you feel uncomfortable?

Tamara: Just like what Anna said about that being someone's identity and then you were just stripping that away from them and making it as if they were no longer like a human. You just wanted them for their body now. (FG 2 p5)

Not only anonymising, destruction of the face is dehumanising. Other students noted that whilst watching the process is difficult, once the skin of the face had been removed it was easier to sustain an objectified view of the body.

Detachment is further interrupted by powerful reminders of the PME context – specifically, evidence of traumatic deaths. Whilst post-mortem examinations that seek to determine criminal activity are considered unsuitable for student observation, there are traumatic deaths that are more germane to medical practice:

Maria: ... The first one I was okay, but the second one, like, I didn't like it at all. And I don't know what it was because I'd seen dead bodies before but I think it was because it was fresh and they'd just died, and you saw the wrists and the cannulas, and things like that. So it was just getting used to it again.

... 4 lines edited ... The one we did, the person had had CPR and the ribs had been broken and it looked like it had been quite a traumatic death. (FG3 p4-5)

Cannulae and broken ribs draw attention to the process of dying, inviting speculation on what the person must have endured when dying. These visual cues work to maintain a connection between body and person, disturbing processes of tactical objectification and thus a focus on learning anatomy. Students learn, of course, but what they learn is open to debate.

The dead and the post-mortem space

Like earlier years, 4th and 5th years debated what was learnt through PMEs; for some knowledge of anatomy or pathology took centre stage, in particular the appearance of a pulmonary embolism, the visualisation of cardiac tamponade, and the feel of a colonic tumour were all memorable experiences. For others, the lessons were much more about developing the characteristics needed to succeed as a doctor:

Peter: it's fairly useful for anatomy. Although living anatomy does look a lot different to dead anatomy. Watching surgery compared to watching a post-mortem and everything has got blood running through it and it's all working. But, like you said, you get used to the idea of death very early on. I think that's

probably half the point of it really, is to try and condition you a bit and get your nose down. You're not like everyone else going to (local night club) on a Tuesday or whatever it is, which you do anyway. That's probably part of the coping mechanism. It sort of separates it out a bit, definitely.

Steve: I personally didn't think it was relevant to anatomy, to our teaching. I think if you wanted to use it for anatomy teaching I think we should have had more sessions. It would have been really structured and tailored to each of the PBLs. We just had three dotted in first term. We didn't gain that much anatomy. But I think, yeah, like we said, the fact that it shows the seriousness of medicine and this is what you're here for and this is what it's about now. ... (9 lines edited) ... In the first year you don't even know where the toilet is. So what you're learning in terms of cutting up the brain and learning about whether they've had a stroke or something isn't particularly useful. It really is more about showing you what the reality of it is. If you get to 18 or 19 or whatever there's a good chance you haven't seen a dead person. There's a big chance that you haven't really seen any illness. You haven't experienced any illness in your life and you might even have parents who are still quite young and it's really a foreign concept. So I think it was most people's first exposure to seeing death. (FG4, p4-5)

Here then, the purpose of observing PME is about attaining a distinctive *medical* student identity. For these students, PME has replaced dissection as a rite of passage. Embedded within this process are messages about the seriousness of medicine and expectations of responsibility. Dealing with the dead is considered pivotal to medical character building and as such PME is

positioned early in medical education. But the dead one encounters in PME are quite unlike the dead encountered elsewhere. Gone are conventional ways of showing respect, absent are rituals associated with a death on the ward. As William explains:

William: They're put into a side room because they usually know when someone is going to die, on a ward anyway. Relatives are counselled, everyone is very hush-hush. The lights seem to be dimmed, the body is prepared and the junior doctor has to go in and listen to the heart and the chest and basically make sure they are dead. That seems to be quite a formalised process. (FG4, p3)

The contrast to PMEs couldn't be greater. The message conveyed is that the mortuary is a sequestered space, rituals and conventions that sanitise or soften the impact of death are for public spaces and for the benefit of lay people. Medical students will become doctors and need the emotional stamina to deal with the stark realities of death. The story Martin tells below illustrates this message but Martin points to how the realities of death for a pathologist are not necessarily the same as for other doctors.

Martin: I think some of the problems you're going to encounter is the personalities of the person conducting the post-mortem. Because it does attract a certain kind of personality or they develop that personality with having to cope with seeing death every single day. So we do have an example, it was a post-mortem in the fourth year. The patient who had died, the head was on a small plastic tubing almost, and as he was moving around the head slipped off and kicked backwards and it just made a loud bang on the table

and one of the medical students screamed. So the pathologist said what are you playing at, you know, you're going to be doctors soon. You can't scream at this. And it wasn't a very sympathetic way. Because obviously she was shocked by it and it was just an instant reaction. (FG4, p8)

The message conveyed here and above is that conventional ways of respecting the dead don't belong in the mortuary, and that medical work requires emotional resilience. Despite this, Horsley (2008: 134) points out that mortuaries are not neutral spaces free from ritual, but are constituted through the practices and perceptions of the living and the presence of the dead. In the exchange below, two students reformulate dignity to fit the post-mortem space and illustrate the shaping of practices by the living and the dead:

Oliver: In a way a post-mortem can be part of a bigger dignity. You're offering that person and their family legal protection towards being killed unlawfully or due to negligence or a doctor just mucking it up or a surgeon leaving his car keys in there or something like that. You're actually protecting that person and their family and the population as a wider goal and you're setting a high standard. You're trying to find out why they died and in a way that's offering dignity as well. But, you're right, it's not very nice and it's hard to maintain it.

Steve: But does a body need its dignity maintaining? I think a lot of the dignity you maintain is for the family's benefit. The way families are treated in the mortuary is very respectful. They have a completely separate entrance and it's a really nice room. They'll get seen to by some really friendly staff who will talk them through the process, if they need to identify the body. So that's

where the dignity is maintained. Whether or not the body has its face covered? I don't know whether or not that's relevant. (FG4, p 6)

This exchange shows how these two senior medical students have come to embody the messages embedded in their PME experiences; that social practices to respect the sacred nature of death are for the benefit of others. They have, as Horsley (2008: 140) puts it, largely attained the 'habits of objectivity cultured and supported by medical training and its territories.'

Discussion and conclusions

Hafferty and Franks (1994) argued that medical education is essentially a process of moral enculturation, and that in transmitting normative rules about behaviour and emotions to its trainees, it conveys a 'hidden curriculum' that is a critical determinant of physicians' identities. Essentially, the hidden curriculum relates to the process of socialisation medical students undergo (Hafferty and Franks, 1994). The term has since gained considerable currency in medical education, and the hidden curriculum has been found to be associated with a loss of idealism, rise of cynicism, persistent medical student abuse, loss of moral reasoning skills, (Hafferty and Castellani, 2009) adoption of a ritualised professional identity, emotional neutralisation, change in ethical integrity, acceptance of hierarchy and the learning of less formal aspects of 'good doctoring' (Lempp and Seale, 2004). We present a detailed account of how observation of PMEs features within such processes of socialisation in the context of successive curricular revisions that marginalise dissection and challenge the value of emotional neutrality (Regan de Bere and Petersen, 2009; Prentice, 2013).

The absence of patient donation is much lamented by the students. Discourses of consent would go a long way towards dissolving the moral tensions students' experience, lending legal and moral clarity to the status of these educational activities. Instead, the absence of consent highlights the ambiguous status of the body and prevents students from demonstrating respect for the dead's wishes. Through PMEs, students are introduced to the idea that norms are different in the mortuary. Bodies do not need covering and the internal order of the body cannot be maintained. Here, bodies are not people, they are 'pathological objects' (Timmermans, 2006). Students are confronted with the bareness of post-mortem practices, with the apparent lack of procedure for respecting the dead and treating them with dignity, and they struggle with the morality of positioning the dead body as 'other', less worthy of respect and dignity. Students try to fix the ontological status of the body in a way that allows for a set of practices recognisable as showing respect. Hafferty (1991) also noted the preference of medical students for a donated body, however, we suggest the moral tension today's medical students experience is not only about facilitating the use of a dead body for medical education ends, but about allowing the students to *enact* respect. This desire is likely to be a reflection of shifting emphases in medical education more inclined to humanistic values, along with societal changes in which the public are more inclined to question medical norms and practices (Regan de Bere and Petersen, 2009).

Nevertheless, students attempted, and in some cases succeeded, in distancing themselves through attaining an objectified view of the body. The position of the students in PMEs as observer, however, makes this more challenging as one cannot lose oneself practically in the work as is the case for dissection or trainee pathologists. Distance from the activity increases the view of personhood and as Hafferty (1991: 93) unequivocally states there is 'a causal relationship between the perception of a cadaver as a formally living human being and the experience of emotional upset.' Moreover, the unruly – and tangibly social – nature of freshly dead, unembalmed bodies,

that bear the markings of their passing, steepen the challenge of sustaining an objectified view of the body yet further. In PME, the ontological status of the body is fluid. Distancing efforts are exerted but frequently penetrated by information that personalises and humanises the body, and serves as a reminder of the context of the PME. Harris and Robb (2012: 672) argue that beliefs about the ontological status of the body 'exist in material behaviours, practices and dispositions' and as discussed above, moments of transition are tense if not accompanied by elaborate protocol. It follows, therefore, that to facilitate an objectified view of the body, and thus focus on anatomical learning, attention could be paid to how post-mortem practices evoke particular ontologies of the body and students could be discursively eased through transitions between the body as person and object.

The extent to which students learn anatomy through observation of PMEs, however, is not the main focus of this article. Aside from anatomy, students learn a great deal more. Unintentional though it may be, students learn that dealing with death is pivotal to medical character building, they see PMEs as signifying the seriousness of medicine, and their observation of them critical to their identity as *medical* students. Socialisation involves moving away from one state towards another. PMEs therefore represent an early landmark in students' emotional socialisation, instrumental in moving them away from the values they may have formerly held by showing them, for example, where the value of bodily integrity cannot feasibly be upheld. PMEs also move students forward, toward their desired identity as doctors. But whereas emotional neutrality has been emphasised in the past, our study suggests this ideal has evolved slightly in that it is not emotional neutrality that is valued now, but emotional stamina.

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Appendix 1

Focus Group Stimulus Material

Why did you choose a medical school that does not do dissection? Was this a consideration or incidental? What were your thoughts on dissection prior to beginning medical school?

Can you describe your experiences of post-mortems? Initially... and now?

What did you learn from the post-mortem (both in relation to anatomical knowledge and professional values eg detachment)?

How do you think the absence of dissection affects your preparation for clinical practice?

What are your views on the approaches to teaching and learning anatomy used at this medical school? Please explain...

How confident do you feel in your anatomical knowledge?

Have you had any problems translating what you know from textbooks or computer resources to patients' anatomy in clinical practice? How are these problems resolved?