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Groundwork

The Lifecycle of a Clinical Cadaver: A Practice-Based Ethnography

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Key words: cadaver-based simulation, human body donation, philosophy of science, ontological fidelity, medical education

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The Lifecycle of a Clinical Cadaver: A Practice-Based Ethnography

Phenomenon: Cadavers have long played an important and complex role in medical education. While research on cadaver-based simulation has largely focused on exploring student attitudes and reactions or measuring improvements in procedural performance, the ethical, philosophical, and experiential aspects of teaching and learning with cadavers are rarely discussed. In this paper, we shed new light on the fascinating philosophical moves in which people engage each and every time they find themselves face to face with a cadaver.

Approach: Over a two-year period (2018/19-2019/20), we applied ethnographic methods (137 hours of observation, 24 interviews, and the analysis of 22 documents) to shadow the educational cadaver through the practical stages involved in cadaver-based simulation: 1. cadaver preparation, 2. cadaver-based skill practice with physicians and residents, and 3. interment and memorial services. We used Deleuze and Guattari's concepts of becoming and acts of creation to trace the ontological "lifecycle" of an educational cadaver as embedded within everyday work practices.

Findings: We delineated six sub-phases of the lifecycle, through which the cadaver transformed ontologically from person to donor, body, cadaver, educational cadaver, teacher, and loved one/legacy. These shifts involved a network of bureaucratic, technical, educational, and humanistic practices that shaped the way the cadaver was perceived and acted upon at different moments in the lifecycle. By highlighting, at each phase, 1) the ontological transitions of the cadaver, itself, and 2) the practices, events, settings, and people involved in each of these transitions, we explored questions of "being" as it related to the *ontological ambiguity* of the cadaver: its conceptualization as both person and tool, simultaneously representing life and death.

Insights: Engaging deeply with the philosophical questions of cadaver-based simulation (CBS) helped us conceptualize the lifecycle as a series of meaningful and purposeful acts of becoming. Following the cadaver from program entry to interment allowed us to contemplate how its ontological ambiguity shapes every aspect of cadaver-based simulation. We found that in discussions of fidelity in medical simulation, beyond both the physical and functional, it is possible to conceive of a third type: *ontological*. The humanness of the cadaver makes CBS a unique, irreplaceable, and inherently philosophical, practice.

Keywords: cadaver-based simulation, human body donation, philosophy of science, ontological fidelity, medical education

Introduction

Scholars have recently called for a more explicit philosophical turn in medical education inquiry, encouraging our community to engage with philosophies of science, and to explore 'problems no one looked for'.[1,2] Questions of *ontology*, the branch of philosophy that deals with *being*, have been raised as important considerations in the realm of medical education.[3] We responded to this call by both empirically and philosophically exploring one of the most complex practices of medical education: cadaver-based simulation (CBS). In this paper, we shed new light on the fascinating philosophical moves in which people engage each time they find themselves face to face with a cadaver.

Cadavers are an important element in many medical education programs, traditionally in the realm of anatomy education.[4-5] The literature on traditional cadavers in medical education has explored not only their effectiveness for teaching anatomy,[6] but also some of the ethical[7-8] and professional[9-11] complexities associated with their use. Many have reflected on the controversial history of cadaveric dissection, which has evolved from a once "dubiously moral and barely legal activity" [11(p3)] to one demanding the highest standards for respect, which are reflected in current ethical guidelines and legal regulations around cadaver-based education.[12] As well, recent authors have explored the various physical and psycho-emotional reactions medical trainees have in relation to cadaveric dissection—ranging from ocular irritation, to anxiety, surprise, and enthusiasm.[7,13-17] Generally speaking, these studies attest to the superiority of cadaver-based learning compared to other methods of anatomy education,[6] as well as the positive impacts cadavers may have on student empathy and humanstic care.[18-19]

Some scholars, however, such as McDonald[20] and Hallam,[21] have taken an anthropological and ethnographic approach to attend to the dynamic and unfolding character of

cadavers. McDonald demonstrates how cadavers are "acquired" by students; in an "ever-active process of micro articulation," students learn to see, smell, handle, and hear in various ways over time.[20(p129)] For example, the author explains how students gradually learn to match diagrams illustrated in their manuals to the cadavers before them: a process McDonald describes as "acquir[ing] particular eyes…learn[ing] to see." Moreover, Hallam[21] considers the dissection of a body after death a "relational process" [21(p100)] whereby the cadaver is always understood in relation to the social and material elements involved in their procurement, use, and memorialization. In this manner, "bodies after death are valued as persons, as materials for the generation and communication of anatomical knowledge, and as gifts for the advancement of medical science"[21(p99)]

More recently, advancements in preservation techniques have led to new uses for cadavers, specifically in the realm of procedural skills teaching and simulation.[22-27] CBS, like any form of simulation, is based on the idea that learners practice skills and apply knowledge in lifelike contexts. Arguably, no manikin can offer more fidelity in reproducing the complexity, variability, and particularity of the human body than an *actual* human body; thus, CBS is emerging as a promising approach for teaching, particularly for practicing high-skill, low frequency procedures.[22-27] Because these preservation techniques are still relatively new, there is a paucity of research examining the use of clinical cadavers specifically. The limited existing literature on CBS has largely focused on measuring its validity and effectiveness for learning,[22-28] with a few notable exceptions. Douglas-Jones'[29] ethnographic account, for example, details the cultural specificities of donation in the Taiwanese Tzu Chi Buddhist Silent Mentor program Medical Simulation Centre, where people make a deliberate effort to acknowledge the identity of the donor, by positioning photographs and telling stories about the donor's life.

Arguably, the ethical and professional complexities of these cadavers could differ significantly from those of traditional cadavers. For example, compared to traditional cadavers, bodies prepared for CBS are undeniably more lifelike—both visually and tactilely. *Hard-fixed* (traditional) cadavers are embalmed using the chemical formaldehyde, which delays the decomposition of the body's tissues, but also renders them stiff and unpliable. These cadavers maintain the intricate form and location of bodily tissues but poorly resemble living bodies.[30] In contrast, *soft-preserved* (CBS) cadavers, such as those more recently developed by Thiel,[31] as well as scientists in Taiwan,[29,32] Baltimore and Halifax,[27,33] maintain the look and feel of anesthetized patients. Medical learners across the continuum can use these more lifelike cadavers, termed *clinical cadavers* by Kovacs and colleagues,[27] to practice procedures with high degrees of fidelity.[34]

Scholars such as McDonald and Hallam have given us rich insights into some of the anthropological and relational dimensions of cadaveric dissection, hinting at the multiple values and roles that bodies take on during the process of "anatomisation."[20-21] However, scholars in the field have not yet fulsomely examined the underlying philosophical and ontological questions associated with using lifelike cadavers to engage in CBS. And, while some have described the cultural nuances of programs using cadavers that are differently preserved in order to facilitate surgical skills teaching,[29,32] these pieces have not yet addressed the conceptual work in which people involved with CBS must engage to accomplish the variety of tasks at hand—ranging from administrative to educational. In an effort to address this gap, we worked with Delueze and Guattari's notion of *ontology as creation* to analyze how medical educators develop an evolving suite of concepts to make sense of cadavers as they go about their work.[35] In their classic work *What is Philosophy?*,[35] the authors distinguished three primary acts in which we engage as we try

to make sense of the world: science, art, and philosophy. We argue that medical educators have long engaged with the science and art of CBS; however, we have not yet carefully attuned to the philosophical aspects of this work, and in particular to questions of *ontology.*

Through a two-year practice-based[36] ethnographic study of CBS, we learned that cadavers are ontologically complex, and in a process of constant conceptual re-creation. We describe herein a six-step lifecycle of an educational cadaver, delineating the **ontological transitions** that must occur at each stage to facilitate the work of teaching and learning through CBS. This paper expands our current understanding, probing the deeper, philosophical complexities of working with lifelike cadavers.

Method

Theoretical frame

Our study is theoretically framed in Practice Theory.[36] Practice theory can be said to present a view of the social world as "a vast array or assemblage of performances made durable by being inscribed in skilled human bodies and minds, objects and texts and knotted together in such a way that the results of one performance become the resource for another."[37(p20)] Practices are materially mediated and entangled with the social and relational.[36] This approach focuses on understanding the networks of everyday activities in which groups of people engage in their workplaces and other everyday settings.[37-38]

We considered multiple human and non-human actors associated with cadaver work, taking care to note both people (e.g., cadaver staff, administrators, teachers, learners) and things (tools, spaces, legal and educational documents), as well as the cadaver itself, which exists in a liminal space, and is somehow both human, and non-human.[39] We selected a practice-based approach because we were interested in studying, in fine detail, the everyday, taken for granted

elements of CBS in order to fulsomely understand and describe its complexities. Cadavers are part of the human and non-human arrangement and are relevant actors in these networks and practices as "... things might authorize, allow, afford, encourage, permit, suggest, influence, block, render possible, forbid, and so on."[40(p72)] Focusing on the practices of cadaver work allowed us to articulate, and better understand, the complexities of day-to-day activities performed in these professional settings.

With respect to analysis and interpretation, we drew on Deleuze and Guattari's ideas about becoming and difference to understand how the concept of 'cadaver' evolves. Deleuze and Guattari have been referred to as *differential ontologists,* meaning that they worked with the assumption that concepts are always constituted on the basis of *difference* (we identify things by what they are not). Folding this perspective into questions of ontology, then, requires a deliberate effort to unravel traditional ideas about being in order to offer new ways of thinking or understanding.

Deleuze and Guattari did not believe that the purpose of philosophy was to "discover" what the world is really like. To them, this was an impossible goal. Instead, they equated philosophy to the *creation of concepts*: philosophy is about creating frameworks that help us make sense of the infinite complexity of the world. Each act in which we engage in our everyday life has the potential to inspire new concepts. Being, then, is conceptualized as a process of creation rather than discovery. This means that there is no one story, or unified truth to be discovered. Rather, it is up to us to create the concepts that structure the world.

Specific to our case, we are interested in putting forth a series of concepts that help us better understand the profound complexity of the practices of human body donation and cadaver-based simulation. Linking these Deluezian ideas to our practice-based approach, we see that the

everyday activities of human body donation and cadaver-based simulation can, in fact, be taken as acts of becoming. From this perspective, a cadaver has no fixed identity; it is constantly becoming something different each time we interact with, or do things to, it.

Setting

We conducted a practice-based ethnographic investigation of the Dalhousie Clinical Cadaver Program (CCP). The Dalhousie CCP provides newly deceased, soft-preserved, *clinical cadavers* that allow residents and physicians to practice highly specialized, often life-saving, procedural skills within a controlled setting. The Dalhousie CCP obtains their bodies from the Dalhousie University Human Body Donation Program (HBD), which accepts approximately 150 bodies per year. Administrators and staff from the CCP and HBD work in concert to ensure that both programs operate smoothly.

Methodology

Ethnographic immersion is consistent with a practice-based theoretical approach, allowing researchers to observe and document everyday activity. We therefore used a range of data collection strategies in order to develop a detailed understanding of everyday practices of cadaver work in medical education. In accordance with Nicolini's approach to practice theory, we 'zoomed in' on specific facets of cadaver work, and then 'zoomed out' to locate these practices in broader societal conversations about cadaver work and simulation in medical education, more broadly.[38] In order to do this, we iteratively collected and analyzed data from multiple sources over a two-year period (2018/19-2019/20).

Team composition and reflexivity. We are a team of researchers with expertise in various facets of medicine and medical education including educational ethnography (AM, PC, OK, VL, JT), practice theory (AM, PC, OK, VL, JT), clinical medicine (GK, VL, LP), and CBS

(GK, LP). We brought our various areas of expertise together to ask new questions about procedural skills learning and simulation with clinical cadavers.

Throughout the process, we relied on insider knowledge of the CBS program from the Medical Director of the Clinical Cadaver Program (GK) and a learner experienced with CBS (LP) to guide our inquiry. These team members helped us identify key people to interview, as well as important educational endeavours to observe. They also facilitated connections with the workers of CBS, so that we might gain access to spaces in which cadaver work—everything from transportation to education—was taking place.

Reflexive conversations and refinement of our research processes and strategies were a regular part of our work. In other words, our process was not linear, and reflexivity was built into our emergent conversations. This was particularly important given the focus of the work, and the fact that encountering cadavers can be upsetting and unsettling.[16,20,41] We held regular analytical conversations to discuss and reflect upon our data. While these conversations served to advance our collaborative analysis of the data, they were also an exercise in reflexivity. One important exercise for our team was to reflect upon whether we, as individuals, would consider donating our bodies for educational purposes. We found that, depending on which scenario we had recently observed, or which person we had recently interviewed, the answer to that question changed.

Data Collection

Ethnographic immersion. While we report below on the hours we spent *formally and informally* observing CBS related activities, our work is fundamentally ethnographic. This meant that we spent a significant amount of time ‘hanging around’ the spaces and people of CBS and HBD. We read background materials, visited morgues, simulation suites, and cadaver

preparation and teaching spaces. We worked hard to build trust and establish relationships with the people involved with HBD and CBS by sitting down to discuss our project with them, making time to answer their questions, and making ourselves available. This, in turn, provided us an opportunity to ask questions and spend time in the field in order to become comfortable and familiar with it.

Specifically, our field was the spaces and places of CBS at Dalhousie University in Halifax, Canada. Situated on the Atlantic Coast, Dalhousie Medical School is known as the Medical School of the Maritimes, and serves the communities of three Canadian Provinces, Nova Scotia, New Brunswick, and Prince Edward Island. Dalhousie Medical School is internationally recognized for our refinement of the Thiel Cadaver preparation technique, known as the Halifax Preparation[27] and our continuing professional development opportunities that make use of these clinical cadavers.

Despite years of working in medical education at this institution, many of these spaces were new to the non-clinician team members. Notably, much of the work of CBS takes place in underground spaces, connected by a series of tunnels that we had heard mentioned anecdotally, but had never had the opportunity to walk through. Thus, our ethnographic work was a strange process of discovering hidden spaces in familiar places, which we referred to in our informal conversations as “the underworld.”

In contrast, the work of HBD, where donors are recruited, records are managed, and clinical cadavers are prepared for educational purposes, takes place on the highest floors of an office tower. The space includes small offices, as well as cadaver preparation spaces and teaching labs. Here, the space is bright, pristine, and hygienic. There were few clues about the

cadaver preparation that happens here, except for the presence of washing machines and saws and other types of tools.

Some team members were able to participate, to some degree, in the activities of CBS, by joining a cohort of learners participating in a continuing professional development course. Rather than simply shadowing, we were engaged in the lectures, and even our participation was a sensory experience, as we were able see, smell, and touch the materials of CBS.

Observations. Our research team formally observed various facets of educational cadaver use including four continuing professional development airway management courses (40 hours of observations x 2-3 observers/session = 90 hours), four emergency resident teaching sessions (8 hours x 1-2 observers/session = 10 hours), as well as one interment and two memorial services honouring donors (5 hours x 2 observers = 10 hours) for a total of 110 hours of formal observation. We identified educational activities and other significant events/locations to observe based on consultation with expert team members, and on advice that emerged from participants during subsequent interviews. Field notes were guided by an observation guide (Appendix A), these recorded notes and reflections surrounding spaces, actors, activities, objects, acts, events, times, and goals.[42] We also engaged in multisensory participation,[38] documenting the sounds, smells, and emotions involved in CBS.

We also completed unstructured observations. These were observational sessions which were documented retrospectively rather than in vivo to reduce reactivity effects[43] and then discussed amongst the research team. They informed our overall knowledge of the program and the scope of the cadaver program. This included visits to the HBD main office (0.5 hours x 2 researchers = 1 hour), the university morgue (2 hours x 3 researchers = 6 hours), the cadaver preparation space (2 hours x 3 researchers = 6 hours), various hospital-based simulation spaces

(3 hours x 2 researchers = 6 hours), and the local anatomy museum (2 hours x 4 researchers = 8 hours). This led to a total of 27 hours of unstructured observations.

In total, we gathered 137 hours of formal observational data.

Interviews. Alongside observations, we conducted 24 semi-structured interviews with learners (continuing professional development learners n = 5 & emergency medicine residents n = 4), clinical teachers (n = 4), as well as family members of past donors (n = 5). As well, human body donation staff (n = 6) included those involved in the administrative (e.g., contacting donors, record keeping), legal (e.g., accepting and managing bodies), and technical (e.g., preparing cadavers) tasks of the CCP program. We identified individuals to interview based on consultation with expert team members. We purposively recruited 24 people and interviewed all who accepted the invitation. Our interview guides were conversational in nature and were tailored to each participant's role (see Appendix B for an example); they were developed by multiple members of the research team. We continuously revised the guides according to evolving themes.

Document analysis. Documents related to the Human Body Donation program and cadaver-based education were also reviewed [n = 22]. This included legal acts and reports related to the process of body donation and burial; documents related to the human body donation program; educational material such as curriculum materials and advertisements; and media coverage. We refined our previously developed document review form to structure this piece of the analysis (Appendix C).[44]

Data Analysis

Our analysis aligned with Wolcott's[45] three-step approach to the analysis of ethnographic data: description, analysis, and interpretation. This approach uses a combination of pure

description (staying close to the data), systematic analysis (identifying key factors and relationships), and interpretation (extending beyond the data, making sense of what is happening). Although Wolcott distinguishes three ways to transform qualitative data, he emphasizes that they overlap and occur simultaneously. Accordingly, we followed an iterative approach to analysis, attuning to how the *concept* of the cadaver changed across the lifecycle, as well as the actors and materials contributing to its progression and transitions.

Broadly speaking, the descriptive phase involved reviewing each data set separately, including by source (document, observation, interview) and by type (observation of emergency residents or continuing professional development course participants; interview with student, teacher, staff, or donor/donor's family), and then reconsidering these insights as part of a broader whole. Three researchers (MF, PC, VL) independently reviewed and coded each data source using qualitative data analysis software (ATLAS.ti) which also assisted with secure data management and sharing.

At the analytic phase, ideas borne from our field work, interviews, and document review were actively translated, discussed as a group, and represented in written form. As we searched for patterns, consistencies, and inconsistencies, we became intrigued by the way in which participants were engaging in philosophical work as they managed the ambiguity of clinical cadavers. In particular, we noted that the ways in which donors/bodies/cadavers were conceived evolved significantly, depending on how they were being used. At this point, we identified the six stages of what we began to refer to as a "lifecycle," and specifically attuned to different language patterns and tasks which in turn allowed us to identify ontological transitions.

As we then engaged in interpretive work, we considered our practice-generated insights from a Deleuzian perspective, focusing on how the conceptual shifts allowed the cadaver to

move through the lifecycle. This interpretive work involved exploring how the cadaver was in a constant state of becoming, and delineating how, at each stage, participants actively created new concepts to make sense of the body in front of them, as they engaged in various types of work.

Ethical considerations

The Nova Scotia Health Research Ethics Board approved this study (REB FILE#: 1023958). No identifying photographs, videos, or audio-recordings of observations were taken in order to preserve the confidentiality of human donors.

Results

Through Human Body Donation (HBD) and CBS, a deceased person participated in a "life after death" where their body "stood in" for a living patient. We describe herein this cycle, from donor enrollment to eventual interment, and the associated ontological transitions at each stage (Table 1). While the elements we describe are specific to the HBD program we studied, we believe the transitions, themselves, are transferable to other contexts.

Ontology focuses on questions of "being"—in other words, "what is." With respect to educational cadavers, the ontological questions were significant: Is this a person? Is this an educational tool? What makes something human? We noted that as a donor's body progressed through the HBD program, the ways in which study participants conceptualized the body changed significantly, and we refer to these changing concepts as ontological transitions. These transitions were apparent in the way participants used language. For example, staff, teachers, learners, and researchers alike interchangeably referred to the cadaver as a person, a "not-a-person", a patient, a specimen, this/that "guy", a body, a him/her, and an educational tool. These shifting ontologies were also apparent in the way participants handled the bodies. At times, they practiced on the body in ways that they would not on a living being; at others, they treated the

body with a tenderness and respect that they likely would never show an inanimate object. In this manner, participants conceived of cadavers as not fully people, but also as much more than things.

The ontological complexity we observed in relation to the cadaver involved uncertain and shifting boundaries between person, human body, cadaver, and educational tool. How the cadaver was understood changed continuously over space and time, fluctuating and evolving in sometimes predictable, but sometimes, unpredictable ways. The following sections illustrate how this philosophical work brought about through professional practices drives the cadaver along its "lifecycle" from person to donor, body, cadaver, educational cadaver, teacher, and loved one/legacy.

We want to state clearly that the stages we describe are not 'neat', nor are they discrete. We have simplified, in order to increase readability and clarify the ontological transitions, but in reality, these stages are not clearly defined nor are they static. Our perspective is that people/bodies/cadavers are in a perpetual state of becoming, and our description of the various stages are only 'snapshots' representing points in time, when we zoomed in to focus on the practices associated with CBS and HBD at a given moment.

We did not set out to deliberately follow a cadaver from point of death to legacy, through the lifecycle we described. In fact, when we began this work, we had no concept of the lifecycle which we would eventually develop through collaborative description, analysis, and interpretation. Instead, we learned about the processes and activities of CBS and HBD through ethnographic immersion. In other words, by being present and building relationships with the people of HBD and CBS, we were able to identify and decide upon events/scenarios to formally observe.

1. Person to Donor

A person became a *donor* after a (sometimes long) process of shared decision-making, bureaucratic work, and careful consideration of ethical concerns. According to the family members we interviewed, most people wished to become donors for altruistic reasons. As many suffered from illnesses that were poorly understood, an overarching wish to contribute "to science" permeated our conversations—as in, to help future generations benefit from a greater understanding of their illness. This wish of donors and family members, we observed, presented a tension for some workers in the HBD program. HBD workers noted that participants often have the idea that their donation will be targeted. One person noted

> 'You know, my husband died of Parkinson's disease, so whatever I can do to help Parkinson's research.' I think [our program] is very honest. We [tell donors and families that we] don't really use the bodies for that, we use them for teaching. [Most donors say] 'oh, well, you know, that's fine too.' But, I always worry that there's a little disconnect. (HBD Staff)

Others clearly articulated that they wanted to help medical students gain "hands-on learning" that they simply "can't learn in a book" or, as one donor noted, "we just thought it was a good idea if we could further somebody's studies." After finding out about the program (usually through family or friends who knew about the program), these individuals or their loved ones reached out to the program and initiated the paperwork involved in providing consent.

After this initial contact, HBD staff needed to accomplish several tasks in order for donation to occur. Much of this work was bound up in the production of texts: developing program materials (e.g., website, information pamphlets, consent forms) and recording-keeping. Our field noting[46] formed a key practice in documenting the evolving nature of administrative

work associated with the transition from person to donor. Our ethnographic immersion provided the opportunity for us to review original ledgers, dating back to the early 1900s, listing the names of donors in handwriting. The documents designed to provide information for potential donors used carefully chosen language, that we described as "calm." Through our analysis of program documents, we noted that "the donation program is easily accessible, respectful, gentle, but firm on its regulations. The language used implies respect and ongoing remembrance (i.e. "lasting legacy")."

More informally, staff also needed to create trusting relationships with donors and their families, manage expectations around donation, and give them the confidence that the body would be treated with respect.

Further, staff grappled with the ethical challenges associated with body donation, such as informed consent. Chiefly, the HBD program considered informed consent "the pillar stone of everything [they] ever do". But what if the donor consented 30 years prior to their death and had not contacted the program since? What if the family is opposed? These are questions the program took seriously:

> Because you don't want to put someone in that situation where they're just horrified by the fact that, you know, their father, mother, brother or sister or whatever would be here. And I think…that that should play a part in whether or not the person…because at the end of the day—it's hard to say this to a family and I never would—but at the end of the day, the person who's dead is not going to know. (Cadaver staff)

A person thus became a donor only after multiple people—including the donors themselves, their families, and staff from the HBD program—made important decisions, engaged

in administrative work and record keeping, took concrete actions, and engaged in inevitable negotiations.

2. Donor to Body

Death is the most obvious marker of the transition from donor to *body*. As one learner illustrated, the difference between a living, breathing person (a *somebody*) and a still, lifeless body (a *something*) felt unambiguous:

> There's a huge difference between the 89-year-old who's under the covers asleep, breathing shallowly, and you're just looking in from the door. But there's something there that you just know they're alive. And when they die, it's gone. And I don't know what it is. But bodies just become furniture. You know, it's like there's a bed, a chair, a TV, and a dead person. Which is much different than there's a bed, a TV, a chair, and there's somebody sleeping in there. (Emergency Medicine Learner)

At the same time, the exact moment that the donor became a body was arguably not the moment the donor died. Rather, it was the moment those around them become *aware* of their death. This moment was up to the discretion of the doctor in charge who made the death 'official' by examining the body for signs of life (e.g., pulse, pupil and tactile response, spontaneous respiration), declaring death, and signing a death certificate.

The declaration of death mobilized a routine set of events that eventually led to the creation of a clinical cadaver. Through our analysis of programmatic documentation designed to delineate what happens "at the time of death", we saw the conceptual shift beginning from a donor to a body. These materials focused on logistics, including instructions on how to proceed, depending on where the death occured. These documents also included the first mention of the

role of the "Inspector of Anatomy," who ultimately determined whether a body would be accepted into the program.

When a donor died in-hospital, nursing staff attended to removing heart and oxygen monitors, intubation tubes, central lines, IV's, body tape, and all other medical equipment from the body. They wiped blood and other substances from the skin, replaced blankets, and closed the eyes. These activities were especially important when a donor died outside of the hospital. In these cases, cleaning the body meant attenuating the horror of death because, in many cases, the appearance of newly dead bodies could be truly unsettling:

> The first time you go and pick up a dead body. Their mouths' open, sometimes their eyes are open, there could be purge coming out of their mouth…you'll get people in a state where they're just, they're not clean. And you're going to get some ulcers…if they soil themselves…they choke on their vomit... (Cadaver staff)

The purpose of these activities was to make the body look "presentable" to the outside world, transforming the way the family will perceive and react to the body, and serving to soften the blow for those who wish to view it.

3. Body to Cadaver

After healthcare workers and HBD staff removed the most obvious signs of illness (e.g., oxygen monitors and intubation tubes) and death (e.g., blood, bodily secretions) from the body, it was ready to become a *cadaver*. A series of specialized, bureaucratic activities from the part of HBD staff served to complete this transition.

Regardless of where the donor died, healthcare workers would contact and inform the Inspector of Anatomy (IoA) as soon as they received the death certificate. Appointed by the Minister of Health, the IoA was the first point of contact to the HBD program. This individual

would communicate with medical personnel in charge of their care, the family, and HBD staff in order to decide whether or not the body should be accepted into the program (i.e., to become a cadaver). Specifically, the IoA verified that the body lacked specific contraindications (e.g., risk of infectious disease, previous autopsy, morbid obesity, major amputations) and contacted the donor's family to ensure their ongoing consent. In circumstances of suspicious death, the medical examiner may have also been involved; need for an autopsy excluded the body from the program. Because the university morgue was only able to hold a certain number of cadavers and the HBD program required certain types of bodies for specific purposes at any given time, clinical cadaver staff aided the IoA in assessing how well the body met their current needs.

HBD workers involved at this stage were engaged in balancing the needs of the program with the needs of a family in distress. One participant described the challenges of managing the bureaucratic work involved in accepting a body into the program.

> I can't act without a death certificate. … So, if someone dies at home, I get a call… The person wishes to donate their body …but without a death certificate, I can't do anything. And so, the body has to either stay at the place of death or at the family's expense, needs to be taken to a funeral home which has cold storage until a decision can be made about acceptance. (HBD Staff)

Once accepted by the program, the cadaver was often temporarily stored in the hospital or local public morgue. When space became available, the HBD program hired transportation staff to bring the cadavers to the university morgue. The importance of storage space was a key consideration throughout and pointed to a conception of the body as a *thing* to be managed. Participants from the HBD frequently described having "room" for a donor, and a need to operate within the physical capacity of the space. Through immersion and observation, the

physical realities of the facilities, and related storage, challenges participants described were made plain. One researcher noted:

> [there were] buckets full of brains and a fridge full of bodies—stacked up on shelves. The hallways were lined with coffin-shaped cardboard boxes on their way to the crematorium. And in the middle of it all, there was a forklift. (Fieldnote)

Despite these physical and logistical storage challenges, in each of these locations, handling of the cadavers was taken seriously. Rather than the typical blue or white plastic bags of the university morgue, cadavers were transferred at this moment to bags of soft embroidered fabric. Despite being independent from the HBD program, transportation staff never failed to arrive fully dressed in formal suits to pick up and drop off the bodies.

4. Cadaver to Educational Cadaver

Once cadavers arrived at the university morgue, HBD staff began preparing them for their educational purposes. These individuals further cleaned the body of its secretions, suctioning the throat and stomach which had continued to build up fluids, and cleaned any further release of feces. They sometimes cut certain parts of the body, such as the trachea and oesophagus, to halt further build-up of fluids. They then embalmed and froze the bodies. To make them as anonymous as possible, they shaved their heads; to identify each body thereafter, they attached tags to their toes with a number corresponding to one in a ledger book. Before each CBS session, staff unfroze these bodies, freshly cleaned and suctioned them, then covered their eyes with surgical caps and the rest of their bodies in blue surgical drapes. The covering of eyes and the top of the head were particularly significant, as one researcher noted:

> Once, though, a cadaver’s face covering slipped, and I could see blank silver eyes, mouth agape and a broad gash roughly stitched across its skull. These details [bothered me].

> Otherwise, strategic covering seemed to do the trick to minimize the difference between a sleeping patient and cadaver. (Fieldnote)

The procedures described above, which HBD staff used to prepare an *educational cadaver*, differed markedly from those traditional embalmers and funeral professionals use to prepare bodies for a funeral service. For instance, bodies prepared for a funeral service are cleaned and dressed for purely aesthetic purposes; there is no reason, in these cases, to sever the trachea and oesophagus or cut open the chest to help visualize the lungs. Consequently, embalmers and funeral directors who were not involved in cadaver preparation often saw these acts as mutilation:

> In a funeral home, I mean everything is, there's a set kind of standard that funeral embalmers should adhere to. Whereas even the smallest diversion [is considered] doing something that you shouldn't. (HBD staff)

Participants described navigating this complexity by focusing on the work and keeping in mind that they were working toward a goal: using the cadaver to generate a meaningful educational experience.

> I find that the more I can concentrate on the task [the better]. … If I do my job properly well that's going to help [learners]. … Here again the same pride and the same attention is to create those teaching materials for the students. (HBD staff)

Hence, the specialized—and sometimes controversial—work of cadaver staff deviated from traditional funeral practices and transformed the cadaver into something different from a dead body: it was in the process of becoming a clinical tool.

5. Educational Cadaver to Teacher

In the simulation lab, dedicated staff placed cadavers on metal tables, covered in layers of moist, yellow-stained white sheets and clean, blue drapes. For short sessions, they often kept the cadavers in their body bags, ready to be zipped back up and returned to their refrigerators. They carefully arranged surgical instruments, machines, and screens throughout the room on side tables and mobile carts.

When the simulation sessions began, teachers and learners, dressed in yellow gowns and blue gloves, encircled the cadavers. The room would be busy as teachers, learners, and cadaver staff worked to provide an optimal learning environment. One researcher described the busyness of the space, noting,

> The way people have to duck around each other to get to different tools or spaces makes me think of navigating a concert crowd – lots of shuffling and trying not to bump anything. (Fieldnote)

The sounds of suctioning and excited voices arose from huddles, and various smells—mostly embalming fluid mixed with bodily secretions—infiltrated all corners of the room. When one attended to it, irony was ripe in this environment. The surgical bonnets that covered the eyes of the cadavers were often decorated with colorful happy faces or teddy bears. On one occasion, a 3-wick candle burned slowly in the background, making the room smell of "sugared snicker doodle."

In these spaces, cadavers became things that were talked about, leaned on, touched, prodded, and cut. While the cadavers remained fully intact, they were conceptualized as a collection of isolated parts (a knee, a jaw, a chest window) that learners examined and manipulated. As they crowded around the body, each learner 'claimed' a body part to work on for the time being, letting another learner take their place when they were finished. The

affordances of the cadaver as an educational tool were clear, as teachers were able to demonstrate different techniques:

> The first group I stopped to observe: the teacher was describing an alternative head position to the "sniffing" position often advocated for in airway procedures. He encouraged participants to try the "sipping" position: how you might sip the top of a beer as you walk from the bar to your table. This description was met with gentle laughter in the cluster of participants gathered around him. (Fieldnote)

Equipment would begin piling up on the cadaver and between its legs. For many teachers and learners, the cadaver was, at this moment, a clinical tool:

> To me when they're there, they're just a…teaching tool. And I don't mean that in a disrespectful way. I mean they're there, I just don't think of them as what they *were*. (Teacher)

> I think part of it is like the, cognitively, we really separate the fact that… We really keep the fact that this was a person kind of separate. We treat them with respect, but we also… I don't think when we're in [the body preparation lab], I don't think very many of us are thinking like about who this person might have been when they were alive or something. I think that that's just sort of a cognitive separation thing that we all have. (Learner)

Both teachers and learners continuously replaced bonnets and drapes that slipped off the eyes and body during the course of the session. While keeping the body covered primarily aimed to preserve the patient's dignity, it also served to reinforce a 'detachment' from viewing the cadaver as a person:

> We try to keep the cadaver as covered up as possible…I've seen over time, students describe like you know they get bothered by seeing—if you expose a cadaver's hands or

> feet. And I think…part of their comfort level in working with a cadaver as a teaching resource is that they may disconnect a little bit from saying this was a person. Where it's a little easier to do some invasive procedures over and over again if you can disconnect a little bit from that. (Teacher)

Despite accomplishing the important work of reducing learners' discomfort in the cadaver lab, teachers and senior learners also reinforced the idea that the cadaver was a (former) person, and reminded learners to treat the body with respect:

> We make a big point…to remind students that they are people. They are patients. We all have different speeches. Mine is basically about, you know, you treat the cadaver as if it's a patient who can hear you and their family members can hear you. And treat them as if they're any other patient. (Teacher)

> I'm still focusing on causing minimal damage…I wouldn't want to do something that I wouldn't do in real life with a real patient. (Senior learner)

Several learners conceptualized the cadaver teacher as an irreplicable resource, and even a lifesaver, or hero. One participant noted:

> I think that the biggest difference is going from what you're doing in [CBS] to the trauma room is so small because it's effectively the same thing … literally the next patient I was intubating like a week later was very similar in terms of their relaxation, the anatomy… you were just there. (Learner)

6. Teacher to Loved one and Legacy

Once the cadaver completed its intended role as an educational tool, the HBD program contacted the family and made arrangements to either return the body to them or to prepare it for

cremation and/or burial in the university's dedicated cemetery. Family members of the donors were invited to an annual interment and memorial service in the Spring.

The interment ceremony happened at a cemetery. The ashes or urns of the donors were set out under a tent with plaques placed on top indicating their names. Attendees placed flowers and keepsakes beside them. A piper played, members of the clergy spoke, doves were released, and a representative from the HBD program read the names of more than 150 donors out loud. The event was both communal and deeply personal.

The memorial service happened in a grand Catholic church. HBD staff, faculty, and students—all formally dressed in funeral wear—joined the families of donors as they filled into the pews. Students contributed by handing out information booklets with forget-me-not seeds tucked neatly inside them. A number of people spoke: clergy, members of the HBD program, teachers, and learners. They spoke of gratitude, grief, generosity, and human connection:

> A number of learners from the various health professions come to the lectern to speak about how they've benefited from the program. For the most part, they're pretty textbook remarks. Thoughtful and kind enough, but the kind of thing you'd expect. But there's one guy who gives the most beautiful, meaningful speech. And, I've thought about this--I think the thing that made it so poignant was the fact that he focused on what connects us as humans. He talked about all the ways we can know someone, how learners come to intimately know the (former?) people they work on. How this is a bond that he shares with the people who were left behind. It's a subtle reorientation of the expected—a way to connect education, grief, and hopefulness. It was perfect. (Fieldnote)

The interment and memorial service was thus dedicated to thanking and commemorating the dead. In this manner, the cadaver-as-teaching-tool faded to the background. In its place, all

celebrated the memory of the generous "hero" who donated their body and attendees appreciated them for all that they have offered, as illustrated in the following field note:

> There is an exceptional moment when one of the speakers asks first everyone who is here to celebrate their parent to stand, then those celebrating their sibling, then their loved one, then anyone who's benefitted from the loved ones' donation – everyone at the end of it was standing and the speaker said "this is the impact, this is the love, this is why we are here" and it was stunning. All of a sudden, the relatively small candle memorial makes sense – it's not just about the person's body but about the love they shared and the lives they've touched, all combined a massive and powerful energy that could never be captured by a display on a stage.

Discussion

Central to the complexity of cadaver work is what we refer to as its ontological ambiguity: the inability to qualify the cadaver as either a person or a thing; human or not human; or as a teacher or a tool. This distinction is becoming ever more ambiguous with the development of novel preservation techniques that render cadavers less and less distinguishable from the living. We recognize that some of the stages of the lifecycle we describe are not necessarily unique to clinical cadavers. Certainly, a traditional hard-fixed cadaver is transformed as it is used differently, in different contexts. We believe, however, that the philosophical work may be less troubling when the cadaver is rigid and grey—its humanity is perhaps easier to overlook. The ontological fidelity of *clinical* cadavers inspires specific practices at each stage of the lifecycle, which we identified in noting, and classifying, the ways in which people speak and act. These sayings and doings[36] are a product of the nebulous, but undeniable, humanness of clinical cadavers.

We observed that there is both an art, and a science, to CBS. With respect to art, the ways in which cadavers are prepared and presented was artful, with workers taking pride in presenting lifelike specimens that encouraged an interaction closer to a real clinical encounter. With respect to science, we noted the innovations in preservation techniques, the refined skill, the testing of tools and devices. The philosophy of cadaver-based simulation, however, was more nebulous to identify. Yet, once we attuned to it, it became clear that philosophical work was, in fact, foundational to CBS.

From a Deleuzian perspective, then, people engaged in CBS are *doing philosophy*.[47] This involves the conceptual, emotional, ethical, and technical work of managing ontological ambiguities as the cadaver passes through the lifecycle and is actively shaped by professional practices. While the making and remaking of teaching cadavers as anatomical objects is an important consideration[20] and the relational/social elements of cadaver-based pedagogy[21] have broadened our understanding of the complexity of educational cadaver work, attuning to the philosophical transitions across the lifecycle of a cadaver adds a nuanced element to the conversation. The transition from person to donor allowed participants to plan and organize for how a body will be used after death. The ontological transition from donor to body that occurs at death allows the process to be set in motion for the actual hands-on work of cadaver-based education, which is intended to save future lives. The transition from body to cadaver meant that participants were able to make decisions about what to do with a particular body, in a particular set of circumstances. The transition from cadaver to educational cadaver allowed participants to depersonalize the cadaver as they focused on “the greater good”: future, imagined patients who will need their care. The transition from educational cadaver to teacher allowed participants to do things to the cadaver, practicing clinical skills and procedures. Finally, the transition from

teacher to legacy allowed participants to reflect on the complex work in which they engage, providing space to honour donors, and returning us to the start of the lifecycle where we remember the personhood of those who gave the gift of their body.

This philosophical work of ontological transitions is foundational to the tasks that must occur at each stage of the lifecycle. It is difficult to imagine, for example, cutting into a body to observe its anatomical structures had we never stopped thinking about that body as a person. We believe this philosophical work is in fact, "pre-empirical."[35] This means that before we can engage in the art or science of cadaver-based education, we must first engage in philosophy, which Deleuze & Guattari defined as "forming, inventing, and fabricating concepts." [35(p2)] The concepts which participants created in order to make sense of the body before them are inseparable from the professional practices of CBS.

Ontological Fidelity

The literature on CBS has primarily been focused on issues of simulator effectiveness. [22-27-34] In particular, CBS is appealing to medical educators because of its high *fidelity*, defined as the degree of realism, or exactness with which it reproduces reality.[48] Medical educators generally recognize two types of fidelity: physical (i.e., similarity in the look and feel of the simulator) and functional (i.e., similarity in how the simulator responds to manipulation or intervention).[49] Our study of CBS suggests, however, that there is more to fidelity than physical and functional. Specifically, we argue that there is a third relevant type of fidelity: *ontological fidelity*.

It is undeniable that ontological fidelity matters. In contrast to traditional, hard-fixed cadavers, there is something inherently unique to the clinical cadaver that makes it distinct from both the manikin simulator and the living body. The cadaver is human, and therefore needs to be

treated with tenderness and respect. The cadaver is not, however, a living person, and therefore can be cut, prodded, and manipulated like an educational tool. The cadaver has a smell, a feel, and a story. The seriousness with which trainees approach CBS is thus incomparable to any other learning activity. Our study thus demonstrated that the question of being—what a cadaver *is*—matters to the practice of CBS, and makes it a unique and irreplaceable practice. Arguably, the most technologically advanced, *high-fidelity* manikin will never replace a real human body, because you simply cannot fake "human."

We believe ontological fidelity may be the missing piece related to Deleuze and Guattari's three modes of thought (art, science and philosophy).[35] If art allows us to represent the sensory and perceptual aspects of a concept; science allows us to explain and manipulate its functions; then philosophy allows us to delineate and create new concepts. Conceptualizing fidelity as physical, functional, and *ontological* can help us represent CBS artistically, scientifically, and philosophically.

The concept of ontological fidelity of cadavers is a consequential one. Along with the emotional elements of working with 'silent mentors' as described by Douglas-Jones,[29] it provides an important argument against eliminating in-person cadaver work. There has been some argument that cadavers are no longer necessary in the modern era. Particularly during the COVID-19 pandemic, there have been notable advancements in virtual technologies for anatomy learning that could eliminate the need for expensive and resource-intensive clinical cadaver programs.[50] However, our research suggests that the level of human-ness of the cadaver—something much more difficult to convey through a screen—matters.[39]

Olejaz[41] describes the dissection lab as a *moral laboratory*, a space in which we may come to understand ethics training in practice, as well as a space where students are given a

chance by donors to learn how to deal with the ambiguity of human bodies that are used for dissection. Similarly, the teaching spaces associated with CBS serve as a *moral pedagogy*. It is in this unique environment that learners across the continuum of medical education grapple with the material form of the cadaver in front of them, creating new concepts to facilitate the tasks that must be accomplished. While there are certainly other educational tools available in the form of manikins or other such simulators which enable the teaching of procedural skills, we believe that the ontological fidelity of cadavers, and the philosophical work associated with its use, are irreplicable.

Working with a real human body is inherently different from working with any other type of simulator in ways that influence what is, is not, or can be learned from simulation.

Limitations

In typical ethnographic tradition, our practice-based study provides an in-depth description of only one institution. The preparation of *clinical* cadavers, in particular, is unique to a limited number of institutions. While we believe the insights garnered herein translate to other contexts engaging in both human body donation and other types of cadaver-based education, we cannot guarantee the transferability of our work.

We drew on Deleuze and Guattari's What is Philosophy in order to demonstrate how philosophical principles can help us to reconsider important educational concepts. However, what we present here is simplified, focused, and intended to be instructive. We encourage readers who are motivated to engage in philosophical work in their own contexts to read the original contribution,[35] in order to understand the subtleties of Deleuze and Guattari's perspectives on art, science, and philosophy.

Conclusion

Cadaver-based simulation is a promising, and fascinating innovation within the long history of cadaver based medical education. The educational cadaver, itself, exists in a space between life and death, and is in a cycle of "becoming" because of the practices performed by an interprofessional team both visible and behind the scenes. The "humanness" of the cadaver makes it a difficult material to categorize. However, this ambiguity also makes a powerful educational tool, inspiring not only procedural skills learning, but also conscious and unconscious reflection, made evident in the ways in which participants spoke about cadavers, and in the things they did, or did not do, to them. CBS, then, unsettles fixed ideas about the life/death binary, and about the practices required to establish educational relevance. We support Deleuze and Guattari's perspective that, when it comes to CBS, "what is real is the becoming, itself, the block of becoming, not the supposedly fixed terms through which that which becomes passes." [35(p238)]

Teachers, learners, and cadaver staff are actively *doing philosophy* as they manage the ontological malleability of cadavers. We believe this pre-empirical philosophical work is, in fact, the motor that drives CBS. Without conceptually managing and materially enacting these ontological transitions, the work of CBS would not be possible. We hope that in reflecting on the philosophical strategies invoked by our participants as they manage the cadaver across its educational lifecycle, this paper sheds new light on the complex world of cadaver work in medical education.

Compliance with Ethical Standards

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The authors have no conflicts of interest to report in this work.

Ethical approval

This study was approved by the Research Ethics Board of the regional health authority.

Informed consent

We obtained informed consent from all the participants in this study. We followed standard procedures as outlined by the Tri-Council Policy Statement (TCPS-2): Ethical Conduct for Research Involving Humans Course on Research Ethics (CORE).

Presentations

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Previous Philosophy in Medical Education Installments
Mario Veen & Anna T. Cianciolo (2020) Problems No One Looked For: Philosophical Expeditions into Medical Education, Teaching and Learning in Medicine, 32:3, 337-344, DOI: 10.1080/10401334.2020.1748634

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Associated Podcast
Let Me Ask You Something (iTunes, Spotify, Google Podcasts and https://marioveen.com/letmeaskyou something/

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Table 1

The 6 Stages of the LifeCycle of the Clinical Cadaver

	Activities	People	Location
1. Person to Donor	Developing program materials, interacting with potential donors, creating records Creating relationships, managing expectations, having awkward conversations	Human Body Donation (HBD) Program Administration	University-based, Human Body Donation program office
2. Donor to Body	Declaring death, cleaning bodies Emotional work: getting used to dead bodies, deciding how to present a body to loved ones	Healthcare workers, HBD staff	Largely health care facilities
3. Body to Cadaver	Bureaucratic work: notifying HBD staff, assessing eligibility; moving the bodies Creating professional, serious appearance; setting professional boundaries	HBD staff, Transport staff	Loading bays, vehicles
4. Cadaver to Educational Cadaver	Preparing the cadaver for education, suctioning, shaving, de-personalizing, cutting, anonymizing Deciding how human is human enough, recognizing and concealing signs of death, managing professional expectations	Anatomy Technicians (trained as funeral directors)	Morgue & Prep Space
5. Educational Cadaver to Teacher	Delivering the cadavers, laying out the cadavers, preparing them for specific skills/practices, priming learners for what they will experience Keeping the space clean, mopping up, encouraging learners, reducing discomfort, reminding learners of the cadaver's human-ness	Transportation staff, simulation technologists, medical teachers	Simulation space
6. Teacher to Loved One and Legacy	Cremating, memorializing donors, organizing service, reciting names Managing the cultural/religious element of death, finding the right tone	HBD staff, learners	cemetery, church

Appendix A

Field Notes & Memo Template

Basics – Please fill out with care	
Your Name Date of your observation Start Time End Time You are physically present @? Which room (number)? What program? What type of CBS session? Is this a stand-alone memo? Other notables?	

Research Questions
1) How do bodies, learners, tools and spaces come together in everyday practices of CBS? 2) How are these practices situated within wider processes and discourses of simulation learning in the health professions? 3) What is the potential role of CBS in a competency-based postgraduate program? 4) How do social and material dimensions of CBS shape teaching and learning in this context?
Observation Starting Points
9 Dimensions - James Spradley (1980): 1. Space: the physical place or places 2. Actor: the people involved 3. Activity: a set of related acts people do 4. Object: the physical things that are present 5. Act: single actions that people do 6. Event: a set of related activities that people carry out 7. Time: the sequencing that takes place over time 8. Goal: the things people are trying to accomplish 9. Feeling: the emotions felt and expressed

Description:
(Add lines as needed)
Interpretation:
(Add lines as needed)

Thank you for your participation. Please save and rename this document (Field notes_session name_Date_Your initials) and submit to Caine Meyers at caine.meyers@dal.ca.

Appendix B

Interview Protocol (Human Body Donation Program staff, Clinical Cadaver Program staff)

Note: These are semi-structured, in-depth, open-ended interviews; therefore, the format/conversation will be fluid; however, the interview will follow this general format.

Introduction: The research team is interested in hearing about your experiences working within the Dalhousie [Human Body Donation Program/Clinical Cadaver Program]. I'm going to be asking you a bit about yourself. Then, we'll be talking more about your work experiences.

As a reminder, you are not required to participate in this interview. Also, if you'd like to withdraw at any time, you're free to do so, without prejudice. You do not need to answer any question that makes you feel uncomfortable. Do you have any questions before we begin?

Learning about the participant
Please tell me a bit about yourself.
When did you first start working within the Program?
When was your first experience working with/in relation to cadavers?
Please describe your experience with [human body donation/clinical cadaver preparation and teaching] at Dalhousie and elsewhere.

Human Body Donation/ Clinical Cadaver Preparation
How has your experience of facilitating [human body donation/ clinical cadaver preparation and teaching] been so far?
Have you had any emotional reactions to [human body donation/ clinical cadaver preparation and teaching]? Please describe.
Do you feel there are any ethical complexities teaching/working with cadavers? Please explain.
Complexities of working with human body donation/cadavers
What are the benefits of [human body donation/ clinical cadaver preparation and teaching]?
What are the challenges of this work?
Can you describe the physical experience of working with cadavers in this context?
Imagine you must give instruction to a double who will have to replace you in your professional role. Please walk them through the process of [human body donation/ clinical cadaver preparation and teaching] so that the double can fulfill your responsibilities.

Conclusion
Is there anything you'd like to discuss which we did not cover during this interview?

Thank you for participating. Please feel free to be in contact if you have further questions and/or comments. I'll be sending you, via e-mail, a copy of the transcript of your interview within three weeks. I'll ask you to review your transcript, note any changes/additions/deletions and return it to me within two weeks. If I have not heard from you following the two-week period, I'll assume you have no changes.

Appendix C

Textual/Analysis Guide & Form

Textual/Video Analysis Pointers
Key points to keep in mind as you're reviewing the text:

- Think about what the purpose of this Text/Video might be. What does it accomplish?
- Who (individually or collectively) is involved in producing this Text/Video?
- The Text/Video generates effects. Think about what the effects might be.
- Think about the less obvious (i.e. hidden) meanings communicated through this Text or Video.
- Who and what do these Texts/Videos render visible and/or invisible? How?
- What is explicit? What is implicit?
- What is your 'gut' reaction to the Text/Video?

*Remember: There are no right or wrong ways to review a Text/Video. We're interested in your impressions.

Text/Video Analysis Form (please complete)

Name of Text/Video Reviewed:
Date of Text/Video Review:
Your name:

General
What type of Text/Video are you reviewing (policy, governing document, information document, website, lecture slide, etc.)?

First Impression/Appearance
Comment on the appearance of the Text/Video (Is it professionally designed? Is it an internal document? Dalhousie brand? What is this text telling you about the institution it is associated with? Etc).

Analytical Questions

- What do you think the Text/Video is *meant* to do (purpose)?
- What do you think the Text/Video is *actually* doing (effects)?
- What was your reaction to the text and why?
- What stands out about the Text/Video and why?

How does your position in the world (personal i.e., mother, son, hiker and professional, i.e., student, academic, photographer, physician) influence how you read this text?

Other Comments?

Thank you for your participation. Please save and rename this document (something descriptive related to the document reviewed) and email to: caine.meyers@dal.ca