



Thanato-technics: Temporal Horizons of Death and Dying

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Abstract

Advances in end-of-life technologies increasingly destabilize received notions of personhood, identity, and ethics. As notions of personhood and identity within such systems are made to conform to discrete, binary and less fluid categories, some in the West have sought guidance in the techniques and views related to the dying process cultivated in other cultures, particularly Tibetan Buddhism. This article considers such dynamics as they unfolded in research focused on the postmortem bodies of Tibetan Buddhist practitioners in India. This article introduces the term *thanato-technics* to highlight the temporalities, imaginary or otherwise, evoked, enabled, and invested through the use of technologies to ascertain or conjecture about the intrasubjectivity of the dead and dying.

Keywords Brain death · Tibetan Buddhism · Meditation · Postmortem · Technics

No, it is in death that immortality yields to an “unexperienced experience,” in the instant of death, when death arrives, where one is not yet dead in order to be

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already dead, at the same instant. At the same instant, but the tip of the instant is divided here: I am not dead and I am dead. At that instant, I am immortal because I am dead: death can no longer happen to me.
(Blanchot & Derrida, 2000, 67–68)

I am sitting across from Karma in his humble yet comfortable room in Dharamsala, India. Tirelessly spinning his prayer wheel (*'kor lo; korlo*),¹ he moves his prayer beads through his fingers and tells me how his life in Tibet preparing the deceased for cremation provided the foundation for his role in the exile community. The most important thing, he says, is to be able to discern whether the person has fully died. Tibetans, he continued, believe that even after what would be called clinical death, there remains an “inner wind”² which is considered inseparable from awareness. For most people, this inner wind remains in the body after clinical death for as brief a time as a split second up to three days before departing. In the case of some advanced meditators, this “inner wind” can last for several days or weeks during which, it is said, the body does not decay. This state—the presence of subtlest consciousness in the body for the purpose of achieving enlightenment after clinical death and during which the body purportedly does not decay—is known as *thugs dam* (*tukdam*). Knowing when a person is truly dead is very important in the Tibetan view, for if the person were cremated while the inner wind is still present, it would be akin to murder.

Karma went on to lament that Western-trained Indian and Tibetan doctors at the local biomedical hospital do not know how to properly determine when someone is dead; they have given that responsibility to the machines, he says. When at the hospital, he often protests that doctors declare death too soon, thus putting the decedent at risk spiritually and making it difficult for Karma to do the required end-of-life rituals in the prescribed manner. However, in the absence of some proof of an “inner wind,” the doctors are bound to act in accordance with their professional obligations and the information their equipment presents to them. Karma tells me that after one such instance, he pressed the doctors: could they prove that there *wasn't* an “inner wind”? Were these machines designed to or even capable of detecting “inner wind” if it did exist? One machine registers breath and another heart rate; shouldn't there also be a separate one for the “inner wind”? Karma paused after telling me this story and, still spinning his prayer wheel, let the silence between us slowly fill with the sound of distant dogs barking and the rhythmic ringing of the temple's bell.

As advances in medical technology become more widely available and specialized, the ethical and cultural difficulties which surround death and dying increasingly

¹ On the first occurrence of Tibetan words, spellings are given in parenthesis according to the Wylie system of transcription (Wylie, 1959) followed by phonetic pronunciation. Subsequent appearances of the word will be phonetic and italicized.

² The Tibetan is *shin tu phra ba'i rlung sems* and can be translated as “extremely subtle mind-wind.” Wind (*rlung; loong*) is a polysemous word, primarily denoting in this context motility, breath, life-force. All occurrences of “inner wind” carry these registers and the reader is encouraged to hold them equally when encountered. Further, the mind is said to be born along by wind and are like a rider and its mount; they are joined at conception and separate at the moment of final death.

disrupt traditional notions of personhood, identity, and social obligation (Agamben, 1998; Bauman, 1992; Haraway, 1991; Lock, 1996). Broadly speaking, technologically assisted assessments of life and its maintenance reinforce a reductionist view of the body as a mere biological mechanism; a view that, to some, has led standard health care down a path inimical to those culturally ordained conceptions of life and identity necessary to bestow meaning and dignity (Gawande, 2014; Kaufman, 2006). We see this in the struggle to reshape ethical frameworks and narratives of meaning as patients and families navigate the costly, ambiguous, and unprecedented decisions involved in the use of technological assistance to increase the length—though less often the quality—of life. Predictably, the search for ways to cope with these challenges has intensified.

The Buddhist tradition figures prominently in this quest providing, for example, meaning making models for hospice workers and their patients as they face the end-of-life (Bruce & Davies, 2016; Chaoul, 2009; Garces-Foley, 2003; Halifax, 2009; Johnson, 2011; McNamara et al., 1995; Smith-Stoner, 2005). Partly, as we saw in Karma's account of the Tibetan Buddhist view, this is because though the body is seen as a necessary *support* for mind or consciousness or personhood and identity, these are not reducible to the body; mind—and the person, to some extent—remains something other than the body. Following the development of cybernetics and systems theory in the 1960s, the metaphysical and ethical systems propounded in Tibetan Buddhist philosophy not only appeared consonant with mechanistic views of consciousness and identity but seemed also capable of providing an ethical worldview not wholly incompatible with that reductionist, mechanistic view. Broadly speaking, this was because of Tibetan Buddhism's metaphysical and philosophical emphasis that the phenomenal world is based on emergent properties rooted in dynamic combinations of more fundamental material processes (Lott, 2016; Pickering, 2011; Varela et al., 1991). Thus, the Buddhist emphasis on such aggregates seemed a philosophical cousin of the reductionist view. Both views asserted that complex systems—such as persons—arose merely as autopoietic effects of less complex systems. Complex systems may be consequential, but are equally fleeting and conditional, thus ultimately insubstantial. To this extent, Occam was appeased, at least to the point where a dialog could begin. Furthermore, buoyed by Romantic and Orientalist fantasies of “Eastern” modes of thought being uniquely sprung from an *Ur* encounter with the mysteries of life and death, the possibility of integrating such seemingly disparate worldviews offered hope of articulating less reductive perspectives on life and the nature of the mind. Historically, this hope was also bound to fantasies and anxieties concerning the unique power of the knowledge held by indigenous groups and cultures perceived as *ancient* to revive the ailing West (Hilton, 1933; Taussig, 1987).

The path of this aforementioned quest extends beyond hospitals, hospice, and palliative care. The effort to re-enchant (Weber & Heydebrand, 1999) the technologies, institutions, and knowledge systems which structure the difficult and psychologically unwieldy effects that attend life support and end-of-life assessments and can also be read in the development and implementation of a unique scientific research collaboration unfolding in India and centered on the meditations at the time of death Karma alluded to above.

The Field Study of Long-term Meditation Practitioners, known also as *FMed* or the *Tukdam Project*, is a collaborative research study undertaken by the University of Wisconsin-Madison's Center for Healthy Minds (CHM) in partnership with Men-Tsee-Khang (Tibetan Medical and Astro Institute) and Delek Hospital in Dharamsala, India. Broadly speaking, the Project seeks to scientifically ascertain the effect of long-term meditation practice on the levels of awareness and arousal near the end of life among a specific group of long-term meditation practitioners (Lott et al., 2021; Thompson, 2015). The Project has as its special focus the phenomenon mentioned above by Karma; *tukdam*, a type of meditative state in which the decomposition associated with the postmortem state is allegedly held at bay by the presence of an abiding inner awareness following clinical death.³

The FMed Project was first conceived in 1992 in conversations between Dr. Richard J. Davidson (CHM) and Tenzin Gyatso, the XIV Dalai Lama as part of a larger effort to conduct empirical research on Tibetan meditative practice (Bstan-'dzin-rgya-mtsho, 2004; Bstan-'dzin-rgya-mtsho, 2006; Henig, 2016; Lott, 2016; Thompson, 2015). In 2008 and again in 2013, equipment to measure brain activity, heart rate, and respiration were designed, assembled, and sent to India by CHM and Tibetan physicians were trained by members of CHM to conduct the research (I joined that effort in 2016 and worked on the project as a researcher and project manager through 2020). One early goal was to collect data that would examine the Tibetan Buddhist tantric tradition's designation of an aspect of the subtle anatomy area near the anatomical heart as being the most salient region of the body in *tukdam*. Early iterations of the project, for example, employed infrared cameras in the ultimately unsuccessful attempt to detect and corroborate whether there was warmth at the area of the heart. While a key factor in the emic determination of *tukdam*, this focus on the area around the heart was in contradistinction to the biomedical view (of which more below) that wagers that if there is some form of residual awareness or consciousness (neither term being adequate) then it may be detectible through the presentation of auditory stimuli to monitor the brain's response while using EEG. This approach is supported by studies which show that certain auditory stimuli evoke a response from the brainstem independent of conscious attention or higher cortical function (Sussman & Shafer, 2014). The presence and strength of these signals have been shown to be predictive of vegetative patients regaining some form of consciousness (Wijnen et al., 2007). Relatedly, recent research with animal and human subjects have shown some evidence of sustained EEG activity following the moment of clinical death (Kongara et al., 2014; Norton et al., 2017; van Rijn et al., 2011).

Below, I return to Karma's story to explore the multiple ways in which temporal horizons—biological, physiological, soteriological, historical—around death and dying are negotiated within the exile Tibetan context, specifically in response to the presence of FMed.⁴ I begin with an attempt to frame that discussion by introducing

³ While beyond the scope of this paper, I address the relation of this phenomenon to Japanese *Shokushinbutsu*, Jain *Samadhi-marana*, and the Catholic *Incorruptibles* in a forthcoming work.

⁴ For an exploration of these dynamics centered on the aroma of the deceased studied in the FMed Project, see Lott (2024).

the term *thanato-technics* to highlight the reconfigurations of local conceptions (spiritual, personal, cultural) of the temporal dimension of peri- and postmortem processes relative to technological assessment and intervention.

Thanato-technics is a term that builds on Bernard Stiegler's (1998, p. 189) assertion that humanity's development of technical skill and material tools arose with and exacerbated the awareness of our own mortality, thus making it impossible for *Homo sapiens* to know itself as anything other than a species set apart, in some deep sense, from the world; material culture bears witness to, inscribes and is the inscription of a certain kind of rupture. This assertion—mythic because it speaks of the circumstances that gave birth to knowledge *as such* so stands in some sense outside of it—highlights the fact that humans are daily confronted with their own mortality through the presence of traces, what Stiegler calls *technics*. We are born into a world irredeemably shaped, fashioned, and marked by intentions and agencies of those now dead. For Stiegler, since an awareness of our own mortality is co-effected with the emergence of material technology, it shares the same ontological horizon. Thus, awareness of *technics* impels us to develop an anthropology inclusive of philosophy and vice versa; an account of *Homo sapiens* that takes seriously how awareness of itself as mortal has made it something other even to itself. Artifice—the trace of a mind at once like ours but other and no longer present—brings us face to face with that otherness within which is our own non-being; our mortality.

In his account, Stiegler does not pause to consider the role of ethnography—the open participatory inquiry into the myriad ways in which this awareness of mortality quickens humanity into language, culture, history, and meaning—in this proposed imbrication. Ethnography reveals the way in which philosophy (in Stiegler's sense) is lived. Given, in this view, that social systems are the collective expression of an organism ravaged by the awareness of its own mortality, we might speculate how such a philosophical anthropology would develop through a consideration of contemporary discourse around risk, bio-politics, terror, responsible death, and ecological burial. Thus, *thanato-technics* would index the ideological and temporal horizons, and not just material structures, which technology engenders in our experience and intimations of our own mortality.

In what follows, I carry Stiegler's suggestion of the link between mortality and technology into the ethnographic context and return to Karma's story following a brief sketch of the physical changes marking temporal processes in the Tibetan Buddhist and biomedical conceptions of the dying process. To conclude, I bring this ethnographic material into dialog with theoretical discussions about the role of technology in shaping the temporal domains of death and dying (including the historical) and reflect on the possible significance of FMed research in the context of Tibetan exile. In presenting these accounts, we want to be mindful of the ontological and epistemological understandings of "death" that each account of dying sustains through presuppositions about the moment of death and the means of assaying that moment. This, in turn, will allow us to better consider the ways in which the

presence of the thanto-technical aspects of the research effort reconfigures what is at stake in the timing of death as an object of inquiry for each collaborative domain.⁵

Temporalities of Death and Dying

Increasingly, in industrialized societies, what is called dying and death are defined in relation to the goals of managed care. They are understood as states that variously reflect the possibility of situating someone somewhere on a matrix generated by the intersection of economic, technological, legal, and donative imperatives. These spaces are themselves historically linked to efforts by American and European doctors in the 1800s to eliminate the ambiguity and uncertainty around death and thereby solidify their professional position and limit liability (Alexander, 1980). During that period, the rapid increase in the number of dead occasioned by war, and the spread of disease associated with the rise in city populations amidst poor sanitary conditions, meant that it was no longer feasible to wait a customary number of days before burial. This state of affairs intersected with a growing professional demand for fresh corpses for dissection. In this shifting temporal landscape, the absence of heartbeat and the cessation of respiration when *determined by a member of the medical professional class through the then new technological means of auscultation via stethoscope* supplanted putrefaction as the conclusive sign indicative of death. The establishment of such standards further relieved doctors of the ethical obligations occasioned by having to wait for the bodily signs of decomposition to emerge.

Today, we have developed mechanical means to sustain respiration and heart rate; technological advances which have not erased, only complicated, questions of ethics and professional responsibility. Since more *can* be done, the question of what *should* be done is ever more pressing. Further, attempts in biomedical contexts to address the question of what ought to be done cannot be separated from question of legality and economy, let alone questions of the personhood and the religious or cultural identity of an individual so sustained.

In the context of the FMed research, the biomedical and Tibetan views of death are brought into such proximity that the very notion of death is reconfigured as a site for the construction of a multiplicity of *epistemic objects* (Rheinberger, 2009). By construing *death* as an epistemic site of object construction, it becomes something which science believes it can act upon (generate knowledge of, by, or from) through procedures, tools (Chang, 2011), and temporalities. As we will see, this intersection of tools and knowledge systems around the question of death and dying reconfigures the decedent into multiple objects (Mol, 2002), and I contend, multiple temporalities. In this context, *death* arises as a discursive and conceptual nexus for *epistemic objects* defined as the absence of yet another complex nexus of *epistemic objects: life*. Operationalized for research, *death* becomes the *measurable* absence of

⁵ A forthcoming work by the author explores these epistemological and ontological questions in relation to the economics of patronage, at personal and institutional levels, in the exile Tibetan community and the US.

respiration, circulation, and brain activity. From the standpoint of the *technological object*, this absence has a positive ontology insofar as an absence is detectable as *the* absence of a particular type of signal ostensibly detectable from the *epistemic object* as defined by the *technological object*. As we will see below, within the Tibetan framework and Karma's intervention in the hospital setting, *death* also reveals itself to be an *epistemic object* pregnant with a range of temporal and cultural possibilities, *tukdam* among them. To anticipate, in elaborating another system of differences, temporalities, and practices by which to characterize *death*, the Tibetan tantric system calls the biomedical inflected *epistemic object* into question (Lott, 2024). Insofar as *death* is configured as an *epistemic object* by FMed, its binary character (dead or alive) is displaced, generating multiple objects as a function not only of physiological or technological time but of soteriological, historical, and even revelatory time. Let us examine both framings in turn.

In the biomedical account, those nearing the time of death may experience varying levels of awareness, hallucination, disturbances of memory, blurred vision, and distorted auditory perception. As death approaches, one loses muscle tone and respiration is disturbed. Those who attend the dying have noted at times a surprising lucidity before the moment of dying, emerging even from delirium or unconsciousness. Some palliative care workers have anecdotally reported witnessing *lacrima mortis*; a final tear signaling the moment of death (Lichter & Hunt, 1992).

At the moment of clinical death—the “irreversible cessation of respiration and heart activity” (Perper, 2006, p. 14)⁶—the brain and other organ systems of the body become starved; oxygen and nutrients are no longer circulated and waste products from cellular metabolism can no longer be cleared. As the brain no longer receives nutrients it ceases to function, identity and consciousness are presumed to have been terminated and there is no reason to expect any degree of phenomenological awareness or subjective experience.

A predictable process of decay and decomposition follows. The timing of these changes is fairly standardized as to be useful to forensic scientists in the attempt to determine the timing of deaths which occur outside of controlled conditions. This “postmortem clock” (Perper, 2006; Wescott, 2018) begins with the cooling of the body, which will reach room temperature within a few hours. This and other changes also depend on diet, the ratio of muscle to fat, general health, and ambient environment (wind, temperature, humidity, exposure). For example, in someone who dies with undigested food in their stomach, we would expect to see a more rapid bloating of the stomach as certain strains of bacteria are no longer in check.

In addition to bloating and cooling of the body, blood will pool in areas that are in contact with surfaces and follow the pull of gravity. This will result in discoloration and blanching anywhere from 20 min to a few hours. Flaccid immediately following death, muscle tissues no longer have a way of removing waste products. Consequently, the fibers effectively become glued to each other and become rigid (*rigor mortis*) within 12 h postmortem. In males, the muscles of the seminal vesicles

⁶ This paper will not delve into the question of coma, vegetative, or other minimally conscious states. These, and the question of brain death and organ donation in the Buddhist context will be explored elsewhere.

may contract to release semen (one of the signs, we will see below, signaling the end of *tukdam*). Within 24 h, this rigidity has passed as the tissues themselves begin to decompose.

The processes of decomposition continue with the breaking down of cell membranes that in turn feed bacteria and autolysis, in which the enzymes of the body begin to dissolve its own tissues. As bacteria proliferate, the effects of putrefaction become noticeable within 24 to 30 h (depending on climate): the skin becomes waxy; the abdomen bloats and turns green; a malodorous smell pervades the area; the tongue and eyes may protrude, pushed forward by the pressure of gases and the liquefaction of underlying tissues; the skin starts to slip and peel away; the nail beds shrivel. These processes should all be evident within the first 48 h following death in temperate environments.

According to the particular set of Tibetan Buddhist views we are considering here, all of these physical processes are noted and defined but are themselves taken as indicative of an occurrence at another level. For, in our time of dying, humans are said to have the opportunity to glimpse the fundamental nature of mind, an opportunity that depends uniquely on the conditions that obtain during the process of dying.⁷ During the normal actives of living, our fundamental nature is obscured by the activity of our minds, our unvirtuous actions, etc. Furthermore, the flow of the “inner wind” Karma alluded to above is subject to perturbations and stagnations that, in turn, trouble our ability to be consciousness of our true nature, a disturbance that can be reflected in the coarse physiology of the body. Tantric practices are designed to remove those disturbances and restrictions in order to allow the energy of the body to move more freely and for realization to dawn.⁸ Since, under all conditions, this permits perception of one’s fundamental nature, it is of utmost importance to preserve a calm mind at the moment of death.

When death is near, one’s dreams or the dreams of one’s physician may portend the event. The input of astrologers may also be sought and considered. As the moment of death approaches, substances in the body begin to interact in ways that produce both outward signs and internal experiences. In part, this is facilitated by the withdrawal of various types of winds along various pathways into what is called the central channel; a subtle aspect of one’s body⁹ that parallels the spine, extending from just below the crown of the skull to just above the perineum. While alive, the top and bottom of the central channel are capped by the white and red substances, respectively. These are of the same substances that were present from the parents

⁷ What follows is a very brief overview of the Tibetan Buddhist conception, largely inflected in conversations with informants in the field. For more detailed descriptions, readers are encouraged to examine (Bstan-'dzin-rgya-mtsho (Dalai Lama XIV) et al., 2020; G'yu-thog and Bod Gzhung Dbus Sman-rtsis-khang Translation Department, 2011; Garrett, 2008; Hackett, 2019; Rinpoche et al., 1979).

⁸ Think of an empty garden hose loosely wrapped around itself; as soon as water is set flowing through it, constrictions form proportional to the strength of the flow. The dissolution and dying practices which are performed while alive are designed to bring the winds into the central channel. This has the result of weakening the flow and constrictions of winds external to the central channel and so allow one to experience, albeit as through a glass darkly, something of the fundamental nature of mind.

⁹ See Samuel and Johnston (2013) for a discussion of various types of “subtle bodies” in different cultures.

during conception and were pushed apart as the central channel elongated with the development of the physical body. During the dying process, these move toward each other again and, in so doing, restrict some registers of consciousness by condensing the “inner wind.” This movement is preceded by, and itself initiates, a set of parallel yet related processes that occur at the level of gross anatomy, subjective experience and, increasingly, extremely subtle dimensions that are consequential yet elude or stand beyond ordinary consciousness (cf. Derrida’s “unexperienced experience” alluded to in the quote above).

Once the winds and consciousnesses have completed their retreat into the central channel, one would be pronounced clinically dead: the heart and respiration have stopped. However, since wind is still present in the body, it continues to generate effects.

In the time following what would be considered clinical death, a series of extremely subtle processes continue. At this point, there is no trace left of the coarse, individual mind; there is only the subtle mind apprehending itself. There is no sensory awareness as such; the mind cannot be disturbed by sights, sounds, smells, or physical contact or movement.¹⁰ If one continues to retain one’s awareness (an ability gained by right training and right livelihood), one experiences the clear light of death and mind apprehends its true nature. It is the duration and effects of this apprehension and of the presence of this internal subtle mind-wind complex that is called *tukdam*. As was explained to me by various teachers, one may remain for several moments or several days or weeks in *tukdam*, per one’s intention.¹¹ Releasing this state can occur as an effect of one’s prior intention (explained to me as being similar to setting an intention to wake at a certain time the following morning without an alarm clock) or one can be stirred at a subtle level through the rituals that punctuate the vigil held by others around someone in *tukdam*. Howsoever it happens, at the moment in which *tukdam* is released and the “inner wind” leaves the body, the body begins to decay. Red fluid from the nose (the red substance that had been continuing to migrate upward) or white substance through the urethral opening (the white substance that had been continuing to migrate downward) may appear. The body begins to smell and bloat, the radiance of the face is eclipsed.

These details are important to note because the Tibetan Buddhist system corresponds, in many particulars, to a well-defined set of discernable processes that, irrespective of the underlying causal hypotheses of death and dying the system proposes, enabled the scientists involved with the FMed Project a way to outline certain features in the dying process that could be empirically studied.

However, with respect to the temporalities at play, the Tibetan view encompasses the effects of biography and even history (which I will consider further below). Consider too that, in the Tibetan Buddhist view, *clinical death—as defined in the*

¹⁰ However, many I spoke with during my fieldwork voiced concern that the state of mind of one touching the body or grieving loudly around the deceased will have a negative effect.

¹¹ Everyone will pass through the subtle stages in the same order and for the average person it takes perhaps 3 days for this process to complete itself. If one is in an accident or experiences a jarring death, one may go through this process in a matter of seconds, whereas if one dies with little anxiety, one may be able to rest in the clear light and so purify negative traces of karma by which they will be positioned for a better rebirth that will allow them to do works of compassion in their next life.

biomedical framework—is, only the middle phase of a process of dying which includes a range of experiences and temporalities.¹² According to the Tibetan Buddhist view, one can potentially be aware of and through the stages of dying, provided one has sufficient motivation and training. In other words, it is the claim that death is not something that occurs in an instant, but is a process, with stages of awareness following the cessation of circulation and respiration.¹³

Tibetan Technics

After some moments of sitting together in silence, I began to wonder whether Karma's pause was an invitation. "You say the doctors cannot tell, but how do you determine the presence of the 'inner wind'?"

Karma replied, "Ah, now I have a tool."

"Can I see?" I asked excitedly.

Good naturedly mumbling something about why I would want to so trouble an elderly man, Karma set aside his prayer wheel and his beads and left the room. I recall imagining all manner of strange objects: pendulums of sinew and bone, a dowsing rod made of some dried rare herb, mirrors of crystal or *shilajit*. What fascinating object would Karma—who has been responsible for the care and preparation of the dead since he was seventeen and who had fled Tibet decades ago—possess that could detect "inner wind"?

¹² One hypothesis that motivates the research study in India is that these stages of awareness may be reflected in the lingering activity in the brainstem detectable through the use of EEG in some practitioners. Recent EEG animal and human studies in fact suggest that there may be functional activity in the brain following clinical death (Auyong et al., 2010; Borjigin et al., 2013; Norton et al., 2017; van Rijn et al., 2011). Such studies raise the question of whether, and if so what, level of awareness or arousal may be possible during the period immediately following clinical death. Further, when considered alongside research which demonstrates that specific meditation practices produce specific physiological and EEG signatures (Benson et al., 1982; Fucci et al., 2018; Lutz et al., 2004) and assertions within the Tibetan Buddhist tradition about the levels of awareness and arousal achievable during and through dying and the moment of bodily death, it becomes an empirical question whether these practices designed to promote awareness through the moment of death generate detectable EEG correlates, among other changes. In brief, the Tibetan Buddhist account of dying and death may offer a framework by which to explore the possibility of shaping the states and stages of consciousness near, and potentially following, clinical death. The results of such research may offer a structured and empirically grounded way to revise strategies of care around those in coma, vegetative and minimally conscious states, and the recently deceased. It may also challenge standard procedures related to declarations of brain death, the withdrawal of life support and organ harvesting.

¹³ The FMed Project was grounded in a comparative approach in the hopes of nuancing our shared understanding of the stages of dying in order to create a space within existing biomedical models for different approaches to peri- and postmortem care and procedures. This Project—and, in some ways, this article—is an attempt to juxtapose cultural narratives of dying and death to learn something about the possibilities of experience available to us up to and through our final moments. Our ability to create meaning around the reality of death stems in part from the ability to form a coherent account of what death and dying are; to understand something about their transitive and intransitive processes. In short, it maybe that the details of the process itself, of habituating ourselves to a detailed map—the visualization, the standardization and redundancy of forms and processes and their repetitions—may function as a stabilizing factor through the terror of passing.

Karma returned a few minutes later and handed me an object I recognized immediately. He then sat contentedly down opposite me and took up once again his beads and payer wheel.

I held now in my hand a piece of plastic resembling a large clothespin shaped like swollen thumb with a small, gray, rectangular LCD screen where the nail would be.

Karma had purchased a pulse oximeter, a variation on one of several measuring devices employed by the FMed Team in their research. Karma had seen one similar to it being used by FMed Team members when he arrived to perform the rituals for the deceased. Later, he found his own pulse oximeter in a medical supply stall in Kotwali bazaar, below Dharamsala. When Karma thinks the doctors are too quick to pronounce death, he attaches his pulse oximeter on the finger of the person whom the doctors believe is dead. If he gets some kind of reading,¹⁴ he uses it to argue for the presence of an “inner wind.” If he does not get a reading on the device, he uses this lack to buy time to do the necessary rituals; for, as Karma pointedly observed, are not even the doctors’ instruments sometimes faulty or require multiple checks? Rather than argue with him in the presence of the deceased or their family, the nurses and physicians often yield.

Consider the multiple temporalities at play in the manner of arbitrating the moment of death relative to the processes, the decedent must traverse according to the Tibetan Buddhist view: the pronouncement of clinical death in the hospital; Karma’s arrival and the required rituals, the subjective (for lack of a better word) temporality of the one who is “dead, but not yet died” (the “yet” making this statement impossible to read as a simple binary formulation),¹⁵ and the decedent’s intention to reincarnate as they move through the stages of dissolution. These different temporalities mobilize different actors and license different actions. Karma’s use of the pulse oximeter to open yet another space for the rituals, prayers, astrological calculations, and offerings for the deceased also creates time to observe whether the decedent may be already in *tukdam*. The possibility that someone is in *tukdam* in turn revolves on the matter of their biography, their intention and dedication as a practitioner, the power of a particular lineage or set of teachings, and *the integrity of these teachings in exile*. These temporalities were further multiplied through a consideration of whether to notify the FMed research team, awaiting their arrival, the duration of the data collection, the duration of the *tukdam*, the cremation of the body, and the memories of the decedent’s life and realization as reflected through their students.

Compare this with the temporality imposed by deferring to technological devices used to determine death in the hospitals where, as Karma puts it, the machines are given the responsibility. From Karma’s perspective, such deferral locks the physician into a binary framework, in which the patient is alive or dead pending determination by the machine; they exclude both the liminal (Gennep, 2010) identities and temporalities of the deceased and of the living who attend them. This determination

¹⁴ Pulse oximetry reflects the presence of oxygen in the blood bound to hemoglobin. It takes time for oxygen to diffuse through the tissues, so a reading in the 70s or 80s is possible in the near postmortem interval. Ambient temperature is also a factor, see Bohnert et al. (2008).

¹⁵ Dr. Sonam Dolma, during a 2012 presentation on *tukdam*, held at the University of Wisconsin’s Center for Investigating Healthy Minds (now, Center for Healthy Minds).

in turn precipitates a specific set of actions: disconnection from machines, relocation to the morgue, viewings, preparation for burial or cremation. The liminal interval—time for the enactment of local practices designed to ascertain the subtle registers of death—is largely nullified within binary framework of “dead or alive.” Thus, the presence of the decedent body in the context of research and traditional rites situates the various institutions, advisors, and team members as points of resistance, impedance, slippage, and conductance of the various temporalities, ontologies, and epistemologies at play. Karma re-potentiated those liminal domains through a new ritual of interrogation, using the pulse oximeter to open an interval in which the information provided by the life-monitoring technologies are questioned, even as they provide Karma time to interrogate the decedent. For Karma, the hospital deployment of biomedical machinery to interrogate the state of the decedent represents negation of the Tibetan Buddhist temporalities of dying. And yet, Karma used a technological artifact of the biomedical system as a form of resistance, challenging the epistemological—and chronological—tyranny of one definition and set of practices related to death to create time to explore and enact an alternative.

In her exploration of the conceptions of longevity among Tibetans living in Darjeeling, Gerke (2012) has written of the different temporal dimensions that structure the coordinated use of medicine, astrology, and spiritual biography to morally frame one’s life. These local technologies effect “practices of temporalization” (Gerke, 2012, p. 7), coordinated enactments of different approaches to the management of vitality or longevity. I suggest that Karma’s approach to the question of *tukdam* and his use of the pulse oximeter marks a new “practice of temporalization,” of temporalization as resistance. A form of technology that formerly foreclosed a liminal space Karma now used to create an opening between the cultural imperatives he was bound to enact and the local biomedical context. Karma leveraged biomedical technology to create novel temporal domains for the enactment of traditional forms of bereavement and ritual mourning. The possibility of new temporalities of engagement is important because it points to the possibility of new articulations within the technological networks and systems involved. Theorists may define such systems as *agentic*, but they need not be deterministic. Given that Karma’s intervention unfolds in a context where the technologies in question are just beginning to establish themselves in healthcare settings, we may wonder whether such spaces of resistance and reconfiguration can be opened in areas such as North America where these technologies are well-established components of the medical system.¹⁶

¹⁶ One example may be an ongoing project in Ottawa, Canada that has been engaged in the effort to clarify the role of technology in established research methods. In part, the project is an attempt to resolve the ethical dilemmas presented by recent rules permitting organ donation after cardiac death (DCD). Regrettably, these new rules were implemented without clear guidance on the determination of death, the standards of organ donation following DCD or clear guidelines about how to engage families for donation. In response, several researchers undertook the *Determination of Death Practices in Intensive Care Research Program* (DDePICT). Its goal is to document the ethical, conceptual, and technical difficulties of the DCD program and to standardize the practices and ethical frameworks around DCD organ donation. In a parallel study *Death Prediction and Physiology after Removal of Therapy* (DePPaRT), these researchers investigate the decisions around withdrawal of life support; how long it takes for patients to die following the removal of life support, and the impact of the decision on whether to donate organs (Gerstel et al., 2008; van Beinum et al., 2015, 2016). Ethnographic research in these spaces, already begun by some

Conclusion

As we have seen, the various temporalities enacted and rehearsed around the decedent body, hold the potential to evoke new ways of confronting the fact of mortality and the limits of our shared embodiment (Scheper-Hughes & Lock, 1987). Among the many temporal effects would fall this very ethnographic consideration, another form of expertise interacting with a body passed and in the past, yet does not cease being beheld, queried, measured, analyzed, judged.¹⁷

In what we have considered, the decedent was not only a site for the convergence of a heterogeneous set of ontologies and cosmologies, but was itself host to a heterogeneous set of temporal and aesthetic processes that the various actors that intersect with this research sought to define through specific *empiricisms*; the ways each orders, quantifies, infers, and predicts (Blaser, 2014). *Thanato-technics* builds on this, highlighting the ways in which, in the context of the research we are considering here, the decedent also served as a prism of temporal effects. The stakes of each domain of expertise to successfully name, predict, and assess (each according to its own epistemological frame) carries with it social, ethical and, in a word, political consequences (Mol, 1999) in relation to the questions posed by the research framed decedent.

As alluded to earlier, the temporal frames of history and revelation attempt to answer the questions “why this and why now?” and are an integral part of the *thanato-technic* frame we are considering. Thus, we may consider, for example, whether the scientific examination of the decedent body, alongside the trace and sign of the asceticism that leads to postmortem preservation, is themselves emblematic of the larger question of cultural preservation.

At the historical level, consider that even as the West (broadly speaking) has sought consolation and insight to the questions of death and dying through Tibetan Buddhism, Tibetan Buddhism in exile—through the figure of the present Dalai Lama—has in turn looked to science to help preserve (or at least bolster on the world stage) Tibetan Buddhist systems of knowledge and praxis. Though such efforts are fraught and precarious, particularly in the case of Tibetan medicine (Adams & Li, 2008), in the collaborative research on *tukdam* there may be yet another register at play. Should we not consider the ways in which research on *tukdam*—a form of

Footnote 16 (continued)

members, conducted in other and cross-cultural domains may impact and give insight into ways to envision other forms of death in relation to end-of-life technologies. Studies such as these, alongside cross-cultural ethnographic work, will be instrumental in understanding the multiple temporalities, decisions, and “anticipatory logics” (Adams et al., 2009) which, often surreptitiously, structure the ways in which we contend with decisions around death and dying.

¹⁷ What are we to make of these attempts to juxtapose cultural narratives and responsibly consider and interrogate the question of the possibilities of personal experience up to and through our final moments?. Our ability to create meaning in life stems in part from the ability to form a coherent account of what death and dying are; to understand something about death and dying through and as transitive, intransitive, and culturally bound processes. It may be that by constructing and habituating ourselves to a detailed map of the processes itself—through visualization, standardization, and repetition of forms of experience with or without the use of meditation or psychedelics—may act as a stabilizing factor allowing some to negotiate the terror of death in a way less bound to suffering.

death in which the power of realization halts decay and bears witness to the power of spiritual transmission—might itself be metonymic of a kind of mourning following the death of a pre-1959 way of Tibetan life? In his earliest public talks in the United States, the Dalai Lama spoke about the phenomenon of *tukdam*, emphasizing that instances continued to occur even among the exile community India (Bstan-'dzin-rgya-mtsho, 2006). In my view, this was a way of affirming both the integrity and authenticity of the transmission of realization among Tibetan Buddhists in exile.¹⁸

Consider, too, the manner in which the Dalai Lama has spoken of the historical weaving of Buddhism's return to India through the tragedy which befell Tibet (Laird, 2006). Exile itself is woven into narrative succor through the assertion that the wider world will now benefit from the death and tragedy that befell Tibet and Tibetans. Might this narrative of tragedy and generation, thus viewed as sacrifice (Becker, 1973; Freud, 1964), be an analog of the vows and ambition of the practitioners who take their own mortality as an object of meditation; who "take death as the path"?¹⁹

This framing narrative further implies that exile is, in effect, an intermediary realm whose difficulties, terrors, and insecurities can be managed through conscious dedication to the alleviation of the suffering of others. It is as though we are witnessing a hyperconjugation of chronoheterotopias: the hypothesized, idealized spiritual state and pure intention of those in *tukdam* (as separate instances in time reflective of an underlying unity of purpose and realization) imaginatively, aesthetical, and intersubjectively stabilizes in turn an idealized view of history and tragedy that frames the exile Tibetans' predicament and by which it is ennobled.²⁰

In all these ways, *thanato-technics* indexes the temporal horizons of such heterotopias, not just the material structures, which technology engenders in our experience and intimations of death. It is Steigler's point that because awareness of death and the fashioning of technology are coincident with each other, any attempt to use technology or prosthetic means to carry us way from that fear always returns us to its reality. In this sense, *technics* can be viewed as a sublation of Becker's (1973) thesis of the "denial of death" as the operative drive to cultural formation. While the desire

¹⁸ Further, as the XIV Dalai Lama himself states, opening Tibetan Buddhist practice to scientific research was a means of drawing attention to the cause of Tibet in a non-political way that simultaneously countered accusations that Tibetan Buddhism and culture were inherently regressive had nothing to contribute to a modern world (Bstan-'dzin-rgya-mtsho, 2004; Harrington, 2008; Lott, 2016). Thus, Tibetan Buddhism's engagement with scientific research grows out of an enduring awareness of the value of tradition set against persistent concerns over a second death in exile; an anxiety over the potential loss of the integrity of lineage and transmission (which also intersect with concerns of how geography and landscape support spiritual realization and integrity). It is a concern that grows with the XIV Dalai Lama's advanced age, the unlikelihood of his ever being able to return to Tibet, and the politics and uncertainty surrounding a future incarnation (see also Sangay, 2023).

¹⁹ Importantly, *tukdam* requires the individual to endure and to be motivated by the reality of suffering and the fact of death to then take rebirth in a new form to alleviate the suffering others. Thus, the structure of the historical narrative articulated by the present Dalai Lama about the exile Tibetans' plight appears as formal echo of *tukdam* as a practice that I outline above.

²⁰ Active witness on the part of American and European scientists and, in the latter half of my tenure on the project, a Russian contingent (by which a new iteration of the Great Game has been enacted; as some informants and I joked about at the time) seems to confirm, in the view of my interlocutors, the power of such idealized domains.

to flee the awareness of death may drive us, our efforts only ever return the reality of death to us. *Thanato-technics* thus indexes the specialized skills, equipment, and disciplinary knowledges related to end-of-life technologies as they operate within soteriological, forensic, epistemic, and socioeconomic constraints. Future ethnographic studies will make important contributions to this topic, perhaps through longitudinal research to explore the effects of technologies and end-of-life care systems as they are introduced into communities that do not have brain-centric or materialist accounts of consciousness or personal identity. Perhaps we may discover other examples of adaptation and negotiation that could help us envision other ways of approaching our increasingly technologically mediated deaths within and beyond the systems in which we are presently embedded.

Epilogue

As we saw in the epigraph by Derrida (a commentary on Blanchot's "The Instant of My Death"), the question of our mortality is inextricably woven with the question of time, the impossible instant of death recedes from our experiential and conceptual grasp as do our questions about subjectivity or the beginning of time itself. Derrida parses the instant in a way reminiscent of what is found in the tantric account; following a range of stage-related experiences in the dying process, there is a stage called "near attainment" (*nyer thob*) that hovers on the edge of realizing the luminosity of death and the fundamental nature of mind. Yet "near attainment" is itself a divided stage, of a whole yet consisting of two aspects or moments (the text sometimes uses temporal and sometime spatial modifiers and allusions).²¹ The first phase is an experience of blackness; the second of nothing and eludes being named an "experience." If one emerges from the utter, vertiginous darkness and unconsciousness of the second phase of near attainment²² one has the opportunity to abide in the luminosity of the moment of death. This abiding is *tukdam*. Derrida, and well before him tantric adepts and scholars, understood there is something at stake in our attempt to apprehend the temporal horizons of dying and of death. By introducing the term *thanato-technics*, I further sought to underscore the temporal effects of the use of biomedical technologies in multiplying the temporal dimensions in the determinations of life and death. The figure of a body on life support or sustained by technology (or aspiration) is, in the space between life and death, the *Frau Welt* figure of modernity: mortal immanence resting uneasily beneath the veil of hope. Life, in such contexts, seems as though as death's prosthesis, a restless inversion suggesting life's only end is to disclose the facticity of death. These inversions will perpetually reconfigure and leave unsettled our understandings of death, of dying, and of life.

²¹ I am deeply indebted to Karma Ngodup for helping me understand more fully an aspect of the text that had intrigued me since my first reading.

²² See Griffiths (1986) and Hopkins (1998).

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Declarations

Conflict of interest Author Dylan T. Lott declares that he has no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants, or their surrogates, included in the study.

Research Involving Human and Animal Rights This article does not contain any studies with animals performed by any of the authors.

References

- Adams, V., & Li, F.-F. (2008). Integration or erasure? In L. Pordié (Ed.), *Tibetan medicine in a contemporary world*. Routledge.
- Adams, V., Murphy, M., & Clarke, A. E. (2009). Anticipation: Technoscience, life, affect, temporality. *Subjectivity*, 28(1), 246.
- Agamben, G. (1998). *Homo Sacer: Sovereign power and bare life*. Stanford University Press.
- Alexander, M. (1980). "The Rigid Embrace of the Narrow House": Premature burial & the signs of death. *The Hastings Center Report*, 10(3), 25–31.
- Auyong, B., Klein, M., Gan, J., Roche, A. M., Olson, D., & Habib, A. S. (2010). Processed electroencephalogram during donation after cardiac death. *Anesthesia & Analgesia*, 110(5), 1428–1432.
- Bauman, Z. (1992). *Mortality, immortality and other life strategies*. Stanford University.
- Becker, E. (1973). *The denial of death*. Free Press.
- Benson, H., Lehmann, J. W., Malhotra, M. S., Goldman, R. F., Hopkins, J., & Epstein, M. D. (1982). Body temperature changes during the practice of gTum-Mo Yoga. *Nature*, 295(5846), 234–236.
- Blanchot, M., & Derrida, J. (2000). *The instant of my death/Demeure*. E. Rottenberg, Trans. Meridian. Stanford University Press.
- Blaser, M. (2014). Ontology and indigeneity: On the political ontology of heterogeneous assemblages. *Cultural Geographies*, 21(1), 49–58.
- Bohnert, M., Schulz, K., Belenkaia, L., & Liehr, A. (2008). Re-oxygenation of haemoglobin in livores after post-mortem exposure to a cold environment. *International Journal of Legal Medicine*, 122(2), 91–96.
- Borjigin, J., Lee, U., Liu, T., Pal, D., Huff, S., Klarr, D., Sloboda, J., Hernandez, J., Wang, M. M., & Mashour, G. A. (2013). Surge of neurophysiological coherence and connectivity in the dying brain. *Proceedings of the National Academy of Sciences of the United States of America*, 110(35), 14432–14437.
- Bruce, A., & Davies, B. (2016). Mindfulness in Hospice care: Practicing meditation-in-action. *Qualitative Health Research*, 15(10), 1329–1344.
- Bstan-'dzin-rgya-mtsho. (2004). *Freedom in exile: The autobiography of the Dalai Lama*. HarperCollins.
- Bstan-'dzin-rgya-mtsho, Dalai Lama XIV. (2006). *Kindness, clarity, & insight* (Rev. and updated ed.). Snow Lion Publications.
- Bstan-'dzin-rgya-mtsho (Dalai Lama XIV), Jinpa, T., & Dunne, J. (2020). *Science and philosophy in the Indian Buddhist classics. Vol. 2: The mind*. Wisdom Publications.
- Chang, H. (2011). The persistence of epistemic objects through scientific change. *Erkenntnis*, 75(3), 413–429.

- Chaoul, M. A. (2009). From caves to the clinic and research: Bon magical movement (“rtsa Rlung ‘phrul’ Khor”) Can help people with cancer. *East and West*, 59(1/4), 167–190.
- Freud, S. (1964). *The Standard edition of the complete psychological works of Sigmund Freud. Vol. XXI (1927–1931): The future of an illusion, civilization and its discontents, and other works*. The Hogarth Press.
- Fucci, E., Abdoun, O., Caclin, A., Francis, A., Dunne, J. D., Ricard, M., Davidson, R. J., & Lutz, A. (2018). Differential effects of non-dual and focused attention meditations on the formation of automatic perceptual habits in expert practitioners. *Neuropsychologia*, 119, 92–100.
- G’yu-thog, Y., & Bod Gzhung Dbus Sman-rtsis-khang Translation Department. (2011). *The root tantra and the explanatory tantra from the secret quintessential instructions on the eight branches of the ambrosia essence Tantra*. Men-Tsee-Khang Publications.
- Garces-Foley, K. (2003). Buddhism, Hospice, and the American way of dying. *Review of Religious Research*, 44(4), 341–353.
- Garrett, F. M. (2008). *Religion, medicine and the human embryo in Tibet*. Routledge critical studies in Buddhism. Routledge.
- Gawande, A. (2014). *Being mortal*. Picador.
- Gerke, B. (2012). *Long lives and untimely deaths: Life-span concepts and longevity practices among Tibetans in the Darjeeling Hills, India*. Brill.
- Gerstel, E., Engelberg, R. A., Koepsell, T., & Randall Curtis, J. (2008). Duration of withdrawal of life support in the intensive care unit and association with family satisfaction. *American Journal of Respiratory and Critical Care Medicine*, 178(8), 798–804.
- Griffiths, P. J. (1986). *On being mindless: Buddhist meditation and the mind-body problem*. Sri Satguru Publications.
- Hackett, P. G. (2019). *Learning classical Tibetan: A reader for translating Buddhist texts* (1st ed.). Snow Lion.
- Halifax, J. (2009). *Being with dying: Cultivating compassion and fearlessness in the presence of death*. Shambhala Publishers.
- Haraway, D. J. (1991). *Simians, cyborgs, and women: The Reinvention of nature*. Routledge.
- Harrington, A. (2008). *The cure within: A history of mind-body medicine*. W.W. Norton.
- Henig, R. M. (2016). Crossing over: How science is redefining life and death. *National Geographic Magazine*, April. <https://www.nationalgeographic.com/magazine/2016/04/dying-death-brain-dead-body-consciousness-science/>
- Hilton, J. (1933). *Lost horizon*. Perennial.
- Hopkins, J. (1998). Death, sleep, and orgasm: gateways to the mind of clear light. *Journal of Chinese Philosophy*, 25(2), 245–260.
- Johnson, M. (2011). A randomized study of a novel Zen dialogue method for producing spiritual and well-being enhancement: Implications for end-of-life care. *Journal of Holistic Nursing*, 29(3), 201–210.
- Kaufman, S. R. (2006). *And a time to die: How American hospitals shape the end of life*. University of Chicago Press.
- Kongara, K., McIlhorne, A. E., Kells, N. J., & Johnson, C. B. (2014). Electroencephalographic evaluation of decapitation of the anaesthetized rat. *Laboratory Animals*, 48(1), 15–19.
- Laird, T. (2006). *The story of Tibet: Conversations with his holiness the Dalai Lama*. Grove Press.
- Lichter, I., & Hunt, E. (1992). Lacrima Mortis: The last tear. *Journal of Palliative Care*, 8(4), 20–21.
- Lock, M. M. (1996). Death in technological time: Locating the end of meaningful life. *Medical Anthropology Quarterly*, 10, 575–600.
- Lott, D. T. (2016). *From interiority to inner territory: Tibetan Buddhism, neuroscience, and the politics of representation* [PhD dissertation, University of Illinois-Chicago].
- Lott, D. T. (2024). Can’t you tell by the waves? Vision and aroma in Tibetan Buddhist epistemologies of death. In *Flashpoint epistemology* (Vol. 1, 1st ed., pp. 84–107). Routledge.
- Lott, D. T., Yeshi, T., Norchung, N., Dolma, S., Tsering, N., Jinpa, N., Woser, T., Dorjee, K., Desel, T., Fitch, D., Finley, A. J., Goldman, R., Bernal, A. M. O., Ragazzi, R., Aroor, K., Koger, J., Francis, A., Perlman, D. M., Wielgosz, J., ... Davidson, R. J. (2021). No detectable electroencephalographic activity after clinical declaration of death among Tibetan Buddhist meditators in apparent Tukdam, a putative postmortem meditation state. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2020.599190/full>

- Lutz, A., Greischar, L. L., Rawlings, N. B., Ricard, M., & Davidson, R. J. (2004). Long-term meditators self-induce high-amplitude gamma synchrony during mental practice. *Proceedings of the National Academy of Sciences of the United States of America*, *101*(46), 16369.
- McNamara, B., Waddell, C., & Colvin, M. (1995). Threats to the good death: The cultural context of stress and coping among hospice nurses. *SHIL Sociology of Health & Illness*, *17*(2), 222–241.
- Mol, A. (1999). Ontological politics. A word and some questions. In J. Law & J. Hassard (Eds.), *Actor network theory and after* (pp. 74–89). Blackwell/The Sociological Review.
- Mol, A. (2002). *The body multiple: Ontology in medical practice*. Duke University Press.
- Norton, L., Gibson, R. M., Gofton, T., Benson, C., Dhanani, S., Shemie, S. D., Hornby, L., Ward, R., & Young, G. B. (2017). Electroencephalographic recordings during withdrawal of life-sustaining therapy until 30 minutes after declaration of death. *The Canadian Journal of Neurological Sciences. Le Journal Canadien Des Sciences Neurologiques*, *44*(2), 139–145.
- Perper, J. A. (2006). Time of death and changes after death, Part 1: Anatomical considerations. In W. Spitz, D. Spitz, & R. Fisher (Eds.), *Medicolegal investigation of death: guidelines for the application of pathology to crime investigation* (4th ed., pp. 87–127). Charles C Thomas.
- Pickering, A. (2011). *The cybernetic brain: Sketches of another future*. University of Chicago Press.
- Rheinberger, H.-J. (2009). Epistemic objects/technical objects. In *Epistemic objects* (pp. 93–98). Max Planck Institute for the History of Science Preprint No. 374.
- Rinpoche, L., Hopkins, J., & Napper, E. (1979). *Death, intermediate state, and rebirth in Tibetan Buddhism*. Snow Lion.
- Samuel, G., & Johnston, J. (2013). *Religion and the subtle body in Asia and the west: Between mind and body*. Routledge studies in Asian religion and philosophy (Vol. 8). Routledge.
- Sangay, L. (2023). *The battle for the soul of the Dalai Lama: To control Tibet, Communist China ventures into the spiritual realm*. Foreign Affairs.
- Scheper-Hughes, N., & Lock, M. M. (1987). The mindful body: A prolegomenon to future work in medical anthropology. *Medical Anthropology Quarterly*, *1*(1), 6–41.
- Smith-Stoner, M. (2005). End-of-life needs of patients who practice Tibetan Buddhism. *Journal of Hospice & Palliative Nursing*, *7*(4), 228–233.
- Stiegler, B. (1998). *Technics and time* (Vol. 1). R. Beardsworth & G. Collins, Trans. Stanford University Press.
- Sussman, E. S., & Shafer, V. L. (2014). New perspectives on the mismatch negativity (MMN) component: An evolving tool in cognitive neuroscience. *Brain Topography*, *27*(4), 425–427.
- Taussig, M. T. (1987). *Shamanism, colonialism and the wild man: A study in terror and healing*. University of Chicago Press.
- Thompson, E. (2015). *Waking, dreaming, being: Self and consciousness in neuroscience, Meditation, and philosophy*. Columbia University Press.
- van Beinum, A., Hornby, L., Sonny Dhanani, R., Ward, J., & Chambers-Evans, K. M. (2016). Feasibility of conducting prospective observational research on critically ill, dying patients in the intensive care unit. *Journal of Medical Ethics*, *43*(1), 47–51.
- van Beinum, A., Hornby, L., Ward, R., Ramsay, T., & Dhanani, S. (2015). Variations in the operational process of withdrawal of life-sustaining therapy. *Critical Care Medicine*, *43*(10), e450–e457.
- van Gennep, A. (2010). *The rites of passage*. Routledge.
- van Rijn, A. C., Krijnen, H., Menting-Hermeling, S., & Coenen, A. M. L. (2011). Decapitation in rats: Latency to unconsciousness and the “Wave of Death.” *PLoS ONE*, *6*(1), e16514.
- Varela, F. J., Thompson, E., & Rosch, E. (1991). *The embodied mind: Cognitive science and human experience* (Revised ed.). MIT.
- Weber, M., & Heydebrand, W. (1999). *Sociological writings*. Continuum.
- Wescott, D. (2018). Recent advances in forensic anthropology: Decomposition research. *Forensic Sciences Research*, *3*(4), 278–293.
- Wijnen, V. J., van Boxtel, G. J., Eilander, H. J., & de Gelder, B. (2007). Mismatch negativity predicts recovery from the vegetative state. *Clinical Neurophysiology: Official Journal of the International Federation of Clinical Neurophysiology*, *118*(3), 597–605.
- Wylie, T. (1959). A standard system of Tibetan transcription. *Harvard Journal of Asiatic Studies*, *22*(3–4), 261–267.

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