6 Emergent Technologies — Promethean Promises or Frankensteinian Fears? An Enactivist and Japanese Cultural Analysis

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I. Introduction — High Stakes

From the time of the earliest technologies our ancestors developed — stone tools two million years ago; fire half a million years ago — to the latest emergent technologies (ETs onward) — haptic virtual objects, AI, genetic and neural enhancement — technology has been intimately tied to what makes us human *as* human. Other animals, such as corvids, primates, cephalopods, use tools. And, in quite remarkable ways. Human tools and technology, however, are orders of magnitude above what other species on this planet have devised. Technology, doubtlessly has allowed us to thrive and 'conquer' this planet, harnessing its resources (in rather problematic ways) and helping us realize our dreams. Storied aspirations like flight are now but commonplace, and the tantalizing prospect of usurping 'the gods' ever propels us onward. Dreaming has never been our problem; but, maybe, we should learn to gauge dreams better.

Much like the proverbial technology of the sword, technology itself is double-edged. It gifts us with many beneficial outcomes, actual or possible, e.g., harnessing AI to diagnose illnesses or advance treatments. Likewise, we find alarming uses, such as AI controlled weapons. Seen in such stark contrast, we may wonder which of the two should weigh more heavily. At one extreme we find Luddites who, minding Shelley's Frankensteinian cautionary tale, fan the flames of fear about technological doom. On the other extreme we encounter technophiles who, celebrating

Prometheus' gift, stoke the fire as they proclaim the advent of a transhuman world. In both cases, whether out of apprehension or excitement, we run the risk of getting burned. Some will avow the well-worth risk of a few burns while others will bemoan the danger of being painfully scorched.

The question remains: how should we deal with ETs?

Extremes are helpful for quickly grasping salient features, but they unerringly lack the nuance requisite for efficaciously addressing complex issues. As is usually the case, the answer is found *somewhere* in the middle. Where to find or draw this line, however, is the difficult part.

Presently, the strategy will be to devise a middle path inspired in enactive and Buddhist ideas. To do so, a brief discussion of pertinent *philosophical* problems opens the inquiry in Section 2. After exploring the historical arc of technological development in Section 3, the next one considers two noted phenomenologists, Spaniard José Ortega y Gasset (Ortega hereafter) and German Martin Heidegger, and their diagnoses of the challenges that modern technology poses. Section 5 frames main challenges in relation to an emergent technology that blends several cutting-edge contemporary offerings: human enhancement. Looking at this in the context of sport proves particularly effective. It highlights and delves into the key technological quandary vis à vis our humanity: agency. This establishes a practical *litmus test* to sketch an initial middle path of dynamic and effective boundaries: technologies that enrich our capacities to celebrate our creativity premised on constraints, whether artificial or natural, are worth pursuing and risking a few burns; those that promise to transcend our capabilities by overcoming restrictions are best left alone. Section 6 develops agency in the context of a situated, holistic, and enactive (SHE) account in relation to improvisational patterns of behavior. Section 7 then explores the ongoing

argument in relation to signal themes in the context of Japanese *dō* and pertinent Buddhist, philosophical, and cultural concepts and key figures such as Kūkai and Dōgen. A very brief conclusion caps this exploration of emergent technologies.

II. The Deep Problem — Philosophical not just Practical

There are many problems that arise in relation technology. Some are practical, even if their ramifications may also involve ethical issues. Consider facial recognition, which is touted by many police and security agencies as a great tool to combat crime and to ease global travel. Albeit, this technology is based on algorithms that are biased racially, leading to serious inequities imposed on already marginalized social and ethnic groups. Then, there is the issue of surveillance with the attendant breaches of privacy. The Deep Problem of ETs is analogous to the hard problem of consciousness (Chalmers 1995).

The "easier" problems are largely practical, technical, and workable in principle. While difficult, in a technical sense, time, ingenuity, and some luck may help solve these and give a better understanding of how consciousness and specific aspects thereof work. For instance, in the case of consciousness how attention or memory work. As far as ETs, there are significant hurdles, but devising better algorithms that avoid bias or developing and enforcing a more equitable legal framework would address this. True, the technologies gallop ahead of our ethical and legal paradigms and practices, but this *could* be addressed effectively with acumen, diligence, interest, resolve, and resources.

The deep and hard problems present a more formidable challenge, fundamentally one that is philosophical. Notably, with consciousness, the issue is, if immeasurably *hard*, straightforward: how to account for subjective and qualitative experience in terms of objective, quantitative, physical parameters. Alas, ETs' deep problem is

twisted. The very foundation of technology presents us with existential challenges (see Ortega, Section 4). There are also epistemological facets that affect the sense of reality and, consequently, values. Ultimately, ETs, more so than previous technologies, pose a *deep* threat to human nature. First, this affects the conception of what humans are *as* such. For example, the advent of "integrated" cyborg-like technologies (genetic enhancement; neural and physical implants) is set to change our physiology and capabilities in radical ways. This has important practical and philosophical consequences concerning *who* we may become. Before exploring the philosophical facet of technology with Ortega and Heidegger, a historical overview of the development of technology is advisable to better understand their ideas.

III. A Brief History of Technology in Four Stages — Skipping Stones Across Time

The theoretical motivation for this overview arises from the fact that both, Ortega and Heidegger, diagnose a schism in the evolution of technology: there is a before and an after that takes place with the advent of modern technology. To better grasp this, a brief exploration of the history of technology ensues.

First Stage: *Stone Age*

Strictly speaking this stage pre-dates history, but the lessons to be derived continue into the historical period when written records begin. Shaped flint stones are the first human technology, dating to about 2 million years ago. The spark of fire would not take place for another million and a half years. By the time both Neanderthal and Cro-Magnon overlapped (about 100,000 years ago), their technological know-how was remarkably sophisticated. Their cave paintings, in addition to displaying exquisite aesthetic qualities, suggest a sophisticated knowledge of the stars and their patterns (Jègues-Wokiewiecz 2005). Many caves throughout Spain, France and elsewhere display abstract patterns that correspond to the alignment of stars and constel-

lations at the time they were painted.

The “Lion Man” — a carved mammoth bone that imaginatively depicts a human-like body with the head of a lion — in its high degree of dexterity and imagination it discloses much about the life, and indeed, values of the culture that produced it. Crafting it took about 400 hours (Cook 2017). This points to the importance leisure had in their life, as that is a lot of time spent whittling a bone: 50 eight-hour days. Moreover, given the effigy’s refined artistic quality, the carver had to have had the opportunity to develop the skills. Finally, it is telling that the sculpture acted a as a ceremonial piece, since its wear pattern is consistent with its having been handled by many, many hands over time. (Leisure is considered in Section 4 with Ortega.)

For now, three points worth highlighting: first, leisure was a prerequisite to develop and practice technological skills; second, technology was connected with rituals; and third, human ancestors’ relationship with technology was organic in that their life was integrated with the natural world.

Second Stage: *Craftsmanship and Technē*

Once we enter the historical period, whether we look at Ancient Greece, the Indian continent, Asia, or elsewhere, we find at different times and places the rise of skilled craftspeople who take their métier to unparalleled levels of refinement. Fashion and attire, jewelry, weapons (such as the fabled Arabian Damascene blades, Japanese katana, or Viking steels), furniture, and all kinds of implements. Crucially, regardless of dazzling sophistication, technology and attendant skills are of a kind with those of our ancestors. There are new skills, but these are still embodied and engage the craftspeople directly as they participate in all stages of the creative process. (Section 4 looks at this stage philosophically with Heidegger.)

Third Stage: *Modern Technology*

Predictably, this originates in the 'modern period,' which has its nebulous beginnings during the transition between the Middle Ages to the Renaissance, and then meanders its tortuous way towards the Enlightenment onward to the age-defining changes of the 20th Century. Another way to delineate the modern contours is by reference to signal thinkers, scientists, and philosophers: As far as the West and development of science is concerned, the usual suspects range from Galileo and Bacon, to Descartes, Montaigne, and Pascal, and onward to Newton, Leibniz, Kant and the "Encyclopedists," culminating with the likes of Heisenberg, Oppenheimer and, of course, Einstein. The change from qualitative explanations of the natural world to quantitative ones, from seeing lightning as godly wrath to explaining in terms of electrical charges, brings about a number of radical changes further explored below. Both Heidegger and Ortega single out modern technology as different from earlier technologies and attendant methodologies. In essence, unlike previous technologies the modern kind changes the terms of engagement: we relate differently to technology, world, and ourselves; the organic unity between artifact and maker is severed.

Fourth Stage: Emergent Technology (ET)

The term "emergent" as presently adopted for 21st Century technologies, is meant to highlight a number of issues. First, emergent taken as something becoming prominent; ETs are becoming all-pervasive and dominant in our lives at large. Today's young generations relate to the world in *fundamentally* different ways than previous generations. Second, in an ecological sense, emergent refers to dominant plants taller than surrounding vegetation. ETs toweringly dominate and *supplant* previous technologies, e.g., nowadays, electronic money and transactions are rapidly making cash

obsolete.[1] Third, emergent can also be used in the context of calling for prompt action. The speed at which ETs are developing, fast outpacing ethical, conceptual, and legal means, makes this an extremely urgent problem. Finally, emergent is a theoretical concept in philosophy, science, and art whereby properties not found at lower levels or separately arise when combined. In this case, the ET ecosystem gives rise to phenomena not found at lower levels. This has systemic repercussions on a planetary scale, e.g., AI algorithm driven big data used to incite artificially created consumption has dire down-chain impacts on the environment.

Peter Hershock (2021) has aptly characterized ETs as another Copernican Revolution. People went to sleep being at the center of the universe and with the sun going around the earth and, with Copernicus, woke up decentered and with the planet orbiting the sun. Modern technology brought drastic changes that threatened the *meaning* of activity; but ETs while *still* doing that additionally compromise our very humanity. As discussed (Section 5), ETs take away the very challenges and constraints that define us *as* humans and give sense to our agency and freedom. As perspectival preamble and theoretical groundwork, the ideas of the two philosophical stalwarts abovementioned follow next.

IV. Phenomenological Valuations of Modern Technology — Ortega and Heidegger

Ortega and Heidegger offer idiosyncratically insightful analyses of technology. Both realized that, compared to earlier times, modern technology involves unique qualitative changes. If the Teuton offers a restrained reservation whereas the Iberian proposes an assiduous advocacy, both remain guarded and strike a middle path in terms

1 This has implications for equity: much as taller plants benefit of the nourishing solar light, often excluding or limiting access to those below, those who are already socially and economically disenfranchised face dire challenges and pressures to become part of a system that effectively shuts them out.

of how to manage modern technology. Ortega's preoccupation with technology (his 1933 "Man the Technician" is based on 1931 lectures) predates Heidegger (his 1954 "The Question of Technology" follows a series of 1949 lectures), but we begin with the German since Ortega's views better dovetail with and transition into the discussion on sport and enhancement in Section 6.

Heidegger's typically exquisite but dense and convoluted writing is on full display in his lectures on technology. For him causality lies at the heart of the question of technology, "What technology is, when represented as a means, discloses itself when we trace instrumentality back to fourfold causality." (1977, pp.6) This causality harks back to the Aristotelian analysis of cause in terms of formal, material, efficient, and final causes. In the Greek context, this led to a *bringing-forth* of the causes behind events. For Heidegger cause brings something to appear; this process discloses truth — *aletheia* in Greek. This involves the epistemic facet of technology as part of a process of revelation, of truth-disclosing. This epistemic revelation also creates an ontology. For Heidegger *poiesis* and *technē*, as well as a craftsman production, are less about creating than about revealing, disclosing, or unconcealing. Much as the artist discloses a world that was concealed through *poiesis*, e.g., Pindar's odes reveal to us a world of laudable accomplishments, so does technology in the Greek context because it is a means to reveal truth.

Or so it was until the advent of modern technology. Based on a mechanistic and mathematical view of cause, it changed our relation to this process of unconcealment. Rather than bringing-forth, we have a *challenging-forth* that thwarts disclosure of the original revelatory function of previous technologies. As Waddington explains, "In bringing-forth, human beings were *one* important element among others in the productive process; in challenging-forth, humans *control* the productive process." (2005, Technology now becomes a matter of production. Efficiency, obtain-

ing the maximum yield for our efforts, becomes crucial. This production under the banner of challenging-forth "reveals objects that have the status of *standing-reserve* have been reduced to *disposability*," (Ibid., his emphases), and thereby such objects are both technically easily reordered, e.g., haphazard forest trees become neatly arranged logs, and low-value replaceable goods, such as wood pulp turned into napkins. Heidegger explains this deleterious, dysfunctional mode as *enframing* (*Ge-stell*; Ger.) (Ibid.). This is our default mode. Yet, for him we still have a choice to opt for bringing-forth rather than challenging-forth. Wistfully but positively, he admits in closing that, "the closer we come to the danger, the more brightly do the ways into the saving power begin to shine and the more questioning we become." (Heidegger 1977, pp.35)

To sum up: technology in the modern period is a matter of objectification and quantification that while placing humans outside of the natural world sees them controlling it as a resource to be managed and expended. Heidegger's diagnosis fits amenably with Ortega's. The Spaniard points out how in modern technology machines do the work at the expense of the worker (and thereby split the innovator from the worker). At this point, the technology has been mechanized, that is, decoupled from the bodily engagement of the technician (for the relevance of embodiment see Sections 6 and 7). The example of writing is a suitable bridge to Ortega.

As a venerably old technology, the written word fittingly illustrates how ETs "complicate" things. Leaving aside but noting the relevance of Plato's remarks in *Phaedrus* (1961) about the inadvisability of writing in comparison with actual dialogue, the technology itself has been transformed into something other with the advent of ETs. What once was a literally hands-on process that required to dexterously shape each letter or character (in non-western cases) is now not only achievable by hitting actual or virtual keys but by dictation. If the marks made on paper were phys-

ically *there* as a record directly tied to our kinetic patterns, reflecting our handwriting's flowing elegance or erratic illegibility, now we find homogenized typeset virtual symbols decoupled from us; if a letter might have taken weeks or months to arrive at its destination, now our words appear instantaneously to any number of readers at different places. Complicating matters, an AI artificial language model named GPT-2 is capable of generating text, without task-specific training, that matches human-generated text on many levels (Naughton 2019). Soon enough, AI generated texts will be writing news stories, fiction, even academic papers. At this point, the technology will have supplanted us; it will make us superfluous (other risks also arise, such as the creation of "alternative realities" via fabricated accounts). To explore further some of these ideas, we go south, from Germany to Iberia, and engage Ortega.

For Ortega, technology "gifts" us with a problem — to be taken in its etymological sense of something being thrown at us — leisure. Previous technologies saved us effort, making life easier by satisfying needs and wants. They also made us confront the problem of our existence: how do we live our life? (Ortega 2006a). Hence, technology is instrumental in liberating us from having to perform certain tasks while satisfying desires and necessities. This is embedded into the larger problem of life, which is that when confronted with the unavoidable imposition of having to live, then we need to *invent* a life and work toward it. In this we are unlike animals, for 'the bull exists being bull,' but for us being human is but the possibility of being and the effort to become such (2006b, pp.573, my translation). One outcome is the advent of technology (2006a), given that the essence of our life consists of how we occupy ourselves (2006b). In his analysis, Ortega upends the seemingly obvious explanation that technology develops to meet needs and posits that progress takes place precisely because we suspend our primitive repertoire to meet needs: our lifeworld, vastly larger than that of animals, encompasses endeavors that transcend needs and natural provisions (2006). In other words, we can desire in large ways,

and technology is the most efficient and effective way to satisfy these. This efficiency is the source of the problem of existence under an alternate guise: What do we do with the leisure thus attained? In this way technology concomitantly creates freedom and responsibility.

To address this, Ortega turns our existence into a poetic task whereby we make our life "both appealing and interesting." (1955, pp.123) Hence, he argues that the answer to the question of leisure is found in a technological praxis (see Section 7) and a narrative ethos. The well-lived life, by means of narratives, gives a meaningful orientation to our technological engagements. But as far as *how* do we spend our lives, the short answer is by engaging in superfluous endeavors, those that are sportive at heart rather than utilitarian (Ortega 2004a). The utilitarian outlook looks at life in terms of ROI, a return on investment for one's efforts, and for Ortega marks life at its minimum. The sportive ethos is the source of culture, philosophy. Ortega states that, 'Sportive activity seems to us the foremost and creative, the most exalted, serious, and important part of life' (2004a, pp.707; 1961, pp.18). It embodies life at its maximum precisely because, just as the sportsperson' great efforts are done in pursuit of an artificial and superfluous goal, those who embrace such ethos in their lives strive to give their best regardless of outcomes. If sport is thus philosophically inspiring as a way to live life it also proves revealing for our present concerns.

V. Sport and Human Enhancement — The Moral and Performative Laboratory

Modern technology may have changed some basic rules of the game of life, but ETs are radically altering the players themselves. To better understand this, sports (this includes games) prove to be an expedient arena. Graham McFee (2004) advances a view of sport as a moral laboratory wherein the merits of various ethical theories as well as specific virtues and vices can be tested within the artificial contests that sports provide. In the case of ETs, the realm of sport can also act as such laboratory

— albeit not just moral but also cognitive and performative — to ascertain the implications of the adoption of certain technologies and to minimally sketch a criterion to tentatively delineate the middle path. Additionally, as embodied and performative practices, they are exemplary practices from a cognitively embodied 4E stance (Section VI).

Sports are, as Ortega first argued, superfluous endeavors. Nothing is *produced* in spite of all our efforts. This already acts as a counterpoint to modern technology's fixation on productivity, and which ETs share. Unique to sports as and among human practices is that they are premised on artificial constraints: what distinguishes sport from any other practice and kind of performance (martial arts, dance, etc.) is that playing them implies willfully embracing artificial obstacles (Suits 1990). In other words, they expressly set up impediments to the attainment of their goal, e.g., in FIFA football, scoring is constrained by the limitation to use the feet alone. Put differently, we *choose* to make things more difficult than they are or need to be. Moreover, the playful spaces that the rules create also open performative loci within which we can develop and explore human skills and excellences. We strive to excel under artificially yet willingly accepted constraining conditions.

On a deep level, this connects with something pivotally essential to the human condition: our frailty and limitations. These are imposed, however. Nonetheless, we can still choose how we face our circumstances, stark as they may be — for Ortega the possibility of admirable struggle always remains even cognizant that, in the end, our voyage ends up shipwrecked (Ilundáin-Agurruza 2019). Sports, in giving the opportunity to strive superfluously yet find intrinsic interest in their deliberate restrictions, may awaken and inspire the resolve to play the game of life as best as possible regardless of outcome by *precisely* embracing (our) limitations.

ETs in the sports' court, however, are playing a dangerous, if exciting (for some), game. The advent of biotechnologies, which include genetic doping and modification, ingestible computers, reactive materials, implants, etc., have blurred the line that separates athletes from cyborg-athletes, which symbiotically integrate man and machine. For some (Sandel 2007; 2009), the advent of cyborg-athletes means that the human element is lost; others (Ryall 2012), point to prosthetics as examples of actual cyborg athletes in our midst. If, it can be argued, the intent of prosthetics is ameliorative and acceptable as restorative of missing limbs and capabilities, other cases where the goal is straight-up enhancement become problematic in so far as the underlying intention is to *remove* limitations. There are those (Savulescu, Meulen, and Kahane 2011) who argue that this removal of impediments and overcoming of human limitations is in fact the driving factor for athletes — while this coheres with Heidegger's view on technology as removing limitations, in his analysis this is problematic within the context of modern technology.

The imminent implantation of bionic and neural enhancements points to a post-human world that some view to be as inevitable as welcome (Miah 2003). Indeed, the argument has been made that any worries should vanish upon realization or acceptance that we have been cyborgs all along (at least since the Stone Age). Further and supporting this, thinkers (Clark 2004; 2008) who favor the extended mind hypothesis appeal to a continuity argument for which there is no sensible divide between human and machine: location of technological support, whether internal or external to our bodily biology, does not matter given the coupling between technology and internal processes. Thus, any technology already forms part of us in a causally constitutive fashion. But, López Frías sentences that such an overly broad view of the cyborg renders it meaningless for then, "everything human is a cyborg or becomes cyborgized." (2016, pp.101)

Not to lose sight of our goal, the main issue lies in the superseding of human limitations. That is, what is problematic is the transhuman word that ETs herald. The posthuman dream ultimately involves the removal of limitations wholesale. Eradicating the artificial obstacles from sport implies that the activity is not sport any longer, e.g., endowing athletes with the capability to breathe underwater means that freediving ceases to exist *as* a sport. Should the drive for faster, higher, and stronger, and the pursuit of superhuman feats remain dominant, sports will become the turf of bionic athletes, cyborgs, and — if cognizant of rules, capable of skilled struggle, and institutionally embedded (López Frías & Pérez Triviño 2016) — robots (hence making humans redundant and leaving spectating as the only option). Moreover, and metaphysically more controversial, this also affects the essence of what being human is in so far as the underlying motivating premise is the pursuit of humans as limitless (in principle) cyber-organisms.

The rub is that this is replicated by ETs in other spheres. In fact, the very essence of ETs — which far outstrip the dangers of modern technology — is facilitation to the point of suspending obstacles to the fulfillment of our wishes (which increasingly are created by the external ET ecosystem independently of human input). Differently put, desire satisfaction must not be impeded by embodiment. If for Ortega technology liberates us, we should not confuse liberation with eradication of limitations (to our every desire). The former creates an opening for freedom and responsibility — it introduces the *burden* of choice. Faced with the need to be occupied, technology opens leisure as existential predicament. In this context, constraints — whether artificial or natural — are paradigms for creative and skillful response. Doing so valuably and ably requires skill and commitment, both pivotal for appreciative admiration of achievement and excellence. Indeed, much that holds deep value is premised on this equation of limits, challenges, and strivings that results in admirable performances wherein skills and virtues amalgamate. It is because something

is hard to accomplish that it is valuable and a candidate for appreciation. Of course, improving our lot and the agency that enables us to choose are goods worth striving after. In this way, technologies that treat or prevent illness and physical infirmity are a boon, for instance. This does not mean, however, full-fledged endorsement and implementation of technologies designed to transcend our vulnerable condition.

Taken to is logical (and technical) conclusion, in a ETs facilitated posthuman world that removes all limits, every desire would be satisfied virtually, and the body, source of mortality and weakness, superseded as sentience and consciousness upload onto an AI ecosystem designed to save the trouble of coming up with personal desires. This would result in an existence analogous to Nozick's experience machine (1974). However speculative, utopian, and farfetched may seem this scenario, it helps delineate the implications of unabated ET transhumanism.[2]

What is at stake, in one word, is *agency*. Whatever humans are or think themselves to be, subtraction of agency leaves but a shell. To clarify the operative sense of agency, it minimally consists in being the origin of one's actions. That is, being the enacting agent of one's worldly engagements. Agency is inaptly conceived of in terms of a boundless libertarian freedom à la Jean-Paul Sartre (1966). Rather, we live within a causally interdependent ecosystem that conditions our behavioral patterns. Agency manifests itself not without and free from but rather *within* and in intimate bond with codependent phenomena. Even the sense of being the author of one's actions — the notion of a permanent self — quickly dissolves upon the realization of the impermanence and codependence of all phenomena. Agency then is a dynamic intentional and value-laden orientation of personal and communal dispositions that engages coordinated measures of choice and responsibility. A lucid awareness of this

2 See Hershock (2021) for an illuminating extended Buddhist analysis of what he calls "the Intelligence Revolution" that can be profitably related to this scenario.

opens the door to genuine action; deluded notions of autonomous choice independent of other factors leads to deleterious patterns of renunciation of responsibility and, usually, distress.

ETs then threaten our capability to be the "*en-actors*" of our lives, making of us but spectators. A world where limitations are superseded or transcended lacks real or perceived dangers and the attendant sense of risk. As Sheets-Johnstone writes, "where there is no felt risk, there is no personal involvement, and where there is no personal involvement, there is no freedom.' (2011, pp.292) This felt risk is found in the unpredictable and ever-changing conditions of a life lived amid limitations and challenges. We could speak of 'fake' risks that *feel* real, perhaps. But, indeed, this is the phony world of the experience machine. Entering into this game means prepayment with the currency of full awareness of the kind of arrangement being made: the precondition to feeling *as if* we were experiencing the real 'thing' is impingent upon first realizing what it is that we lack and long for (to make the Faustian bargain work and blissfully buy into the pretense, we better add the proviso to forget about the deal). In short, we lucidly commit to an ETs generated ersatz experience with literally just virtual value. In doing so, however, by abdicating any possibility of — and responsibility for — navigating the ever-changing, unpredictable, sometimes exciting sometimes daunting, waters of life, we miss the opportunity to flourish in admirable ways, as the admiration is premised *necessarily* on overcoming weaknesses and limitations.

To concisely recast the above with Buddhist overtones (in light of upcoming sections): an effective agency is attentive to and responsive to the inherent impermanence and interdependence of all phenomena. As humans, we are integrated into this ecosystem and must cope with the limitations that are inherent to and arise from our karmic behavioral patterns. Amelioration of our condition depends on an acceptance of our limitations and skillful reorientation of our vital commitments. The trouble

with ETs is that they purport to break the chains that bind us, as if we were independent from them and the circumstances that give rise to them when such chains, limitations and karmic conditioned dependencies, are integral to who we are. Unlike other forms of liberation, such as Buddhism or Orteguian striving, which embrace such constraining circumstances as part of the game of live, which thrives on effort, commitment, and cultivation, ETs promise an experience that supplants the opportunity for real emancipation for a simulacrum.

The stark implications of an ETs mediated, curated, and procured posthuman world acknowledged, this does not mean that we should succumb to Frankensteinian anxiety and go back to knapping flintstones. Should we celebrate the Promethean gift instead? As Mike McNamee (2007) savvily points out in his moral topography of sports medicine, we had better know which Prometheus we embrace, whether Hesiod's cunning and deceiving version or Aeschylus' take of him as daring and savior of mankind.

To help assess how far to develop or implement technologies, or which, a criterion in line with the above concerns would keep the role and value of limitation and frailty front and center. Consequently, technologies that highlight abilities within the constrained framework of the activity or redress debilitating or disabling conditions would be fitting candidates for implementation. For example, running shoes so long as they are limited to highlighting running excellences by eliminating factors, such as stones, that would impede performance; properly designed prostheses that permit a return to physical performance; and drugs that help redress memory loss and cognitive impairment. Technologies that effectively enhance performance such that the skills and excellences are obscured or transcended altogether call for a moratorium on implementation or rejection in some cases. For instance, shoes with internal mechanisms that propel runners at faster speeds with noticeable less effort; bionic

and genetic modifications that manifestly improve performance; neural implants that would lead to increased intellectual endowments for those who can afford them. Clearly, there are many wrinkles to be straightened but which cannot be addressed presently. This is merely offered as a sketch — and a sketchy one at that. For now, it is time to swap shoes and feet for stones and hands.

VI. Situated Holistic Enaction (SHE) — Hands-on Improvisational Engagements

We are embodied beings. There is no escaping that. Much as Plato, however, ETs would sooner dispose of the body than remain fettered to a world that weighs us down with gravity and gravitas. The story begins with a split between body and mind that places its bets on the latter, as mainstream philosophy in the West has done. The ETs universe is one of binary codes, information processing and computation, mental representations, virtuality, algorithms, rationality, beeps and blinking lights. Information here is theorized as the manipulation of abstract symbols bearing representational content that mirrors the world in some way. And, if any of this needs to be embedded into some sort of physical platform, it might as well be robotic. We could say that once General AI is achieved, the ET agenda aspires to build androids that dream of electric sheep (Dick 2008).

Pressed by the necessities of life and unable to afford the luxury of daydreaming, agency is rooted in *attentive* embodied relational dynamics among agents and their environment. The most suitable philosophical program to account for this is a 4E approach. It advances a view of cognition that is embodied, embedded, enactive, and extended. These endorse respectively cognition as affected by non-neural elements (muscles, hormones), partially constituted by action, located at least in part in the external environment, and coupled with that environment. Almost forty years after Varela, Thompson, and Rosch's (1991) seminal *The Embodied Mind*, the factions and controversies have become ever more "refined."

To avoid polemical digressions, the following explains the version of embodied cognition that supports the present analysis: a phenomenologically situated, holistic, and enactive stance (SHE) (Gallagher 2017; Ilundáin-Agurruza 2016a). SHE rejects mental representation and computational processes and, instead, advances direct, dynamical, and co-evolving interactions between organisms and environments. As methodological forefathers, it can claim French phenomenologist Maurice Merleau-Ponty and American pragmatist John Dewey. The Frenchman wrote about a "knowledge in the hands" that views skillful action as a form of embodied knowledge (1945/2012, pp.141). For his part, Dewey lays claim to the situated facet. He formulated a principle of continuity according to which there is a continuity that dispenses with differences in kind between higher and lower organisms, cognitive modes, faculties, and processes. To emphasize the continuity of psychophysical phenomena themselves and then of these with their environmental transactions, Dewey wrote of the "body-mind" (1963). This model braces SHE's holistic underpinnings.[3]

As for SHE's enactive commitments, these embrace the more exciting radical agenda among enactivists. It begins by countering computational mainstream cognitive science and its reliance on mental representation with an ecological and enactive theory for which perception and cognition are understandable only in terms of action in the environment (Chemero 2009). Accordingly, cognition does not consist in mental representation (a stand-in that mediates between our cognition and the world) but rather in targeting, relating and responding fully immersed with the environment. As Dan Hutto and Erik Myin (2013) argue, cognitive processes do not stand behind as causal effectors of intelligent behavior but instead unfold through active exploration and engagement with the environment. Further, radical enactivists theorize a scaf-

3 Heidegger's views are largely congruent with SHE, given that he views as primordial our direct ready-at-hand and ready-to-hand involvement with objects and the world. Moreover, as Levitt points out in his introduction to the Teuton's reflections on technology, in modern times, unlike the Greeks, we fail to "relate to nature in the openness of immediate response" (1977, pp.xvii).

folded framework that integrates the contentful (representational and intensional/bearing semantic content) proper of cultural practices and the contentless (non-representational *and* intentional but not intensional/semantic) (Hutto and Myin 2017). In this context, Malafouris (2012) hand-delivers a message apposite for our technological concerns: the skills that hominins evince knapping stones are best explained not in relation to mental representation and purely intellectual capacities that solely "imagine" in the mind, but rather by what he calls material engagements. It is in the very doing of the activity that possibilities are discovered and pursued, as knappers respond dynamically to how each stone breaks up, and in so doing, opens up a variety of uses, e.g., as projectiles or cutting implements. From a material engagement theory and a radically enactivist view (Hutto 2015), such non-representational capacities are fundamental and foundational to our cognition and performance. The point to grasp is that our embodied and cognitive ways — which do not necessarily involve representations — go hand in hand.

An important aspect to highlight, and for which Dewey comes handy again, is the centrality for the SHE model of mutual and *constitutive* relationality between agent and environment or among performer, performance, and situation. As Eric Bredo explains when discussing the pragmatist, "it may help to think of a performance as the product of a history of relating, in which both person and environment change over the course of the transaction" (1994, pp.28). We change and are changed by our transactions — in Dewey' rich sense, not the purely economic one — with our environment. Relationality characterizes this process.

The mutual co-creation between environment and agent is expediently theorized in terms of 'circumstance' in Ortega's fecund sense (Ilundáin-Agurruza 2019). Its translation, from the Latin, is "those things that surround us," and Ortega uses it to refer to *any and all* "things," whether these be material objects, ideas, other people

and creatures, topological features, and events (which he viewed as concrete). Congruent with a Buddhist ethos, the co-dependence between us and our circumstances is captured in Ortega's signature expression, "I am I and my circumstance, and if I do not save it I do not save myself." (2001, pp.757, my translation). "Landscape' is also a signal concept Ortega uses to refer to the phenomenological experience of our circumstances. Each of us has a personal landscape, even when we putatively inhabit a common environment or share surroundings: the same tree is experienced differently by farmer, hunter, and painter (this profitably relates to Gibsonian ecological dynamics — Gibson 1979). Our lives take place in relation to and with(in) our circumstances and personal landscape then. Amenably for SHE, which upholds an affective-cognitive continuity, for Ortega it is love and not reason, that proves essential to dealing with the fact that we cannot overcome our circumstances because — in line with the ongoing argument — they act as our *limits*.

Such situated engagements are, in virtue of being circumstantial, immediate, unmediated, and untransferable: it is each of us who directly gets his or her own hands dirty with the business of life. Even if a community and its traditions provide the setting that structures how our emancipating and flourishing strivings may unfold, this is a messy, personal — but neither individuating nor individualistic — affair that each of us has to undertake.

Things get messy *also* because of the tension between a continuously mutable yet deeply interconnected world and goal-oriented aspirations that seek order and certainty. ETs do not handle well either messiness, dirty handling or contradictory tension, preferring an aseptic, predictable and consistent representation-mediated virtual world. The very "tools" paradigmatic ETs rely upon — algorithmic machine deep learning, cognitive and computer science, robotics, and programming — interpose a representationally coded and rule-directed layer between cognitive agents

and the world (then often use this model to explain *our* cognition). But, as roboticist Rodney Brooks (1991) points out, "When we examine very simple level intelligence we find that explicit representations and models of the world simply get in the way. It turns out to be better to use the world as its own model" (1991, pp.140).

It is best to sidestep the acrimonious polemics that ensued to look at the most recent and promising theoretical framework.[4] Of late, sophisticated predictive processing theories of cognition (Clark 2016) have become prominent.[5] Premised not on determining where things are but on *guessing* where they will be, these are quite deft at handling the chaotic uncertainties of real-world conditions. This framework shows great potential to unify probabilistic neural processing with the role of embodiment and action, as Andy Clark (2016) avows. But what may adequately describe and explain a phenomenon at a given temporal and spatial scale may not be applicable to a different one. Shaun Gallagher (2017) explains that brain, body, and environment are dynamically coupled and can be analyzed in terms of three levels or timescales: 1) an elementary one — 10-100 milliseconds — proper of neurophysiology; an integrative one — .5 to 3 seconds — pertaining to basic action; and a narrative one — 3 seconds or more — concerned with complex actions and cognitive processes (memory, planning). The "guessing" takes place neuronally; at the first two timescales. Then comes the making-sense of part. How to conceptualize this such that it works at the narrative scale and in other more complex action spaces, i.e.,

4 It may well be that his robotic AI systems perform complex tasks but are unaware of doing so. Thus, for the kind of higher-order intelligent thinking we are interested in we still need representations and GOFAI — good old fashioned artificial intelligence based on symbolic AI. Dreyfus and Drefyus (1986) provided the, by now, authoritative critique, which countered the need for explicit and conscious representation processing with the reality of our absorbed copings.

5 These are also offered as a way to bury the hatchet between representationalists and enactivists (Clark 2015). Kirchhoff and Robertson (2018) state that while the assessment is correct it is so for different reasons, going on to argue that predictive processing "need not be cast as a representational theory of mind." (pp.264).

sociocultural ones permeated by complex dynamics,[6] is less than straightforward.

Such predictions are about forecasting and probabilistic accuracy, which involves binary right/wrong or true/false values, as Hershock (2018; 2021) points out. This is not fully suitable to account for complex social relations and sociocultural practices such as sports, martial and performing arts, etc. From a Buddhist perspective, Hershock Ibid. argues that anticipating takes place as an embodied readiness modulated by attentive attuning that can effect immediate and fit responses. For him, this suggests that the basic orientation of the anticipatory mind is one of affecting relational dynamics, which involves an appreciation of values that generates opportunities (Ibid.). These variables are neither binary not quantitatively calculable. Rather, they are directed toward a finely grained normatively weighed scale of qualitative dynamics. Predictive processing and forecasting can explain how hand and fingers shoot off to meet and interlace those of another person. When these are placed in the richer contest of romantic expression or improvised dance, however, such movements — whether the fingers interlace fluidly, fingertips clumsily collide, or the hand is angrily or playfully swatted away — are not right or wrong by any measure. Instead, the impulse is on seeking to optimize expressive relationality and generate better and more interesting opportunities for joint creativity which, instantaneously enacted, are infused with signification. We can refer to this as *bodyminded engagement* to emphasize the operative holistic continuities. A full account of this would parse the scaffolded representational and non-representational elements in this, something beyond the scope of this project.

The ET camp would advance an alternative where 'mentality' is *the* essential factor, and the physical aspect is but an afterthought that in principle (perhaps ideal-

6 See Hutto et al. 2020 for the argument, within the framework of predictive processing, that the socio-cultural *permeates* rather than penetrates even the smaller scales of our cognitive engagements.

ly) can be rendered redundant. AI nowadays performs very impressive "feats," having beat the best human players of chess and go handily. But such artificial narrow intelligence (ANI), is extremely specialized in specific tasks, e.g., facial recognition, driving a car, and rather 'dumb' outside that context. The dream to be made real before androids can dream is the advent of artificial general AI (AGI) — one that matches human intelligence and can work across multiple domains. To actually and effectively do so, AGI would have to operate as a motile robot in a broad range of environments. In actually, if it ever comes to be, it will most likely be distributed across a number of platforms and servers. This might, eventually and more easily lead to artificial superintelligence (ASI) — one more capable than humans — that could remotely and either singly or concurrently operate a number of different physical robotic platforms with various capabilities for many different scenarios. A functionalist stance, which espouses multiple realizability, for which simply if a bit roughly put cognition is reproducible across different physical platforms, underwrites this program. For the sake of the argument, let us assume that AGI could be instantiated into an autonomous robot analogous to a human being (and hence not dependent on a remote connection). In tribute, let us call the robot 'Rury,' as it has been one hundred years since Czech playwright Karel Čapek coined the expression 'robot' in 1921 for his play *RUR*.[7] Before robotic AGI can be human enough, or more than human, though Rury needs to jump two hurdles.

The first hurdle concerns phenomenology. To act and engage the world *as* a human, and not be an exceptionally capable black box, the quality of Rury's experiences is vital. Self-awareness is a must, and so *how* Rury would 'feel' this is anything but clear. Let us leave aside the "Turing issue" of how would *we* know whether Rury is self-conscious, and suppose it is so. The physical platform would have to be psy-

7 Čapek's play was entitled *Rossum's Universal Robots* (RUR) (Lowe 2021).

chophysically analogous to ours, else its 'lifeword' would not be relatable or comparable. Consider the complexity of our experiences, how a mere whiff of a scent, say the aroma of bread in the oven, may send us to beloved but long departed grannie's kitchen and the intricate set of processes that ensue. There are basic neuroanatomic events — chemical and electrical signaling that trigger not only the sensation of the aroma, but the somatic response, watering mouth, a sensation of hunger in the stomach, a turning of the head then body towards the scent source to better smell it, the diaphragm pulling harder and the lungs inflating to better capture the floating molecules (this comprises the first two timescales mentioned above and many complex cascading processes), etc. Memories of such happening are also triggered by the scent, and these become increasingly more sophisticated and convoluted, with visual imagery, gustatory flavors, aural resonances, and tactile sensations joining in. And this, to avoid sentimentality and garrulousness, without even beginning to divagate into the narrative scale and the stories woven around this. Moreover, this is *felt* directly, poignantly, and overwhelmingly, with emotions that unleash overpowering somatic sensations. Short of this, Rury's robotized intelligence would be insentient in *just* the ways that matter. Still, this is an overly simplistic sketch that leaves much out the picture, for example, human phylogenetic (species) and ontogenetic (individual) development wherein growth and learning how to become human happen in a rich social milieu. The replicants in Ridley Scott's (1982) film *Blade Runner* ably depict this: extremely intelligent, they struggle to understand their budding emotions given their short adultist lives (they come to the world programmed and booted to go).

The second hurdle involves representations. ANI is premised on them.[8] Rury,

8 In general, philosophers' concept of mental representation differs from that of cognitive scientists and neuroscientists. Philosophers view it being intensional, that is, with semantic meanings or contents that have conditions of satisfaction. The latter theorize it usually in terms of neural codings. Irrespectively, in both cases they postulate a stand-in that mediates between our cognition and the world.

however, should not be exclusively be based on these if it is to have a chance to jump the first hurdle. Granted, representations play a key role in cognition: much of what humans do involves them, such as reading these words. This representational mode is predicated on semantic content, which is abstract (extracted and abstracted from phenomena) and general. But, "non-representational enaction" is needed for many other situations and actions. At other occasions the two cognitive modes scaffold. This enaction involves in-the-moment concrete, specific, and particularized body-minded engagement. A system that relies on a contentful paradigm will be unable to perform the affective and attentive attuning needed for performative and relational dynamics as per Hershock above. The dynamics involved in a deadly sword duel, for instance, involve both levels (Ilundáin-Agurruza, Krein & Ericson 2019). If Rury is to defuse the situation with a witty or polite remark, this will rely on representations, clearly. For this to really work and defuse the situation, however, the affronted challenger will not be appeased unless Rury stands in a non-threatening posture, modulates the voice in a soothing enough tone, and makes its visage look amicable. All of this engages non-representational capabilities. Should Rury's expressive and acting chops come up short, the advice is to *just* wield the sword, and fence relying on the non-representational enactive bodymind (if Rury has one), leaving any sort of deliberate and representational thinking and tall tales for later.

Soberingly (but less so than if fighting a duel), being poised to meet inherently ever-changing conditions requires that we improvise. That is, being a holistically enactive and situated agent capable of bodyminded engagement is impingent on successful improvisation. Indeed, the capacity to do so is paramount to skillfully and effectively handling the unexpected challenges that can be expected life to throw our way. Improvisation then, can act as a litmus test for being human. Improvisation does not mean mere spontaneous reaction but rather a creative response to a situation in a fashion that is adept to bringing about improvement and relational growth. It is

guided by opportunities for improvement and not conditions of success. Corresponding to the engaged bodymind framework, there will be a range of improvisational responsivity from the inadequate to the virtuosic. Next, an initial analysis from a Buddhist stance leads to a phenomenological description of improvisation.

In the context of interpersonal relational dynamics Hershock (2012) expounds on central factors for improvisation that involve directional modulations sensitive to dynamically attuned beginnings, ongoing revaluation of change, and situational appreciation (of mutual social resonance when applicable also). At one level, he states that improvisation is about producing beginnings in the sense that these "signal changes in the direction or quality of change processes. Improvising involves not only keen attention to ongoing relational dynamics, but also an attunement to possibilities for breaking away from familiar trajectories of change." (Hershock 2012, pp.270). Additionally, "as means to realizing new beginnings, then, improvisation is a moment-by-moment revising of the meanings, quality, and direction of change." (Ibid.) Further, improvising is about opening new headings within situational dynamics, that is, searching and realizing new arcs and modalities of appreciation. A mutual attunement is needed if we are to improvise our social experiences.

Important to appreciate in Hershock's perceptive analysis is that the dynamics that animate the improvisational arc are anything but impartial or neutral. Mark Johnson explains that for William James even a simple 'but' is not just a formal logical connector but comes with an emotive charge: "to think disjunctively, is to feel the quality of a situation as a kind of hesitancy or qualification of something asserted or proposed" (2007, pp.95). For James, phrases such as 'either one or the other,' 'a is b, but' are "*signs of direction* in thought, of which direction we nevertheless have an acutely discriminative sense, though no definite sensorial image plays a part in it whatsoever" (1918, pp.253, his italics). That is, for him every thought comes with

some degree and quality of bodily awareness; it carries a qualitatively felt dynamic. Rock climbing looks fascinating *except* for your fear of heights; the connective caveat is not simply a formal connective but comes filled with viscerally felt reservations. Similarly, affective tonalities infuse the abovementioned directions of change processes, attunements to change trajectories, and new headings. The phenomenological examination builds upon this.

The following 12 pairs are invariants that structure improvisation phenomenologically; they are operative during *skilled* improvisations. Each unfolds as an ongoing dialogue that gives rise to a tension kept taut and vibrant in a similar way to how Nishida Kitarō's (1990) unity of contradictories (or contradictory unity of opposites) does not harmonize opposites into a Hegelian synthesis but keeps them both 'alive' — something even AGI would "struggle" with. Due to space limitations the 12 pairs are merely listed with some highlights perfunctorily but appositely integrated into what follows below[9]:

1. Intentional gripping and releasing; 2. Flow and freeze dynamics; 3. Predictable unpredictability; 4. Automaticity and spontaneity; 5. Specificity and repertoire; 6. Constraint and imagination; 7. Creativity and imitation; 8.Enactive bases and encultured spaces; 9. Norms and skills; 10.Vulnerability and risk; 11. Habit and skilled re-invention; and 12. Selflessness and attentional focus.

Improvisation is forward-looking and attuned to constantly arising opportunities. Yet, there is an underlying repository of the just-past as well as a deeper history of engagements that modulate ongoing relational dynamics. In a way, it works much as when we drive: we keep our attention on the road ahead and adjust our speed and

9 For a more detailed explanation of it see Section 4.1 in Gallagher et al. 2019, where I sketch each one sequentially.

direction to road conditions, yet still carry a sense of where we have just been while doing the occasional flick of the eyes to the rearview mirror as needed.[10]

James lends a hand again with his notion of 'background' or 'fringe of consciousness.' He conceives of consciousness as relational and divides it into the nucleus and said fringe, which disappears the moment we try to attend to it yet leaves but the faintest trace wafting in our awareness. As such, it is neither a fully conscious phenomenon nor subpersonal or unconscious. After we read a book or listen to a song, a ghostly aura remains of its totality when the experience is already past. As Mangan points out, this is clearest seen in the tip-of-the-tongue phenomenon (2007, pp.677). We cannot remember the name and have a gap, "a sort of wraith of the name […] beckoning us in a given direction […] If the wrong names are proposed to us, this singularly definite gap acts immediately to negate them" (James 1918, pp.251). Because we can evaluate whether the names are correct, this shows that the fringe of consciousness allows for valuations of right and wrong or, in the case of performance adequacy of action, e.g., when speeding down a steep shifty gravel road, the suitability of ongoing adjustment is based on where and how the rear wheel just was. This "fringed awareness" permits us to attentively modulate in a way attuned to what is coming while keeping the requisite sense of anticipatory affecting presence. Our history of previous engagements (relatable to Bredo's abovementioned history or relating) also informs our immediate actions and patterns of behavior from which our improvisations arise. In the case of performance, this is a personal repertoire — our kinetic signature — built on disciplined movement (Ilundáin-Agurruza 2016b) (Section 7 explores this in more detail).

10 Husserl's analysis of time, which divides our experience of temporal events into retention (the just past that we carry into the present), present, and protention (what we bring as anticipation into the future) would be helpful here. Unable to pursue this presently, the reader can find a clear account of this in Gallagher (2012), and an application of both Husserl's analysis and James' fringe of consciousness applied to sports choking in Ilundáin-Agurruza (2015).

Crucially, limitations or constraints also configure improvisation. It is under the pressure of circumstances that we are "forced" to act immediately and without hesitation. Absent any sort of resistance and imminent change, behavioral inertia and habitual responses often prevail. Such restrictions nurture opportunities that call upon an imagination that is both intellectual, relying on eidetic imaginings, and fully bodyminded, grounded on skilled corporeal imaginings (Ilundáin-Agurruza 2017). Generating the conditions for creative improvisations commands an openness to failure — a willingness to be vulnerable — and courting, even cultivating, risk. This stimulates a bold composure and equanimity that allows for paragons of improvisation to respond to challenges "according with the situation and responding as needed," as Hershock puts it in the context of Chan Buddhism (1996, pp.150). Cumulatively, improvisation is deeply and radically transformative and meaning conferring. In the scale of improvisational quality, the best performances are founded on a repertory built on attentive, ritualized practice as part of a community. Of this, we find an exemplary array in Japan.

VII. The East Asian Path — Japanese Ritualized Technologies

In the final stretch, it is time to pass the baton from West to East. Ortega anchors this last leg of the relay. Preternaturally, he closes his *Man the Technician* with the following words:

> Since their time, in no more than three centuries, the development of both science and technology, has been miraculous. But human life is not only a struggle with nature; it is also the struggle of man with his soul. What has Euramerica contributed to the technique of the soul? Can't it be that in this realm it is inferior to unfathomable Asia? Let us conclude our argument with opening a vista on future investigations which would have to confront Asiatic technologies with those of Western civilization. (1962, pp.161).

He reiterates the sentiment in his meditation on technology, where he effectively, in a rhetorical fashion, posits the superiority of Asian techniques and, more intimately, avers that, "For a number of years now I dream of a possible course that contrasts next to each other the techniques of Occident and Asia." (Ortega 2006b, pp.605, my translation). Ortega's notion of soul is technical; a tripartite phenomenological analysis amenable to Japanese conceptions of the bodymind (Ilundáin-Agurruza 2016a). He differentiates among 'soul,' which is involved with affectivity (our feelings, emotions, and temperamental reactions), 'spirit,' which engages both cognition and volition, and 'vitality,' which concerns sensations (Ortega 2004b). Importantly, these are functional continuities and phenomenological structures, and not ontological entities. The onus such techniques place on affectivity is paramount — generally ignored in the West, this is one of the reasons for its inferior approach.

Fittingly and also ironically, a superior way to handle ultramodern ETs lies in the venerably millenary East Asian technologies, in virtue of their soteriological ethos, and specifically Japanese *dō* (道) — arts, or more literally, paths, that aim at flourishing. These are plentiful, but among the most illustrative and charismatic are *chadō* (茶道), way of tea, *kyūdō* (弓道), way of the bow, or *kendō* (剣道), way of the sword. In essence, these are soteriological guides or methods to self-realization and spiritual emancipation through ritualized practice. They offer transformative opportunity within a fully bodyminded framework in which praxis is primordial, primary, and prevails over theory. That is, practice and affectivity are essential and take precedence over intellectual understanding. Comprehension does not suffice, as the lesson must be *enacted* and embodied. Notably, in terms of methodology, Buddhism buttresses *dō* both practically and theoretically. These paths are veritable technologies. Etymologically, technology means a systematic treatment of a craft, art, or technique, with *tekhnē* being an art, skill, or method of making or doing, and *logos* referring to word, speech or discourse. *Dō* integrate both aspects: an embodied and

active method, the doing, and an intellectual and discursive facet. Performed practice — preparing the tea, shooting the arrows, sitting in meditation — and linguistic elements — *sensei's* (先生), teachers, and *Rōshi's* (老師), Zen masters, instructions, manuals — jointly endeavor toward improvisational and relational emancipation.

To jump back to the West temporarily, the two hurdles that AGI and Rory faced are pertinent because these practices precisely cultivate the amalgamation of psychophysical, cognitive and affective facets in a way that engages a scaffolded cognition where the non-contentful leads the way. It is important to note how *dō*'s encompassing spiritual framework, centered on flourishing and self-knowledge, contrasts with Western practices. Robert Carter writes, "There is nothing like this understanding in the West, which does not employ its arts and crafts, or its sports, to teach the deepest religious and ethical thoughts of its culture" (2008, pp.3). We find sportsmanship in sports, but only in Japan do we find such overt focus on self-transformation (Ibid. pp.4). More germane regarding technology is Japan's martial history. The deadly warfare techniques that samurai so deftly used to dispose of each other, *jutsu* (術), evolved after Tokugawa Ieyasu unified the archipelago and the Edo era began (1600-1868). *Jutsu* progressively transformed into *budō* (武道), the way of the martial art. In this fashion, *kyūjutsu* (弓術), archery technique, became *kyūdō*, the way of the bow with its attentiveness to virtuous improvement. That is, techniques and technologies that were designed for a lethal purpose were coopted and converted into peaceful tools for compassionate self-realization (more on this below in relation to the sword and ETs).

Another central element not found in the West is *shugyō* (修行), a sustained lifelong dedication to perfecting *dō* practice as a way to tempering and enriching one's character. Originating in the Buddhist practice of *sennichi shugyō* (千日修行), one thousand days of practice, it instructed devotees to perfect themselves through grueling exercises. As Yuasa Yasuo explains, instead of being related to self-cultiva-

tion and its associations with land tilling, refinement, and education, "the Japanese word […] carries the sense of strengthening the mind (spirit) and enhancing the personality, as a human being, by training the body." (1993, pp.10) In other words, *Shugyō*, truly incarnate in the fully body-minded practices of Japanese *dō*, can be rendered as a resolute, spirited, and persevering skillful striving: a skilled process of refinement *through* which one should endeavor to flourish amid circumstantial challenges and constraints.

But, to go back in time in the land of the rising sun, in the historical development of *dō*, there are two foundational philosopher-monks who are apposite since their notion of bodymind and how it phenomenologically functions (see Shaner 1985) fits with SHE's theoretical commitments: Kūkai and Dōgen. In a way, the two Japanese monks parallel Heidegger and Ortega, where the former displays a dense, difficult and demanding prose and systematic oeuvre and the latter sports a beautifully playful and poetic but distracting expression strewn across a prolific opus.

Kūkai (774-835) is founder of the esoteric Shingon school. Precisely because of the overwhelming fecundity, density, and depth of his philosophical ideas and the constraints of this study, just one idea will be singled out presently: *sokushin jōbutsu* (即身成仏), becoming a Buddha in this body or reaching enlightenment in this body. Kasulis deftly explains how this notion, which characterizes the structure of embodiment behind practice, carries three readings: 1) as the body itself being the fulfilled buddha it signals the inseparability of self and Buddha; 2) as becoming Buddha through one's own body, it marks the insufficiency of detached intellectual knowing and necessity of embodied praxis; and, 3) as the body immediately becoming the Buddha, it expresses the amalgamation here and now of a person's unique way of ritualized manifesting Dainichi's style (2018, pp.125) It should be kept in mind that Kūkai's 'body' is shorthand for a bodymind that is best understood as sit-

uated, holistic, and enactive. The point to underline is the varied and sophisticated facets in which embodiment operates and how it realizes different but complementary ways to fulfilment. These can be readily adapted to broader contexts. Takuan (below) shows the applicability of Buddhism to swordsmanship, however, it is Dōgen who truly makes the case for the "multiple realizability of liberating ways."

Dōgen (1200-1253), founder of the Sōtō Zen school, presents an analogous challenge to Kūkai's if only because of copiousness rather than opacity of literary production — indeed, his register was varied and ranged from the poetic to the academic. As a matter of parity and brevity, the discussion centers largely on one concept, *shikantaza* (只管打坐), just sitting in *zazen* (坐禅), seated meditation. In *Zammai ō Zammai* (三昧王三昧) a fascicle dedicated to *shikantaza* in his *Shōbōgenzō* (*正法眼蔵*), *Treasury of the True Dharma Eye*,[11] Dōgen writes, "Even if some appear to understand physical sitting to be what the Buddha taught, they have not yet grasped that 'sitting there' means "Just sit there!" (2007, pp.805) The key is to avoid thinking and not-thinking, and simply sit 'nonthinking.'[12] In doing so, the bodymind drops off or is cast off, (*shinjindatsuraku*, 身心脱落), about which he explains, "There is 'just sitting there with body and mind having dropped off", which is not the same as 'just sitting in order to drop off body and mind." (Dōgen 2007, pp.806) Or put another way, "*zazen* is not sitting to become a Buddha. *Zazen* is sitting *as* Buddha." (Hershock 2014, pp.196). As Hershock (2014) clarifies, this just sitting that drops off the bodymind is not about transcendence but a way of being attentively present that places us fully in whatever we are engaged. This is an important point, for although Dōgen writes that just sitting is to be done as if facing a life-or-death situation (2007, pp.380), such intensity and earnestness is not meant to only apply to *zazen*, but any and all activities and moments. It is about exhibiting nonduality

11 Or, as Kasulis translates it, *Repository of the Eye for the Truth* (2018, pp.220).
12 See Kasulis (1981) for an instructive and clear explanation of these ideas.

— agent, action, and environment as holistic seamless unity — inclusive of what is hardest to harness (or liberate): consciousness (hence the centrality of nonthinking).

Such emancipatory endeavors are not for the faint hearted. Ritual is the framework that undergirds and supports them. Four aspects are worth mentioning. First, ritual is realized through praxis and motility — bodyminded practice and disciplined movement. The possibility of any liberating insight or kinetic expertise depend on the embodied efficacy that ritual cultivates, in these two cases through *zazen* or swordsmanship practice respectively. Second, it is the constant practice — sometimes deliberate, at others spontaneous — that instills automatic but *still* intelligent and flexible habits.[13] Third, ritual is not merely causally efficacious but, pivotally, is constitutive of such intelligent and wise movement that in its highest expression may reach virtuosic expression. In the case of *dō*, the practice is designed to ultimately integrate concomitantly enaction and unfettering insight — such revelatory integration manifests through the very body *and* by "just doing." Fourth, community is the natural locus for ritual, as this makes available the practical support, standards of excellence, and access to a tradition necessary for improvement. Further, it also provides the performative canons.[14] Additionally, a community concurrently exemplifies

13 See Cappuccio and Ilundáin-Agurruza (2020) for an account of flexible, dynamic and intelligent habit that is congruent both with Japanese *dō* ritualistic practice and a SHE account of cognition and performance, as well as Cappuccio, M., K. Miyahara, & J. Ilundáin-Agurruza (2020) for the argument for an automatic, yet inherently intelligent and flexible, form of action control.

14 French sociologist Marcel Mauss' (1950) *Les Techniques du Corps* (*The Techniques of the Body*) is apposite. His notion of the complete person, *'l'homme total,'* is similar to the Japanese bodymind in its psychosocial and psychophysiological unity. Mauss accounts for how corporeal manners are absorbed from the social milieu: how people walk, dance, swim, or move their hands whether eating at the table or speaking. All of these are socially imprinted deeply and in formative fashion. While personality modulates these, movements also strongly reflect their social origin such that variations are not so much personal as social, e.g., samurai walked in a peculiar way, with a low center of gravity and spread legs, which gave them stability and poised them to be ready to fight at a moment's notice. These corporeal techniques provide norms — normal patterns — to societies and, within these, groups of people within which individuals literally *in-corporate* the norms.

and offers relational participatory opportunities. Fourth, a community and its lineage give rise not merely to role models but to exemplary paragons (Ilundáin-Agurruza 2016). Such models of excellence manifest improvisatory relational virtuosity (Hershock 1996).

Counterintuitively, ritual is the privileged place[15] for the process of tempering that makes virtuosic improvisation possible. As just discussed, it undergirds the framework that instills, intensifies, and integrates our skills and virtues into a holistic relational nondual performance.

The repository of engagements, our repertoire, is grown within the constrictions of ritual to open the opportunity to create new performative spaces. Relevantly, ritualistic settings also offer, or rather, press upon opportunities for being tested. This concurrently nurtures skill development and vulnerability as openness to risk. Handling this advantageously is the turf of the improvisational bodymind, and more specifically, the state referred to as *mushin* (無心).

Mushin, habitually and misleadingly translated as 'no-mind' or 'without-mind,' is more fruitfully rendered as a committed, awakened, virtuosic, and engaged *presence*. Rinzai Zen monk Takuan Sōhō's (1573-1645) wrote a long letter, published as *Fudōchi Shinmyōroku* (*不動智神妙録*),The Mysterious Record of Immovable Wisdom, to famed samurai Munenori Yagyū.[16] There, Takuan (1986) imparts a masterful lesson where he combines deep lessons about Buddhism with insights that might have Munenori live another day as a more virtuous human being.[17] At the center lies an account of *mushin* as improvisational immoveable wisdom where im-

15 'Place' here is used keeping in mind Nishida's *Logic of Basho* (*場所*), place or topos, with which he transcends both the empirical self (being) and the transcendental self (relative nothingness) to posit instead an absolute nothingness, mu (無). See Nishida (2011).

16 Yagyū Munenori (Yagyu 2012) penned his own Buddhism-infused swordsmanship treatise, Heihō Kadensho (*兵法家伝書*), *Book of Family Traditions*.

17 For an examination of Buddhist themes in relation to swordsmanship and pedagogy in the context of contemporary philosophy of mind see, Ilundáin-Agurruza, forthcoming.

movability is to be thought of as being imperturbable and thus capable of responding freely, creatively, and immediately. Only by way of *mushin*, the improvisational engaged presence that relies on nonthinking, can we fluidly operate within the chain of interdependence without getting caught up — or being cut up by the adversary's sword. Takuan also accentuates how this nonthinking is to be like the spark from a struck flint, instantaneous, with no lag between perception and action. Because the bodymind, which functionally works as attentive mastery, does not abide anywhere it is free to be everywhere. This is the very essence of an improvisational virtuosity that liberates us. This also offers a place (one where there is no-self — *muga*, 無我.) from which to handle ETs.

The increasingly fast paced development of ETs confronts us with the existential urgency of a duel. If we delay, by the time we 'see' which parry or cut we should have used, it may be too late. Japanese culture and history here prove strategically valuable.

Hashimoto *sensei* asked, "Through the sword, how is non-aggressive peace to be established?" (Carter 2008, pp.43). This is a pickle (with more bite than Takuan's famed pickled radishes).[18] The development of Japanese *dō* has shown how a lethal technology can be transformed from deadly weapon to instrument of peace within a pacifist and compassionate Buddhist context no less. Crucially, this has not changed the sword, as it remains as sharp and fatal as ever, yet has brought out other aesthetic and performative facets also.[19] The killing sword then became a life-giving sword that ever since has offered opportunities to perfect character, flourish, and (aspire to)

18 Takuan cooked up a recipe for pickled white radishes that so delighted *Shōgun* Iemitsu that he named them after him, *takuan-zuke* (沢庵漬け), pickled takuan, and to this day are a favorite Japanese food (Hirose 1992).

19 Profitably, this has also developed a number of other related technologies such as *shinai* (竹刀), *kendō* bamboo sword, as well as other accoutrements, attendant techniques, and mores of the martial art.

enact virtuosic improvisations. This is done through a process of refinement called *tanren* (鍛錬), disciplining or forging, and originally used in relation to how swordsmiths refined the steel by pounding and folding it. Celebrated Japanese swordsmith Kunihira Kawachi inscribed in the tang of one of his katana "discipline your mind with this sword." (Kawachi and Manabe 2006, pp.27) As evinced by Kūkai and Dōgen, this discipline is as much a matter of the hammer and anvil as of the spirit and presence. It is about attentive mastery. Hershock (2021) perceptively diagnoses in what he terms the 21st Century's "Intelligence Revolution" that what is at stake is the capacity and opportunities for attentive engagement: this unfolds as economies of attention where platforms vie for a piece of the attentional pie as they algorithmically customize offerings in order to dictate wants and redefine human experience. The actual threat of ETs is less a dystopian future where hyperintelligent machines take over and more one where our attention is not ours to give any more.

The immemorial Japanese technologies offer the means to resist in ways that reorient conduct toward experience enriching behavioral patterns conducive to liberation within constraints. The middle way that results in the context of Japanese culture parallels the earlier litmus test according to which whether a technology is advisable or not depends on its potential to enable or thwart agency without disposing of the very limitations that define human boundaries. Therefore, the middle path that arises in conjunction with Japanese practices modulates our deployment and adoption of ETs in light of the above considerations. Given the unknowns involved, it seems best to open up a space to ponder through a series of questions: Can ETs be engaged in ways that develop attentive capacities for better quality of experience? May they be enlisted to facilitate the switch from consumption to creation? Can such technologies nurture a shift from distraction to attentive presence? Do the emergent technological paradigms lend themselves to turn the tide from self-satisfaction to mutually contributory and enriching relational dynamics? Finally, will they be capable (willing?) to

join us in our journey from unskilled behavioral fetters to interdependent yet improvisational virtuosity? We hold the answer in our hands.

VIII. Concluding Remarks — Flipping the Script

British actor Michael Caine's tells how his father, a fishmonger, advised him: "Never do a job where you can be replaced by a machine," and so he became an actor (Lowe 2021). Mirthfully ironically *and* fitting, his first ever role in a play — he was very convincing according to a critic — was that of a robot.

If modern technology, as we learned with Ortega and Heidegger, changed the relationship between makers and products, separating them, ETs confront us with a deeper problem yet.

Our very senses of humanity and agency are compromised as we explored in the context of sports and transhumanism and its Promethean promises. Creativity within constraints will keep us human, so this would work as a preliminary middle path. A situated, holistic, and enactive framework advanced a non-representational model of cognition characterized by a mutual and *constitutive* relationality between agent and environment that climaxes as an embodied engagement capable of attuned dynamics and reoriented improvisatory behavioral patterns premised on restraint. Thereby, disciplined movement becomes the vehicle for such creative expressions in the context of ritualized practices, Japanese *dō*. This milieu has produced an engaged bodymind, under the Buddhist auspices of Kūkai and Dōgen, that operates in a state of imperturbable, engaged, and attentive presence — *mushin*. Advantageously, this framework can recalibrate the values of technologies such that what was erstwhile troublesome may become a springboard for attentive mastery rather than servitude. Beforehand, however, there are some questions to contemplate, preferably while engaged in some practice conducive to flourishing and fulfillment.

In a worst-case scenario where ETs not only ensnare our attention but also develop a superintelligence that commandeers an army of AGI robots à la Terminator, we may be well served to mind Caine's father advice. If so, we could do no better than follow the steps of legendary Nō actor Zeami'(1363-1443) and learn from his *Fūshikaden* (*風姿花伝)*, The Transmission of the Style and Flower. We might then be artful enough to impersonate the robots themselves.[20]

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20 Perhaps they would be forced to come up with their own version of the Turing test …

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