Contribution Towards an Ethics of Listening: An Improvising Musician's Perspective

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Preamble

The following paper began as a semi-improvised presentation for the Translating Improvisation Research Group¹—a project bringing practitioners together from many disciplines, here particularly lawyers and improvising musicians—with the goal of better understanding the role of improvised conduct in ethical and social transformation.

As I have no philosophical training, I think it useful to disclose the loose, inexperienced senses of the terms “ethics” and “empathy” used here, and to clarify the relationship between them. Ethical conduct is here assumed to involve voluntary filtering or deferral of individually-oriented goals in the interests of longer-term, emergent, (socially) co-constructed benefit. Empathy is cast as a key mechanism through which individuals develop and test a capacity to comprehend “the other” (whether construed as singular or plural). This mechanism may involve risk, doubt, potential loss, and a deferral of existing knowledge: a potential “othering” of the self. I explore empathy not only interpersonally through the intimate and erotic, but also through such mutually co-constructed behaviours as musical improvisation, in which “meaning” is congruent with participation. As the objects with which we surround ourselves (such as musical instruments) act as prosthetic sensors, amplifiers, and transducers of our interactions with our environment and with others, I also suggest that a capacity for empathy can be imaginatively designed into the non-human agents with which we interact. Rather than regarding improvisation (musical or otherwise) as necessarily productive of ethical conduct, empathy is here cast as essentially improvisational, and potentially transformative.

To talk of an ethics of **listening**, we have to move beyond the mundane, vernacular concept to an extended *intersensorial* paradigm in which all senses are involved. Not that Schaeffer's concept of “reduced listening” (a focusing on the phenomenal detail of sound) and Pauline Oliveros's already intersensorially-inclined “deep listening” don't have considerable utility in increasing our capacity for aural discrimination, but for ethical interaction to occur, the more information we have, the better prepared we are to make good judgments. And *intersensorial* information is already relational, enfolding multiple streams of evidence that might modulate or even conflict with each other.

We're familiar with the negotiation of such potential conflicts in information in everyday life in our recognition, for example, that what someone says in purely semantic terms is not necessarily what they mean. As Lakoff and Johnson (and Austin) have taught us, language is primarily performative rather than propositional, and to evaluate performance (human conduct in all its forms), we need all the contextual information we can get: aural, visual, tactile, atmospheric, and visceral.

This type of nuanced but quotidian interpretive listening (all too familiar to trial lawyers), however, is still not what I wish to discuss here. That language isn't *primarily* propositional I regard as established (and frequent presentations to the contrary as something the law just has to deal with).

As an improvising musician, my interest is in links between the tactile and the sonic, in the shared bank of experiences of the material and phenomenal world that precede—and possibly even afford—language and music, while simultaneously imbuing them with the potential for meaning. In an environment in which humans are perpetually over-stimulated, the link between the sonic and the tactile remains a primary index of verification—of trust, if you like—not least because the correlation between sonic and tactile gesture or resistance is difficult to fake. It is our earliest (infant) measure of both materiality and otherness.

Why might such an observation be important for an ethics of listening? Because ethics is how human beings balance their inquisitiveness about the other, and about otherness, with the production of a sense of self—how they approach and engage with otherness without appropriating that other. We call the capacity to do this *empathy*, and the link between the sonic and the tactile is, I believe, one fruitful route to better understanding this most sophisticated of human skills.

That our inquisitiveness has a basis in our early interaction with both other humans *and* with the physical world draws attention to the agency of non-human actors within complex networks of behavior. This observation might be important, not least for the legal profession, in adequately recognizing and evaluating the role of environment, or of apparently “irrelevant” objects or elements, in emergent (dynamically developing or unforeseen) situations. Indeed, one might be able to “plan for” empathy by recognizing the active role which non-human actors such as place or location may play in conflict resolution, or by designing devices that encourage negotiated, dynamic engagement. This is an issue to which I'll return below.

What Small calls “musicking”—the “making and doing of music”—is so obviously tied up with the business of organizing time (whether this be precise synchronization, the formal relation of materials over time, the organization of memory and cross-reference, or the “almost” suspension of time that improvisers describe when “inside” the act of performing) that it’s easy to forget that musicking is also about the organization of space, of proxemics (Hall)—of touch, intimacy, locality, and the environment, and the relations between these. Proximity and adjacency imbue musical organization at every level: familiar genres emerge at least in part as responses to the physical organization of participants² or to their entanglements with the potentialities and affordances of their instruments.³

Numerous theorists (including Blacking, Small, and others) have noted the homologies between music’s “internal” organization and its broadly (often characterized as “extra-musical”) social function, but I’m most concerned with musicking’s exploration of the privileged relationship between sound and proxemics. Indeed, I’ve elsewhere characterized musicking as touching at a distance (“Touching”). An entire unwritten history of musical listening could be framed in terms of whether sounds are intimate, local, or environmental with respect to the listener; with whether we are “grabbed” or “seduced,” or must “find our way into” the music’s materiality. Entire industries—production, mastering, cinematic sound diffusion—have been built upon managing such sonic proxemics, and the microphone and electronic repetition and distribution have foregrounded this aspect of musicking as never before. To paraphrase my writing on “performance ecosystems,” much pop music emerges initially from the amplification and projection of the intimate human voice. Forensically close-miked breath sounds (previously the preserve of porn movies) and tinselly fret noise are used to connote honesty, integrity, connection, lack of illusion, and “unpluggedness.”

I stress music’s engagement with proxemics and timing because I suspect that the mechanisms of empathy are similarly bound up with a heightened sensitivity to micro-temporal variations in stimulus and response, and with dynamic (though usually cautious) transgressions, heuristics, and renegotiations of invisible proxemic thresholds.

Improvisation (as an organizing principle) inherently recognizes that one cannot construct or wait for an ideal context. The context or situation is always already given—it is *now*. The experience and expertise drawn upon in an improvisation is “what is here,” “what is to hand,” rather than what might be potentially or ideally useful.⁴

Autobiography

As a way of contextualizing the relationship between listening, improvising, empathy, and ethics, I will indulge in a brief autobiographical aside. As a practitioner with “theoretical pretensions,” I’ve always tried to tell better, more accurate stories of what we do when we’re doing practice. Writing in the early 1990s about my electroacoustic composition work, I was interested in moving narratives of such practice away from descriptions, however accurate, of the sound produced and its organization, and towards what humans do when they use technology in music-making. A series of my own titles riffing on Walter Benjamin (see “The Musical Process”) should perhaps have alerted me earlier to the fact that this was already an old story, and that perhaps I should instead have asked what an un-technologized musical practice might look like.

Understanding then that music is *ubiquitously* technologized, I was drawn to narratives such as James Gibson’s ecologically-framed writings on perception and Shaun Gallagher’s work on embodied and situated cognition that frame performance as “ecosystemic”; as always involving networks and interdependencies between people, objects, environments, and ideas in music making. The work of Lucy Suchman and my former research colleague John Bowers further helped me to understand my narratives of my own practice and that of my students as ethnographic work, emphasizing the “situated” nature of conduct and the crucial role of participant observation in understanding that conduct. As a performer in physical theatre companies, I was acutely aware of the extent to which “performance” extends offstage into daily life.

Later, teaching at the Sonic Arts Research Centre (Queen’s University Belfast), an institute with a history of involvement in interaction design, I became increasingly concerned with how humans behave in their conduct with objects and ideas (rather than what designers or composers assume or hope they will do) and came to realize the privileged context that musical improvisation gives for studying the ad hoc, the shiftingly heuristic, the adaptive, the unforeseen, and the fleeting in the network of relations between humans and things.

Language, Speculation, and Improvisation

In practice-based activities, doing is a form of knowing: meaning emerges through participation. Doing is also a form of speculation and research. The qualities of dynamic, context-sensitive conduct characteristic of musicking are also characteristic of cooking or gardening, and of social interaction and relationship making. Indeed, musicking is regarded as coextensive with any forms of human activity where adaptivity and improvisation are foregrounded. This type of knowledge is sustained by continuous activity. To paraphrase Jonathan Impett, while in some contexts scientific knowledge may be cumulative, knowledge produced through art is always processual and performative—it needs to be constantly engaged with to sustain its emergent truths.⁵

Such knowledge has an ambivalent relationship with language. Lakoff and Johnson draw attention to language's origin in touch and physicality, but the habitual deployment of language as if it were propositional masks or conceals this reality. Language can afford the opportunity of conduct at *too much* remove from the tactile to be entirely trustworthy. Music, particularly improvised music, in privileging the speculative over the propositional, is closer than language to the physical origins of its meaningfulness: it more readily "touches at a distance," allowing us to explore intimacies without the invasiveness of actual touch and without the "forgetfulness of origin" of propositional language. And we can hear in the proto-linguistic experiments of infants the transition from the speculative/performative exploration that operates in music and poetry to "language" in the propositional sense.

One reason why musical improvisation may be such a fertile ground for understanding human relations and activity is that it appears not to rely on, or at least to downplay, talk. It is a "tacit knowledge" par excellence: it needs no theorizing and can be understood entirely by being in the practice. Competence is gained by becoming part of the community of practice, and there are, to paraphrase Collins, no "*hidden structures*" which underlie the practice, or that need to be understood in order to participate.

Conduct within improvisation *is* its meaningfulness. In this regard, the improviser's frequent shyness to speak *about* improvising may reflect a habitual anxiety regarding the propositional logic of language and its tendency to downplay the performative or poetic. In short, improvisation is usually much more concerned with "how" than with "what"—with what is shown rather than what is told.

And of course, this is how empathy works too.

Empathy as Play

Empathy—the capacity to engage successfully or mutually beneficially with others—would seem to have only two preconditions: curiosity (inquisitiveness) and trust. "Ethical conduct" might begin by acknowledging that mutual calibration and exploration cannot be achieved solely through simple, mimetic behavior⁶—that there needs to be a degree of risk-taking, and that any outcome is emergent and unknowable—and "success" could be marked by a willingness among those involved to continue their interaction.

As a practitioner rather than a philosopher, my loose heuristic take on empathy is that it is processual: an opening of the self to the other and a non-appropriative recognition of qualities and processes of difference and otherness. As I suggested above, the other(s) in question need be neither animate nor sentient, despite a vernacular understanding that empathy occurs between living creatures.⁷ Empathy embraces the unknown and unfamiliar, not as a *homo economicus* who engages with others for personal gain, nor from disinterested altruism, but in the mode of enhanced mutual (and therefore ultimately communal) emergent richness of potential. Such potential is not goal-oriented, but is a space of further possibility, of recognizing other ways of being, of increased options—of surplus.⁸

Improvisation is, fundamentally, behaviour that privileges trust over prior knowledge. Far from being irrational, such behaviour enables faster and more complex human interaction than other organizational strategies: like its strong relations, instinct and intuition, it affords rapid, supple, dynamic conduct. Competence in improvised behaviours builds stability into broader social structures, as even where trust proves misplaced, adaptation to a new context is a more likely outcome than "failure."

So improvising—*playing* with possibilities—appears to be a significant "group empathy" skill, and unsurprisingly, the literature on play provides strong models for how such skills are developed. Sociologist Roger Caillois, for example, subdivides "play" into *agon* (rule-based games), *alea* (chance), *mimesis* (imitation), and *illinx* (vertigo—a deliberately induced alteration of perception). The role (and limits) of mimesis as a strategy for establishing trust was noted above, although mimesis, with agon, alea and illinx, encourages experimenting with individuality and identity, regarding these as processual, contingent, emergent, and co-constituted in social action. Where mimesis seeks similarity, agon, alea, and illinx highlight difference. These key modes of human development are improvisational. Empathy is thus a process through which encounters with others and otherness may be productive of supplementary potential for the self—of a larger, less "boundaried" sense of what a self might be.

Grace and Danger / Othering the Self / Porous Boundaries

Most musicians know the capacity to pick up an instrument and "find oneself" an hour later (the choice of words is important) still playing, having temporarily put the self into a kind of abeyance—attentive to musicking, but oblivious to ego.

And when Billy Elliot is called to audition at the Royal Ballet in Stephen Daldry's eponymous film, and proceeds in all his supposed unsophistication to demonstrate the sheer exhilaration and beauty of the moving human body, the interviewers ask him what it feels like when he's dancing. Billy's response is, "Once I get going, I forget everything—I sort of disappear."

When Penelope Deutscher contrasts Sartre and de Beauvoir's descriptions of sexual activity and the erotic, she finds a crucial difference between Sartre's insistence that in sex or desire he is "reduced" to his own body and de Beauvoir's more subtle observation that "to touch the skin of another, to experience one's own *and the other's* desire, is a complex relation both of similitude . . . *and of difference*" (145, emphasis added).

To paraphrase Deutscher, the erotic is, for de Beauvoir, the context for rethinking what is valuable in self-other relations, a locus for engagement with the difference of the other (147). Debra Bergoffen phrases this poignantly as "an ethics of protecting the other's strangeness" (qtd. in Deutscher 151), and Deutscher argues that for de Beauvoir, "the troubling and threatening world that renders me vulnerable [. . . is] an erotic world [in] which we are continually able to experience as 'new'" (151). Perhaps this troubling world that de Beauvoir celebrates is also the world of the improviser (in the broadest sense): a world in which roles, interpretations, and assumptions are continuously or dynamically reassigned.

For Sartre, by contrast, a "good" body is "an invisible body of which I am not directly conscious as I engage in activities in the world" (Deutscher 147). In sexual and erotic activity, "reduction to the bodily" renders his concept of desire "fundamentally appropriative: I touch the other's flesh with hidden and self-serving intent, and my strategy is to possess the other's consciousness" (152).

It would be easy then to see the musician's temporary "losing" of the self when playing or Billy Elliot's "disappearance" as contiguous with Sartre's good body—as disembodied through inattention. I'd argue, however, that the musicianly "loss of self" and Billy Elliot's "absence" are more akin to de Beauvoir's position: the relationship with the other—whether the environment or the instrument—is extensive but non-appropriative. The self (body) is in an ethical relation with otherness. One improvisatory strategy of empathy might thus be in "othering the self" through the relinquishing of familiar assumptions that "control" or "exploration" must always be conscious, attentive conduct.⁹

Instruments of Extensive Sensing

Musical instruments are prosthetic, amplifying and extending the reach of human conduct and behaviour. Just as the voice can manifest the immense range and complexity of human response (performing confidence whilst betraying uncertainty, for example), so too can physical musical instruments transduce the habits and characteristics of the player, affording the most intimate and supple acts of calibration: of sounding out the space, and of attuning to others. The business of calibration is not necessarily mimetic: it might be about the mutual determination of *separate* positions, or the exploration of precisely related difference. As I write, I'm imagining such calibrating in an improvised musical context, but of course in our vocal conduct—through performative talk, unconscious utterance, and propositional exchange and argument—we "sound out" our relations with the world and others all the time. Paradoxically, our putative "individuality" consists hugely of this processual tuning and retuning to environmental and social context, and of our subsequent reflection on or "replaying of" these interactions.

That we have immense trust in these processes is evident in the language we use *in extremis*: "I want to hear that from your own mouth" or "tell me that you don't love me" are phrases that acknowledge the voice's capacity to *show* truth, whatever it is telling. Although "finding one's own voice" is such a powerful metaphor of individuation, this voice is paradoxically the one embodied characteristic that is far clearer to others: something to which we have objective access only through recording, through being "reflected back" to ourselves. The business of finding one's voice is, equally paradoxically, largely the result of that voice's improvised interaction with others: a co-emergent, shifting outcome as much of its histories as of its physical attributes. In a musical context, an instrument shares with the voice the peculiar capacity to amplify hesitation, inexpertise, or insecurity; and equally to transduce grace, effortlessness, control, certainty, and inevitability. Such capacities have led Bennett Hogg to characterize the violin, memorably, as a "lie detector."

Humans and Computers

Following this poetic phrasing of the violin's sensor-like capacity for discrimination and verification, I'd like to revisit an earlier assertion—that, in a network of human and non-human actors, empathy might be "designed for"—by looking at attributions of indigenous agency to circuits, computers, and software; to knobs and physical interfaces; and to sound itself. Since the ubiquity of computers (effectively open-ended remapping machines) allows for interactions largely independent of the resistances of the material world, such resistances must be consciously designed into these interactions. Thus far, "interaction design" has focused primarily on comprehensibility, ease of use, legibility, and predictability, but much meaningful engagement with otherness lies in difficulty, resistance, unforeseeability, fragility, ephemerality, and risk.

John Bowers's work on designing improvising machines for music is concerned precisely with this relationship between risk, unpredictability, and dynamic adjustment (calibration to the characteristics of the various actors or agents involved), but also with the extent to which such conduct can be "designed for" in our interactions. He

suggests seemingly counter-intuitive principles for the design of improvised musical interactions that are consistent with casting improvisation as an indigenous form of human conduct. Bowers suggests that “the body is always improvising, impedance matching with muscles, conforming to the design (resistances and affordances) of the interface” (interview). Furthermore, in critically investigating the emerging principles of human-machine interfacing, Bowers and Hellström identify four “transgressive” principles of interaction design that diverge significantly (especially when taken together) from those normally informing “good” design practice in which controls operate predictably, consistently, and repeatably (see Rovin et al.):

(1) *Algorithmic mediation* stores muscular or tactile input in such a manner that its status and relationship with a particular temporal moment is malleable. Rather than the relationship between a gesture and a complex developing behaviour being “hard-wired,” a layer (or layers) of data is captured or stored for use “out-of-time.” Such mediation, distinct from direct manipulation, might defamiliarize us from our own characteristic patterns of conduct while retaining connections to that past conduct that can be revisited or repurposed. (Of course, at some level all digital information is “algorithmically mediated,” but the point is that algorithmic mediation allows data to be remapped, transformed, and moved in time).

(2) *Divergent mappings* deploy simple input devices to produce complex results. Devices with a small number of degrees of freedom (such as a knob) are mapped to multiple complex behaviours in order to introduce “expressive lassitude.” These mappings require careful algorithmic design to compensate for the small number of input data streams. Such “divergent” or “few-to-many” mappings can help model systems with the richness and complex interrelationship of touch and response characteristic of many acoustic musical instruments.

(3) *Dynamic adaptation* occurs when devices rescale or remap input during a performance, the interface’s function changing dynamically under algorithmic control. This process produces devices that do not respond in an entirely consistent and predictable manner, requiring constant attention and adjustment from the performer.

(4) *Anisotropic interaction space* introduces non-linear and discontinuous mappings, such that, for example, the gradual movement of a fader may operate predictably over some parts of its travel, but introduce radical discontinuities at other points, perhaps flipping into a contrasting behaviour at a dynamically slightly-shifting point, thus requiring real-time evaluation and adjustment on the part of the performer.¹⁰

Taken together, these design principles reintroduce non-linearity, unpredictability, and instability in a manner that requires attentive listening and constant dynamic, adaptive conduct from the performer. They are principles designed for empathy, confounding assumptions and emphasizing the dynamism and risk of the encounter.

Emergent Outcomes / What Might We Learn From Improvising?

My writing here is consistent with my topic insofar as it began without a clear goal, seeking to collide listening, improvisation, empathy, and ethics in order to illuminate the network of relationships among them. I didn’t start from a blank page, however: a pervasive trope of both the literature (Bailey, Prévost) and the more informal discourse around group improvisation is that this activity is in some mysterious way necessarily a locus of empathy, and by association inherently generative of ethical conduct. Despite historical ties to collectivist ideologies and broadly leftist thought, it doesn’t take much digging to unearth within British “free improvised” music (Cornelius Cardew,¹¹ John Stevens, Eddie Prévost) the conflicts, jealousies, and territorial behaviours prevalent elsewhere in human social interaction.

I therefore find myself reversing the logic of this familiar argument: rather than improvisation encouraging empathy, or being productive of ethical conduct, the capacity for empathy is itself inevitably improvisational—productive of improvising.

This reversal is crucial for several reasons. First, it situates improvisation as a key principle of organizing conduct—one deployed on a daily basis by all humans—rather than as something peripheral or specialized. Second, it brings empathy into conscious focus as a collection of improvisatory skills to be explored and exercised. Willingly approaching the unfamiliar, the other, can be a powerful tool for productively assessing relationships, identities, processes, and objects—a true “research ethos” wherein prior assumptions are minimized, suppressed, or challenged.¹²

Here are some other emergent thoughts that this improvisational process of writing has raised for me:

* Intersensorial information is richer than single-sense data, enabling suppler, faster, and sounder judgments; sonic information is intimately bound up with the tactile and proxemic.

* Bodies are always involved in complex dynamic networks with things and environments; things, as much as people, may be crucial in empathic, improvisational conduct.

* Timing is crucial at every level, from the micro-second to the millennium. We (and our objects) never start from an ideal or predictable context, but instead bear histories that construct us despite our efforts to be open to the other. Improvisation allows us to evaluate and change course quickly without relying entirely on conscious processes; it can thus be fast.

* Doing is knowing, without the mediation of language: where language takes time to “tell,” doing may more quickly “show.” In tacit knowledge, conduct is meaningfulness. Musical free improvisation, for example, is characterized by an unusually precise coincidence between making and listening.

* Although imitation/mimesis may have a role in empathic conduct, empathy typically involves risk, being vulnerable in the face of otherness.

* Individuation is a process, negotiated at least in part through empathic conduct.

* The strong congruence between improvisation and empathy is based on their shared preconditions: trust, risk-taking, and curiosity about the other.

* A capacity for empathy is developed through play. Modes of play are modes of improvised organizing, often allowing for emergent, unforeseeable outcomes.

* Music is a key improvisational practice, not least because of its history of devising instruments that extend our intersensorial capacity.

Empathic interaction leaves time for silence. Reflection is crucial, despite the rapid, supple, and contingent nature of improvised conduct. Empathy privileges listening (in the extended sense developed here) over speaking. As a rule of thumb, empathic conduct will involve listening more than speaking.

Both improvisation and emergent outcomes are anathema in a world configured to increase “productivity” and reduce risk. Yet the alternative is a world where accountability is externally imposed, where all goals are pre-planned, and where research is rarely and inadequately speculative. Of course, an ethics of responsibility (self-accountability), a perpetual opening of the self to vulnerability, is neither going to be embraced by nor be attainable for everyone, so improvised structures need to be supple enough to acknowledge this. Perhaps being ethical is the emergent outcome of mutually empathic conduct: something that, like improvisation, can be “designed for,” but never specified.

I may sometimes have veered away from listening, but it is my contention that music, with its basis in the “tactile-sonic,” born in the womb and elaborated in the first few months after birth, provides a unique site for examining non-appropriative, self-other relations. Of course, this is a matter not only of listening, or if so, of listening with the whole body—the empathic body. And that empathic body is also necessarily an improvising body.

Notes

¹ For more information, see <http://translatingimprovisation.com/about>.

² One might say that the repetitions and redundancies of some traditional Irish music afford its co-habitation of a bar with other social sounds, that the detailed familial relations within a string quartet demand a “chamber” for their most successful apprehension, and that the elaborate pianism of Liszt or the extraordinary technique of the operatic voice attempt to overcome the distance between performer and audience.

³ I’m currently studying the precise manner in which improvising musicians assemble their physical environments, taking into account how “priority systems” are built into complex assemblages through “handedness”, adjacency, and distributed forms of autonomy and interaction.

⁴ Collective musicking might be a crucible for the development and management of multiple attentiveness. In an improvised, unforeseeable context, any channel of information, any change of state, might be the “difference which makes a difference” (Bateson 315).

⁵ Even scientific knowledge is best regarded as processual and performative, although its time frames are longer than those of musicking. Indeed, scientific knowledge might be analogous to our interactions with the physical, material world: these interactions may feel cumulative and “permanent,” but the qualities we attribute to the

material world—and against which we verify experience—are better regarded as “histories” than as attributes of those materials. These are the histories that construct the mind, both individual and social.

⁶ Such imitative “co-feeling” is not inevitably good, whether at the level of empathic mimesis or in calls for the public good, as both individuals and groups can manufacture consensus. Acknowledging the difference of the other may be more productive (though more difficult) than superficial attempts to “imagine another’s experience.”

⁷ The word “empathy” does not appear to have a Greek origin, growing rather from the German romantic concept of *Einfühlung*—an aesthetic term describing the spectator’s relation to the art object. Perhaps the idea of “reading out” an object, given a more relational and dynamic twist—indeed getting beyond it being an object and regarding it as a network of potential and past relations, “a lateral set of associations” (Bowers, interview)—might revitalize this earlier sense of empathy as encompassing both human and non-human relationships. A continuity with the earlier sense of the term is retained too in the capacity to somehow “read out” a trace of the producer of an object.

⁸ This concept of empathy is then congruent with Robert Macfarlane’s beautifully expounded idea of “the gift.”

⁹ This might be in the mode of Caillois’s “vertigo,” or in performing a task with appropriate attention such that it occurs with “grace” (without excess). A banal example of the latter might be how one can often more successfully throw a ball of paper into a waste bin when conversing or otherwise “distracted” than when concentrating on the task.

¹⁰ Such behaviours mimic the “bifurcations” that occur in interactions with some physical devices, John Coltrane’s fascination with “unstable” fingerings on the saxophone being a case in point.

¹¹ See Tilbury.

¹² Note that this paradigm is in stark contrast to the instrumentalized and goal-oriented “research ethos” prevalent in current UK higher education, wherein outcomes are over-determined by methodologies.

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